

# Accountancy (AC)

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The mission of the Department of Accountancy is to prepare undergraduate and graduate students for careers in professional accounting and for licensure as Certified Public Accountants. This preparation is realized through a broad-based, liberal arts education consistent with the values and characteristics of Jesuit higher education and congruent with the missions of the University and the Boler College of Business to develop the student as a total person. The department further seeks to develop and provide quality service courses for other undergraduate and graduate areas of study within the University as well as service to other internal and external constituencies.

To achieve this mission, the Department of Accountancy mandates its faculty to:

- Demonstrate quality in the classroom through teaching that stresses rigor, discipline, method, and high standards.
- Make intellectual contributions; maintain currency with regard to professional practice; pursue professional interactions; and serve campus, community, professional, and academic organizations.
- Promote active faculty-student rapport through student advising, mentoring, and career guidance.
- Recognize ever-changing business conditions by exposing students to aspects of global business, information technology, and the application of professional ethics/morals, as well as instilling technical competence and analytical skills.

Prospective accountancy majors must complete AC 201-202 with a minimum grade of C in each course before being accepted as majors. Furthermore, it is strongly recommended that majors earn at least a C in EC 201-202 and EC 210.

A significant number of graduates begin their careers with public accounting firms while others obtain positions in industry, government, and not-for-profit organizations. Upon completion of the accountancy program, graduates may seek professional certification by taking the examinations to become, for example, a Certified Public Accountant (CPA), a Certified Management Accountant (CMA), a Certified Fraud Examiner (CFE), or a Certified Internal Auditor (CIA).

To qualify for the CPA certificate in virtually every state, including Ohio, the candidate must complete 150 credit hours of college-level credit or satisfy alternate prequalification options. Accordingly, students are encouraged to discuss the various options with a member of the Department of Accountancy. Students normally complete a master's degree in the fifth year of study.

Accounting, the "language of business," is fundamental to successful management as well as the basis for maintaining credible stewardship of any sizable organization. Accountancy majors are exposed to aspects of international accounting and the application of professional ethics throughout the curriculum. While the orientation is to instill technical competence and develop analytical skills in accounting, the department is aware that its majors must have a firm background in the liberal arts, sciences, business administration, and communications.

Courses and programs for graduate students appear in the *Graduate Studies Bulletin*.

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**Program Learning Goals in Accountancy.** Students will:

1. Be prepared for a career in professional accounting and licensure as Certified Public Accountants.
2. Have a working knowledge of the functional areas in accounting.

3. Develop an understanding of professional codes of conduct in accounting (e.g., public and managerial accounting).
4. Develop an understanding of various aspects of global business.
5. Develop an understanding of various aspects of information technology.
6. Solve accounting problems using appropriate analytical techniques.

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Major Requirements
<p><b>Major in Accountancy:</b> 65 credit hours as described below.</p> <p><b>Business Core:</b> 41 credit hours, including MHR 463.</p> <p><b>Major Courses:</b> 24 credit hours (a minimum of 15 hours in residence), including AC 303, 304, 305, 312, 321, 341, 431, and one elective.</p> <p>Elective courses in accountancy (AC 422, 462, 483, 484, 498) enable majors to increase their expertise in several career paths.</p> <p><b>Comprehensive Examination:</b> Majors must pass a comprehensive examination before graduating from the University. Seniors should take this examination in the semester they intend to complete the undergraduate accountancy curriculum. Those who fail the first written comprehensive will normally be given a second examination. Students who fail both examinations will be required to show evidence of further study in accounting and will subsequently be retested.</p>

**201-202. ACCOUNTING PRINCIPLES 3 cr. each.** Elements of accounting theory, covering revenues, expenses, assets, liabilities, and equity; account classification; analysis and recording of transactions; sources of accounting data; corporation accounting; theory of accounting valuations; preparation of financial statements; manufacturing cost flows and analysis.

**221. FUNDAMENTALS OF ACCOUNTING 3 cr.** Provides an understanding of the purpose and use of accounting information through the study of generally accepted accounting principles and concepts as applied to financial statements. Includes measurement of assets, debt, and equities; determination of income; preparation of statement of cash flows. Offered occasionally as an online course. Does not satisfy the degree requirement for the major.

**303-304-305. INTERMEDIATE ACCOUNTING 3 cr. each.** Prerequisite: for AC 303, minimum grade of C in AC 201 and 202; for AC 304, minimum grade of C in AC 303; for AC 305, minimum grade of C in AC 304. Preparation and analysis of the income statement, the statement of comprehensive income, the balance sheet, and the statement of cash flows. Coverage of key issues in financial reporting, including differences between U. S. Generally Accepted Accounting Principles and International Financial Reporting Standards.

**310. ACCOUNTING FOR FINANCE MAJORS 3 cr.** Prerequisite: AC 202. Finance majors may take this course or the AC 303-304-305 sequence to fulfill accounting requirements. Advanced problems of financial reporting by corporations, including the conceptual framework of financial reporting; the establishment of reporting standards; techniques of data accumulation and preparation of financial statements; applications of accounting principles.

**312. COST ANALYSIS AND BUDGETARY CONTROL 3 cr.** Prerequisite: Minimum grade of C in AC 202. Difference between managerial and financial accounting; cost terminology and behavior; ethical and behavioral considerations for the management accountant; analysis and technology to support costing methods for different types of manufacturing processes; budgets for planning and control of operations; cost and profit analysis for decision making.

**321. FEDERAL TAXES I 3 cr.** Prerequisite: Minimum grade of C in AC 202. Theory of the income tax. Historical review of tax development, effect of statute regulations and the courts; determination of the elements of taxable income and computation of tax and tax credits for individuals. Emphasis on theory of taxation; preparation of returns used to illustrate theory.

**341. ACCOUNTING INFORMATION SYSTEMS 3 cr.** Prerequisites: Minimum grade of C in AC 202. Introduction to, analysis and understanding of the role of accounting information systems in business organizations; operation and evaluation of computerized accounting systems; internal control.

**405. SEMINAR IN ACCOUNTING 3 cr.** Prerequisites: minimum grade of C in AC 304 and/or as announced. Contemporary issues in accounting not covered in depth in other department courses. Specific topics, methods of presentation, and student requirements will be designated by the seminar leader. Online course.

**422. FEDERAL TAXES II 3 cr.** Prerequisites: AC 321 and minimum grade of C in AC 304. Designed to acquaint students with significant tax issues as well as reporting requirements of taxpaying entities other than individuals, including corporations, partnerships, estates, and trusts. Also, review of tax research techniques, corporate restructuring, and international operations. Recommended for students wishing to pursue CPA licensure.

**431. AUDITING 3 cr.** Prerequisites: minimum grade of C in AC 304. Auditing standards, ethics, audit reports, accountants' legal liability, the effects of Sarbanes-Oxley and the PCAOB, changes from the ASB Clarity project, and other audit concepts and procedures. Major emphasis is on public accounting and financial auditing, but coverage is extended to the field of internal auditing and operational auditing.

**AC 462 GLOBAL BUSINESS AND ACCOUNTING ISSUES 3 cr.** Prerequisites: AC 304 or equivalent, permission of instructor. Focuses on accounting issues relevant to international business operations, including international accounting standards, foreign exchange and related hedging transactions, conversion of foreign currency financial statements and international tax issues; also, the challenges businesses face in a global environment arising from economic, social, technological, and political factors. Includes an international trip (at additional cost) with on-site visits to organizations and cultural experiences within the countries visited. Students can take the class without going on the trip.

**483. ADVANCED MANAGERIAL ACCOUNTING AND CONTROL 3 cr.** Prerequisites: AC 312 and a minimum grade of C in AC 304. Advanced topics in managerial accounting, planning and control intended to provide a general understanding of the managerial/operational role of the Controller/Management Accountant in an organization. Focuses on how management accounting systems can be configured and effectively utilized to facilitate the business success of the enterprise while supporting its strategy. Topical coverage extends foundational material covered in introductory/intermediate level management accounting courses.

**484. ACCOUNTING THEORY AND POLICY 3 cr.** Prerequisite: minimum grade of C in AC 304. Review of accounting theory and its effects on standards development and policy decisions with respect to contemporary business problems and issues. Particular emphasis on current and evolving state of U.S. GAAP and IFRS.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: Accountancy major with an overall GPA of 3.0 or higher; permission of chair and faculty member. Research project supervised by a department member willing to act as advisor. The student selects an aspect of accounting, establishes goals, and develops a study plan that must be approved by the chair and filed with the dean's office. Consult the chair for established guidelines established for such study.

# Arrupe Scholars Program

The Arrupe Scholars Program is a mission-based scholarship and learning opportunity tailored to creating leaders for social action. Rooted in the wisdom of our 450-year-old Jesuit heritage, this program aims to produce graduates who are both trained in the academic study of inequality and committed to using their knowledge and abilities for the promotion of justice. In this way, it represents the University's fundamental commitment to graduating men and women "with and for others."

## Academic Requirements

Arrupe Scholars take a series of courses together over their four years at John Carroll. These courses provide students with the knowledge and skills needed to become effective advocates for positive social change in our world. Courses are taken in sequential order, with the other members of the student's class cohort. The Arrupe curriculum culminates in a capstone project that requires students to develop and implement an advocacy project of their choice.

In total, Arrupe students take 18 academic credits with the members of their class cohort. During the freshman and sophomore years, 9 of the credits that Arrupe students take together count towards their University Core requirements. The 9 credits that students take during their sophomore, junior, and senior years can count towards a minor in Peace, Justice and Human Rights (should the student be interested in that course plan; a PJHR minor is not required). Other students may wish to petition for these courses to count towards another major or minor at John Carroll, such as Population and Public Health or Entrepreneurship. This option requires the student to meet the expectations of both academic units. Interested students should plan this course of action in advance of the junior year with their academic advisor and department chair, as well as the director of the Arrupe Scholars Program.

Students whose schedules are subject to considerable outside restrictions should also consult with the director of the Arrupe Scholars Program. Individual student needs may be accommodated through an independent study course or through a limited number of course substitutions. These options will not be made available for trivial or avoidable reasons.

## Co-Curricular Requirements

In addition to taking academic credits with the members of their class cohort, Arrupe students participate in a robust co-curriculum. This series of annual events brings students from all class cohorts together to work as one larger student body. The purpose of the program's co-curriculum is to give students a variety of opportunities to develop strong pre-professional skills over the course of their time at John Carroll. The Arrupe Scholars' co-curriculum focuses on community-based engagement initiatives and thus exemplifies the University's fundamental commitment to graduating men and women "with and for others."

In order to promote student ownership and advocacy in the program, students can choose to lead or participate in a wide array of events. Participation in leadership of events requires students to plan, implement, and develop major events or program initiatives. The events are all student-run and headed by a student chair or chairs. Furthermore, to empower students as leaders, they will vote every year for class representatives who will sit on the Arrupe Student Advisory group, as well as on the General Arrupe Board. Students will also run a Power and Privilege conference every Spring in order to explore a social justice issue in an in-depth manner. This in turn will inform an all-Arrupe advocacy project.

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**Program Learning Goals in the Arrupe Scholars Program.** Students will:

1. Develop their intellectual curiosity.
2. Be reflective learners.

3. Demonstrate a commitment to social action grounded in sustained engagement with people facing injustice.
4. Apply their knowledge and abilities to advocate for positive social change.
5. Have a strong understanding of a “faith that does justice” as it connects to advocacy and action.

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Required Courses
<p>AR 150A Social Action Orientation 1 cr. (Fall, Freshman Year)</p> <p>AR 150B Social Action Seminar 1 cr. (Spring, Freshman Year)</p> <p>EN 125 Written Expression with class cohort 3 cr. (Fall, Freshman Year)</p> <p>COM 125 Oral Communication with class cohort 3 cr. (Spring, Freshman Year)</p> <p>Selected CORE course rotated annually. Introduction to Social Justice 3 cr. (Fall, Sophomore Year). <b>NOTE:</b> Students will be informed of the course number during their Freshman year. This class with either be an ISJ, TRS, or PL Course that counts for core credit</p> <p>PJHR 350 Social Justice Research Course 3 cr. (Fall, Junior Year)</p> <p>PJHR 450A Capstone Advocacy Project 2 cr. (Fall, Senior Year)</p> <p>PJHR450B Capstone Advocacy Project 1cr. (Spring, Senior Year)</p>

# Art History and Humanities (AH)

*Professors:* L. A. Koch, L. S. Curtis, G. B. Guest; Associate Professor: B. Liu

The Department of Art History and Humanities offers courses devoted to the history and theory of art, a key component in any liberal arts education. Art history explores art as a record of human creativity in an intellectual context. The scholarly methods used increase perceptive ability, analytical skills, an understanding of various cultural traditions, and the facility to express oneself with clarity and precision—strengths essential to any major course of study and to any future career. Art history courses provide the basis for majors both in Art History and Humanities.

Students make use of the comprehensive collections of the Cleveland Museum of Art for their course work. Those enrolled in upper-division courses may have access to the extensive research facilities in the Ingalls Library, one of the largest art museum libraries in the country.

In addition, qualified majors have the opportunity to gain valuable experience by participating in internships at the Cleveland Museum of Art, where they may help prepare exhibits, do archival research on objects, assist with public lectures, conduct surveys, work with public relations, or work in visual resources. Internships also are available with area organizations such as the Museum of Contemporary Art, Sculpture Center, Cleveland Artists Foundation, and other art-related concerns.

In order to broaden their experience, students are encouraged to take advantage of the numerous study-abroad opportunities available to them. Up to six credit hours may count toward the major during a study-abroad program if approved in advance of enrollment.

Introduction to World Art (AH 201) is recommended as preparation for all courses offered by the department.

The department participates in the graduate program leading to the Master of Arts in humanities. Program requirements and course descriptions are published in the *Graduate Studies Bulletin*.

## Art History Major

Art historians pursue careers in higher education, art museums, galleries, historical societies, publishing, conservation, art dealership and evaluation, and art criticism. The international character of the art history major also makes it highly recommended for those interested in foreign service and international business—areas of immense importance in today's world.

## Art History Minor

The Art History minor will allow the student to apply to most graduate programs in art history. It can also be used to complement or augment a major in other areas of the humanities, the sciences, or business and professional studies. Course selection should be made in consultation with the department chair or a designated advisor.

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**Program Learning Goals in Art History.** Students will:

1. Recognize and understand major artists and monuments of world art, and be able to identify the characteristics and distinguishing features of works of art and architecture in their historical and cultural settings. They will learn to make comparisons across cultures and time periods, leading to an understanding of art and culture within a global context.
2. Demonstrate a knowledge of vocabulary specific to the visual arts and develop a proficiency in visual literacy that will prepare them for graduate study and/or careers in the visual arts, architecture, the media, and related fields.

3. Engage with the curatorial and institutional dimensions of art collections and exhibitions by studying at local cultural institutions, including the Cleveland Museum of Art and the Museum of Contemporary Art.
4. Be able to locate, interpret, and analyze primary and secondary sources relevant to solving research problems in the visual arts.
5. Recognize, understand, and apply critical, theoretical, and methodological approaches to the history of representation understood within broader socio-cultural and interdisciplinary perspectives.

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Major and Minor Requirements
<p><b>Major in Art History:</b> 36 credit hours, including the following courses: Introduction to World Art (AH 201) Greek and Roman (AH 317), Medieval (AH 318), Italian Renaissance (AH 303), 19th Century (AH 307), Modern (AH 309 or 310), Asian (AH 211, 312, 313, or 314); one course in either Northern Renaissance (AH 301) or Baroque (AH 304) and the Capstone Course (AH 497). Students must also complete at least two credit hours of studio art (AH 238 and 239, or AH 240 or 242) to complete the Art History major. Any subsequent studio classes will not be counted towards the required 36 hours. Students may count Art History courses from the EGC and/or linked section of the Integrated Core as elective courses within the major. Students must create a capstone portfolio to complete the major in Art History.</p> <p><b>Minor in Art History:</b> 18 credit hours, including AH 201. Students may choose courses that provide a general overview of the field or focus on an area of special interest. <i>Note: Art History minors pursuing the departmental major in Humanities may count all Art History courses taken toward the Art History minor. Students may count Art History courses from the EGC and/or linked section of the Integrated Core as elective courses within the minor.</i></p> <p>The Humanities Major and Minor is described in its own section.</p>

**201. INTRODUCTION TO WORLD ART 3 cr.** Introduction to world art focusing on major works and themes from prehistory to the modern era. Painting, sculpture, and architecture of Europe, Asia, Africa, and the Americas will be considered in relation to political, religious, and intellectual contexts. Recommended as preparation for all other art history courses as it provides a firm foundation for further study.

**210. ART & SCIENTIFIC INQUIRY 3 cr.** Introduction to key issues in art history such as the origins of art, the uses of physical idealism, and the role of color and abstraction in modern art. Each topic will be considered comparatively by first asking how art historians have traditionally looked at the issue and then by considering relevant research from the fields of psychology, neurobiology, and evolutionary studies. We will use this approach to ask how the study of art and of science might impact each other.

**211. ART OF INDIA, CHINA, AND JAPAN 3 cr.** Architecture, sculpture, painting, and ceramics of India, China, and Japan, studied in the context of politics and religions (Hinduism, Buddhism, Daoism, Confucianism, and Shintoism) from ancient times to the modern world. No previous knowledge of Asian art or culture is assumed.

**238. INTRODUCTION TO CREATION IN THE VISUAL ARTS: 2-D DESIGN 1 cr.** One of two basic foundation courses for students exploring creation in the visual arts. Fundamental principles of design (balance, unity, repetition, rhythm, variety, and emphasis) related to the organization and manipulation of the basic elements of line, shape, texture, value, color, and space. Students will learn by creating with artistic media in the studio and will participate in oral critiques of each other's works.

**239. INTRODUCTION TO CREATION IN THE VISUAL ARTS: COLOR THEORY AND PRACTICE 1**

**cr.** One of two basic foundation courses for students exploring creation in the visual arts. Principles of color theory and practice, including ideas about hue, color contrast, and saturation; will focus on interaction and relativity of color as tools for creating art works. Students will learn by creating with artistic media in the studio and will participate in oral critiques of each other's works.

**240. DRAWING I 3 cr.** Introduction to drawing media and techniques. Studio practice.

**242. PAINTING I 3 cr.** Prerequisite: AH 238 or 239 (both are recommended). Introduction to materials, techniques, and styles of painting. Studio practice.

**248. INTRODUCTION TO GRAPHIC DESIGN 3 cr.** Prerequisites: AH 238 and AH 239 or permission of department chair. Introduction to the field of graphic design. Emphasis on the principles of visual communication, the use of images and letterforms as design elements, and the history of graphic design.

**250. ART STUDIO 3 cr.** Prerequisites: AH 238 and AH 239 or permission of department chair. Intermediate-level study of the materials, techniques, and styles of drawing or painting. Studio practice.

**251. ADVANCED ART STUDIO 3 cr.** Prerequisite: AH 250 or permission of department chair. Continuation of the principles and practices begun in AH 250. Studio practice.

**298. PROBLEMS IN STUDIO ART 1-3 cr.** Prerequisite: AH 250 or permission of department chair. Aspects of studio art, e.g., drawing, painting, and/or sculpture, which change by semester.

**299. TOPICS IN ART HISTORY 3 cr.** Various subjects related to the methods of art history; specific artists, styles, or themes not usually covered in the regular course offerings.

**301. NORTHERN RENAISSANCE ART 3 cr.** Painting, sculpture, and prints of northern Europe in the 15th and 16th centuries, with special attention to artists such as Jan van Eyck, Hieronymus Bosch, Albrecht Dürer, and Pieter Bruegel.

**303. ITALIAN RENAISSANCE ART 3 cr.** Painting, sculpture, and architecture in Italy from the 14th through the 16th centuries, including masters such as Giotto, Masaccio, Donatello, Botticelli, Leonardo da Vinci, Michelangelo, Giovanni Bellini, and Titian. Influence of Humanism and of shifting political and religious ideas.

**304. BAROQUE ART 3 cr.** Painting, sculpture, prints and drawings, and architecture of 17th-century Europe from the Catholic Reformation through the reign of Louis XIV of France, including artists such as Caravaggio, Bernini, Rembrandt, Rubens, Velázquez, and Poussin.

**307. NINETEENTH-CENTURY ART 3 cr.** European and U.S. painting, sculpture, and architecture from Neo-Classicism, Romanticism and Realism through Impressionism, including artists such as Goya, David, Delacroix, Blake, Courbet, Manet, Monet, and Cassatt.

**309. HISTORY OF MODERN ART 3 cr.** Survey of the development of modernism in painting, sculpture, and architecture from 1880 to 1945, with a focus on major avant-garde movements such as Fauvism, Cubism, Expressionism, Dadaism, Surrealism, and the International Style.

**310. CONTEMPORARY ART 3 cr.** Study of contemporary painting, sculpture, and architecture since 1945, with a focus on movements such as Abstract Expressionism, Pop Art, Minimalism, and developments ranging from Performance Art to Electronic Media.

**311. CINEMA OF THE AVANT-GARDE 3 cr.** Survey of the cinema with special emphasis on visual elements and the relationship between the avant-garde in cinema and the other visual arts. Study of the development of motion pictures and their cultural contexts.

**312. ART OF INDIA 3 cr.** Survey of the art and architecture of India from the Indus Valley civilization through the Moghul era to the modern period. Works of art will be examined within their cultural and religious contexts, including the Buddhist, Hindu, and Islamic traditions. The art of Southeast Asia may also be examined as an outgrowth, as well as a redefinition, of Indian culture.

**313. ART OF CHINA 3 cr.** Survey of the art and architecture of China from the Neolithic period to the 20th century, with emphasis on the cultural, aesthetic, and religious contexts of works of art. Topics include Shang bronzes, Han concepts of the afterlife, the impact of Buddhism, patronage and painting, and the landscape tradition.

**314. ART OF JAPAN 3 cr.** Survey of the art, architecture, and decorative arts of Japan from the Neolithic period to the 20th century, with an emphasis on their cultural and religious contexts. Special emphasis on the stimulus of contacts with China and Korea in the evolution of the visual arts in Japan, including the impact of Buddhism.

**317. GREEK AND ROMAN ART 3 cr.** Marble and bronze sculpture, temple architecture, and vase and fresco painting of ancient Greece and Rome. Focus on the art of Periclean Athens, Hellenistic Greece, the Roman Republic, and the Empire.

**318. MEDIEVAL ART 3 cr.** Art and architecture of Europe from the fall of the Roman Empire to the start of the Renaissance with emphasis on monumental church decoration, the secular art of the nobility, and the place of Jewish and Islamic art in medieval Europe.

**319. GOTHIC ART 3 cr.** Cathedrals, sculpture, and painting of the late medieval period from the mid-12th century to the refined grace of the courtly art of the late 14th century, including stained glass, manuscripts, metalwork, ivories, and enamels.

**320. ART OF THE EARLY CHRISTIAN WORLD 3 cr.** How artists and patrons developed a new visual language to communicate the beliefs of the emerging Christian religion within the context of the late Roman Empire.

**323. ART AND RELIGION OF EAST ASIA 3 cr.** Examines major religious traditions and related art in China, Japan, and Korea. Painting, sculpture, and architecture from Daoism, Buddhism, Shinto, and Confucianism will be covered.

**324. THE BEAT GENERATION 3 cr.** Corerequisite: EN 299 E. The emergence of the Beat Generation and its influence on the development of the arts in the decade of the 1960s. Artistic developments inspired by the Beat Generation, especially as exemplified in the poetry and novels of the Beat Writers and how they influenced and cross fertilized with the visual arts as seen in the works of Robert Frank (*The Americans*), Jasper Johns, Robert Rauschenberg and in the development of “intermedia” work that grew up under the influence of what is sometimes called the “Duchamp/Cage” aesthetic. The emergence of Pop Art and other developments, including the international group of artists associated with Fluxus, Minimalism, Conceptual Art, and Earthworks.

**399. TOPICS IN ART HISTORY 3 cr.** Various subjects related to the methods of art history; specific artists, styles, or themes not usually covered in the regular course offerings.

**422. ART AND WOMEN IN THE MIDDLE AGES 3 cr.** Consideration of the importance of women, both real and imagined, for understanding Medieval art. Topics include art commissioned by women, art intended for female viewers, and the iconography of women in the period. Special attention will be paid to the visual construction of gender.

**425. IMPRESSIONISM 3 cr.** Major artists of the Impressionist movement from the radical style of Manet and the colorful palette of Monet, Renoir, and Degas, to the experimental compositions and techniques of Seurat, Cézanne, Van Gogh, and Gauguin.

**430. THE AGE OF MICHELANGELO 3 cr.** Italian art and culture during a period dominated by the genius of Michelangelo (1490s-1560s). Topics to be studied in connection with Michelangelo and his influence include

artists' competition with antiquity, Mannerism, art theory, Medici patronage, the Florentine Academy, and artists' biographies.

**431. SIXTEENTH-CENTURY ART IN ROME: MANNERISM TO COUNTER-REFORMATION 3 cr.**

Developments in painting, sculpture, and architecture in Rome during the 16th century, focusing on the transition from Mannerism to the Counter-Reformation. Considers major artists and works from the late period of Michelangelo to the arrival of Caravaggio in Rome in 1592, examining them in a broader cultural context from the impact of the Council of Trent to the patronage of popes, cardinals, and princes.

**432. RENAISSANCE ROME: POPES AND CARDINALS AS PATRONS OF ART 3 cr.** Key monuments, ideas, and themes in papal and cardinalate patronage of art in Rome with emphasis on the 15th and 16th centuries. Topics include the Vatican and St. Peter's, the projects of Michelangelo and Raphael, the ideology of Rome as Caput Mundi, and the popes as temporal and spiritual rulers.

**434. THE SYMBOLIST MOVEMENT: ART AND CULTURE AT THE END OF THE NINETEENTH CENTURY 3 cr.** Art of the Symbolist era, from Gustave Moreau and Odilon Redon to the Rosicrucians and the Nabis, in the context of late 19th-century culture. Relationships between the visual arts, literature, music, and other phenomena, such as the development of Freudian psychoanalysis and interests in occultism.

**435. MATISSE, PICASSO, AND DUCHAMP 3 cr.** Study of three 20th-century modernists who, through their unique contributions and associations with Fauvism, Cubism, Dada, and Surrealism, have continued to influence developments in contemporary art. Includes individual achievements and interactions with the cultural context of their times.

**497. CAPSTONE COURSE 1 cr.** Required of all students majoring in Art History or Humanities and taken during the Senior year.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: permission of instructor and department chair. Special projects in art history. Projects must be approved prior to registration. Senior art history majors and graduate humanities students only.

**499. TOPICS IN ART HISTORY 3 cr.** Various subjects related to the methods of art history; specific artists, styles, or themes not usually covered in regular course offerings.

# Arts and Sciences (AR)

Many of these courses are designed to improve basic skills and provide knowledge and direction essential to success in college and later life. Also included are some credit-bearing opportunities that do not fit within the specific parameters of our established programs.

Students may apply a maximum of four 1-credit AR courses toward graduation. Unless otherwise specified, no more than eight 1-credit courses from any combination of courses in Arts and Sciences (AR), Communication (CO) 140-175, Career Education (CE), Fine Arts (FA), International Cultures (IC) and/or Physical Education (PE) 120-174 may be applied toward graduation.

## Arts and Sciences (AR)

**101. ADVISING COHORT 0 cr.** For all first-year students. Discussion of curricular and co-curricular options and academic planning to ensure a smooth transition to the University. Graded Satisfactory/Unsatisfactory.

**112. APPLIED STRATEGIC LEARNING 1 cr.** Application of principles of cognitive learning theory. Strategic learning strategies used to improve academic performance.

**115. ENTERING SCIENCE 1 cr.** Introduces students to ways of scientific thinking, including topics such as mathematics as the language of science, basic concepts of experimental design, and science and society. Classroom activities will focus on active and experiential learning approaches.

**120. PURPOSE AND PLACE: EXPLORING CAMPUS, COMMUNITY, AND SELF 1 cr.** Designed to help first-year students with the transition to college and to promote their engagement in all facets of their educational experience.

**125. ENTERING RESEARCH. 1 cr.** Introduces students to the types of questions scientists ask and the approaches they take to answer them. Also addresses topics relevant to scientific disciplines, such as ethical conduct and use of appropriate sources. In addition, students will be introduced to various faculty research areas.

**136. SOFT LANDINGS TRANSITION. 1 cr.** Intended for first-semester international students, this discussion-based class focuses on transition to life in the U.S. and to John Carroll University.

**150A. ARRUPPE SCHOLARS FOR SOCIAL ACTION ORIENTATION 1 cr.** Prerequisites: admission to Arrupe Scholars program and first-year status. Orientation to program goals and engagement in leadership for social action.

**150B. ARRUPPE SCHOLARS FOR SOCIAL ACTION FIRST-YEAR SEMINAR 1 cr.** Prerequisites: admission to Arrupe Scholars program and first-year status. Development of intellectual skills that foster social action leadership.

**156. VETERAN SCHOLAR: THE IGNATIAN LEGACY 1 cr.** Introduction to academic success resources and transitioning to the University environment specifically for student veterans. Special focus on strategic study skills, translating military skills, and choosing a major/career focus.

**160. IMMERSION: CAMPUS MINISTRY 1 cr.** Introduction to the social, political, economic, cultural, and religious issues affecting the different locations to which students travel for immersion experiences. Students also will learn how to approach new cultures, explore their own spirituality, and be open to letting personal stories move them. Three post-immersion meetings facilitate reflection and discussion about the current and future effects of the experience. May be repeated for up to 2 credits.

**161. IMMERSION: HEALTH CARE 1 cr.** Intended for students going on May immersions through Campus Ministry. Examines the problem of health care access and situates it within the political and religious (particularly social justice and Ignatian) understandings of the concept. Focus varies depending on the student's destination.

**171. INTERDISCIPLINARY SCIENCE 3 cr.** Corequisite: AR 171L. Interdisciplinary approach to science teaching in elementary school. Topics include concepts in biology, chemistry, and physics. Coordinated by science departments and the Department of Education and School Psychology.

**171L. INTERDISCIPLINARY SCIENCE LAB 0 cr.** Corequisite: AR 171. Laboratory experiments illustrating concepts and procedures developed in AR 171.

**199. SPECIAL TOPICS 1-3 cr.** Specific content announced in the schedule of classes.

**200. CROSS-REGISTRATION 1-6 cr.** An administrative holding number used to facilitate cross-registration with other Cleveland-area institutions. Credit assigned to proper academic department on submission of transcript. Program described on [the Registrar's website](#).

**203. PROBLEM SOLVING 1 cr.** Creative methods in problem solving. The student gains insight into how one thinks and how to modify one's thinking to be comfortable when confronted with a problem, thereby increasing chances for finding a solution.

**299. SPECIAL TOPICS 1-3 cr.** Specific content announced in the schedule of classes.

**300. STUDY ABROAD 1-16 cr.** An administrative holding number used to facilitate study-abroad registration at those institutions that participate in a special consortia agreement with John Carroll University.

**350. ARRUPE SCHOLARS: SOCIAL JUSTICE RESEARCH 3 cr.** Prerequisites: admission to the Arrupe Scholars program and third-year status. Develop a reading list, demonstrate understanding of a specific social justice issue, and write a substantial research paper on the topic that will be the focus of the senior advocacy project.

**360. LONDON STUDY ABROAD EXPERIENCE 1 cr.** Online seminar for students in the London Liberal Arts program. Students engage in preparatory, experiential, and reflective learning exercises to explore cross-cultural learning and adjustment; examine social, political, and cultural similarities and differences; and take advantage of opportunities for the development of intercultural competence. The course is divided into three parts: Part I (Pre-Departure), Part II (In-Country), and Part III (Re-Entry). Required for all London Liberal Arts study abroad students. Pass/Fail.

**450. ARRUPE TEACHING ASSISTANT PRACTICUM 3 cr.** Prerequisites: AR 150A, AR 150B. Students receive academic credit for serving as teaching assistants for assigned sections of AR 150. In addition to attending the appropriate section of AR 150 each week, students will meet on four occasions over the course of the semester to discuss the art of teaching and learning.

# John M. and Mary Jo Boler College of Business

A Department of Business Administration was created in 1934 in the College of Arts and Sciences to provide professional training for students aspiring to positions of responsibility in the business world. In 1945, this department grew into the School of Business. In 1996, the school was named in honor of John M. and Mary Jo Boler. In 2018, in recognition of the Boler family's outstanding continuing support, the school was rededicated as the John M. and May Jo Boler College of Business.

Programs of concentration are offered in seven professional fields, leading to the degree of Bachelor of Science in Business Administration (B.S.B.A.) or Bachelor of Science in Economics (B.S.E.). The Boler College of Business also offers graduate programs leading to the Master of Business Administration (M.B.A.) and Master of Science in Accountancy (M.S.A.). These programs are fully described in *The Graduate Studies Bulletin*: <http://sites.jcu.edu/graduatestudies/pages/current-students-2/bulletin-archive/>.

## Mission and Core Values

Our mission: The Boler College of Business graduates students who live inspired lives. They lead with an ethical foundation, excel in service with and for others, and exemplify professional excellence, a strong work ethic, and superior decision-making.

The Boler College of Business carries out this mission by:

- Striving to foster the ongoing development of the highest standards of personal integrity among all members of its community.
- Promoting the achievement of educational excellence through a challenging course of studies.
- Emphasizing development and implementation of innovative techniques that keep it at the forefront of the dynamic business education environment.
- Nurturing the intellectual, personal, and moral development of each student and inspiring each to become a person for others.
- Committing to incorporate an international dimension into its teaching, research, and service programs.
- Encouraging all of its constituents to develop a sense of belonging and responsibility within the community, to respect and care for one another, and to take actions that they believe promote the common good.
- Treating faculty scholarship as an essential part of the process that couples lifelong learning with teaching excellence.

More information about the Boler College's core values is available from the dean's office or on the Boler College's website at [www.jcu.edu/boler](http://www.jcu.edu/boler).

## Applying for Admission

All potential students seeking undergraduate admission to the University apply through the Office of Admission. Interested students may request admission directly to the Boler College of Business by so designating on the Common Application, or by denoting an intention to be admitted to Boler when registering for summer new student orientation.

Students enrolled in the College of Arts and Sciences who wish to apply to transfer to the Boler College must have an overall GPA of 2.0 or higher, and must complete AC 201, EC 201, and MT 130 with a

minimum grade of C. If any of these courses are transferred into John Carroll from other institutions, then a minimum grade of C must be attained in at least 6 hours of course work in the Boler College of Business.

Interested students should complete the Declaration of Major through the Registrar's website and submit it to their academic advisor. After reviewing credentials, the Boler College Dean's Office will advise students whether they are (a) accepted, (b) conditionally accepted, or (c) rejected. **Applications for transfer to Boler must be received by December 10 for consideration for spring enrollment, and by May 10 for consideration for fall enrollment.** Please note that students not formally declared in Boler may not take more than 30 credit hours of Boler courses. Students should allow a minimum of six semesters (which could include a summer semester) to complete the requirements of the Boler core and major.

### **Dismissal from Boler**

Sophomore students whose Boler GPA falls below 2.0 for two consecutive semesters, or who are not successfully completing Boler Professional Development requirements, may be dismissed from the Boler College of Business. Such students may transfer to the College of Arts and Sciences if in good academic standing otherwise.

### **Majors and Degrees**

Degree programs of the Boler College of Business consist of the business core and the major, which together total approximately 50% of the hours required for graduation. The business core courses provide a study of the environment of business, its major functional areas, and the commonly used techniques of analysis. The major consists of a minimum of seven courses. The individual majors offer concentrated course work designed to prepare students to enter a professional position in the field.

Majors may be earned in the following fields:

Accountancy  
Economics  
Finance  
International Business with Language and Culture  
Management and Human Resources  
Marketing  
Supply Chain Management

Candidates for the degree of Bachelor of Science in Business Administration (B.S.B.A.) select accountancy, finance, international business with language and culture, management and human resources, marketing, or supply chain management, while candidates for the degree of Bachelor of Science in Economics (B.S.E.) choose economics.

Optional minors are available through the College of Arts and Sciences and the Boler College of Business.

### **General Requirements for Degrees**

To be eligible for a degree, candidates must satisfy the following general requirements:

1. The completion of a minimum of 120 credit hours of acceptable college work.

2. The completion in residence of 18 hours of business core courses at the 200 level and above.
3. Except in Boler-approved study abroad programs, no major courses or capstone courses may be taken outside of John Carroll University.
4. The fulfillment of all course work in the degree program.
5. The attainment of an average grade of C (2.0) or higher in the courses completed in the major, courses completed in the Boler College of Business, and in all courses completed at the University (including all minors and concentrations), each group considered separately.
6. If required, the passing of a comprehensive examination in the major field.
7. If required, the completion of an approved internship that consists of a minimum of 135 hours.
8. The completion of all degree requirements within ten years of the date on which college work was begun.
9. The filing of an application for the degree by the assigned day, for degrees to be awarded in May, in August, or in January.
10. The fulfillment of all financial obligations to John Carroll University.
11. The completion of the following business core courses (100 & 200 level before 300 level):
  - a. Business Analysis using Microsoft Excel—BI 100.
  - b. Accounting Principles—AC 201-202
  - c. Principles of Economics—EC 201-202
  - d. Business Analytics and Statistics—EC 210
  - e. Business Communications—EN 251
  - f. Data-Driven Decision Making—BI 200
  - g. Human Resource Management—MHR 352
  - h. Supply Chain and Operations Management—SCM 301
  - i. Business Finance—FN 312
  - j. Marketing Principles—MK 301
  - k. The legal environment/business law requirement differs by major. Please refer to a particular major in this *Bulletin* for the exact requirement.
  - l. Strategic Management or capstone class in Economics: MHR 499 is required for all students seeking the B.S.B.A. and is to be taken in the senior year. Economics majors seeking the B.S.E. take EC 499A and EC 499B instead of MHR 499.
12. Applied Calculus—MT 130.
13. Completion of the Boler Professional Development Program (see below).
14. The completion of the University's Integrative Core Curriculum (see Liberal Education at John Carroll University. In completing the Integrative Core Curriculum, Boler College of Business students must take PL 311 (Business Ethics) as one of the choices in the category of Jesuit Heritage.

## **Boler Professional Development Program**

The four-year Boler Professional Development Program (BPD) is a unique and comprehensive program designed to prepare Boler students to enter a career in business. Exclusively for Boler students, it begins in the first year. Over the course of the curriculum, students engage in a series of career events, workshops, and networking and career related experiences to develop, practice, and polish their professional skills. The BPD Program includes 5 required courses which are required for graduation from the Boler College. Several majors also require BPD 490: Professional Experience Internship. The course list and descriptions are below:

### **BPD 100: Your Professional Development Journey**

An introduction to professional etiquette, resume and LinkedIn construction in the first year of college.

### **BPD 200: Networking and an Introduction to Interviewing**

Prerequisites: BPD 100. Learning the tools and skills essential for professional success; improving skills with communication etiquette, networking and engaging in professional services.

### **BPD 300: Advanced Interview Skills, Experience and Getting Hired**

Prerequisites: BPD 200. Continue to put professional skills into practice; build upon professional experience; engage in etiquette coaching and practice; continue to build professional networks and develop a career success strategy to bridge from junior to senior year.

### **BPD 401: The Professional World (fall senior year)**

Prerequisites: BPD 300. Revisit cover letters and resumes; learn the components of a job offer and the basics of negotiation; effective strategies for the senior job search in absence of a job offer.

### **BPD 402: Living Inspired (spring senior year)**

Pre or Co requisite: BPD 401. Networking and LinkedIn after college; key advice for transitioning from college student to professional, particularly the first 90 days.

### **BPD 490: Professional Experience Internship (Prerequisite: permission of instructor)**

**Professional Experience: Internship** Prerequisite: Instructor Permission and BPD 200. An internship allows a student to engage in a meaningful professional experience related to his/her field of study. A minimum of 135 hours in a managed environment, in an office or location where the student directly reports to a supervisor, and is able to learn about business via interaction and delegated responsibility is required. Prior to starting work, the student should seek pre-approval from the instructor. Other restrictions apply.

### **BPD 491: Professional Experience: Externship**

Prerequisites: Instructor Permission and BPD 100. An Externship grants students the opportunity to obtain meaningful, short-term shadowing or project-based experiences. An externship experience encompasses 3-5 days in a supervised setting in which the student works directly with professionals to gain an understanding of the organization, field and scope of work. To receive externship recognition, a student must apply for pre-approval for the experience.

### **BPD 492: Professional Experience: Cooperative Education**

Prerequisites: Instructor permission, BPD 200, and 3.30 or higher GPA. The Co-Op option allows juniors and seniors to engage in full-time work in a professional setting. The Co-Op experience has the potential to delay the student's planned graduation term, so it is critical students begin planning for such

experiences early in the academic career. Prior to starting work, the student should seek pre-approval from the instructor.

## **Minors in the Boler College of Business**

### **Minor in Economics**

The minor in economics is discussed in detail in the section of Economics.

### **Minor in Business**

The minor in business is offered to those students who choose to major in a field of study within the College of Arts and Sciences but would like to receive a foundation in business. The minor in business consists of the following courses:

BI 100	Business Analysis using Microsoft Excel .....	1 cr.
AC 201-202	Accounting Principles .....	6 cr.
EC 201-202	Principles of Economics .....	6 cr.
BI 200	Data-Driven Decision Making .....	3 cr.
MHR 352	Human Resource Management .....	3 cr.
MK 301	Marketing Principles .....	3 cr.
<b>Total credit hours:</b>		<b>22 cr.</b>

### **Please note the following:**

1. The Boler College encourages students to take a statistics course (e.g. EC 210 – Business Analytics or Statistics or MT 122 – Elementary Statistics) to satisfy Quantitative Analysis course in the integrative core which could allow them to take FN 312 - Business Finance.
2. Business minors may take up to two additional Boler College courses.
- 3 The minor must be completed with a GPA of at least 2.0.

## **Post-Baccalaureate Accountancy Sequences in the Boler College of Business**

Students who have earned a bachelor's degree and desire the necessary course work to be eligible to sit for the CPA examination in Ohio must complete a minimum of 30 credit hours in Accountancy and 24 hours in other business subjects. It is recommended that students accomplish the primary sequence indicated below, two accounting electives, and other business courses as required (e.g., business law, economics, finance, marketing, management). Students may discuss the various options with a member of the Department of Accountancy. For complete information, visit the website of the Ohio Accountancy Board at <http://acc.ohio.gov/>.

**Accountancy Sequence applicants** should contact the assistant dean for graduate business programs at 216-397-1970. Official transcripts of all previous college work should be sent to the assistant dean's office in the Boler College.

### **Primary Sequence**

AC 201-202	Accounting Principles .....	6 cr.
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AC 303-304-305	Intermediate Accounting .....	9 cr.
AC 312	Cost Analysis and Budgetary Control .....	3 cr.
AC 321	Federal Taxes I.....	3 cr.
AC 341	Accounting Information Systems .....	3 cr.
AC 431	Auditing.....	3 cr.

**Electives                      Select one of the following:**

	Transfer Pricing .....	3 cr.
AC 422	Federal Taxes II.....	3 cr.
AC 462	Global Business and Accounting Issues .....	3 cr.
AC 483	Advanced Managerial Accounting and Control .....	3 cr.
AC 484	Financial Accounting Theory .....	3 cr.

**Required Business Elective**

MHR 463	Business Law I
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# Biology

*Professors:* C. H. Wideman, J. R. Johansen, J. L. Lissemore, C. A. Sheil, C. D. Anthony, M. P. Martin, R. E. Drenovsky; *Associate Professors:* E. E. Johnson, R. A. Saporito; *Assistant Professors:* P. J. Vanderzalm, J. I. Watling; *Postdoctoral Fellow:* L. K. Tuominen

## Major Programs

Biology encompasses the study of all organisms, and our curriculum provides students a solid foundation in: 1) cellular and molecular biology; 2) organismal biology; and 3) evolutionary biology, ecology, and biodiversity.

Through course work and mentored student research, faculty emphasize the importance of evolution in biological phenomena, the role of environment in biological interactions, and ethical behavior in scientific endeavors. These experiences: 1) promote strong critical thinking and analytical skills; 2) provide hands-on experience in biological techniques; and 3) stimulate creative scientific thought.

The academic programs in biology prepare students for graduate and professional school, as well as for careers in the public and private sectors. Mentoring through academic advising, research, and internships prepares our students for future scholarship in addition to social and civic involvement.

The **Biology major** is intended for students seeking careers that require a strong background in biology and chemistry, including health professions (such as medicine, dentistry, optometry, pharmacy, nursing, physical therapy, occupational therapy, physician assistant, public health, and veterinary medicine), teaching, research, and other professions. This major also prepares students for graduate programs in biology and related disciplines such as organismal and evolutionary biology, ecology, developmental biology, physiology, and neuroscience.

The **Environmental Science major** is intended for students seeking careers in environmental and ecological fields, including environmental consulting, government, parks and recreation, teaching, research, environmental law, and other areas requiring strength in environmental science. This major also prepares students for graduate programs in ecology and environmental science.

The **Cell and Molecular Biology major** is intended for students seeking careers in medicine, biomedical research, biotechnology, pharmacy, healthcare, teaching, and other professions requiring a strong foundation in cellular and molecular processes. This major also prepares students for graduate study in fields such as cell biology, molecular biology, genetics, microbiology, pharmacology, and biochemistry.

All three majors require specific courses in biology, chemistry, mathematics, and other subjects. Students should be aware that some post-baccalaureate degree programs require physics for admission and should discuss course options with their advisors before making course decisions.

### Major Declaration:

To continue with coursework above BL 213 *without conditions*, students must be a declared major in Biology, Cell and Molecular Biology, Environmental Science, or Chemistry. The major declaration process in the Biology Department is as follows:

### For intended Biology and Environmental Science majors:

1. If a student has earned a GPA of 3.0 or better in BL 155-158, they may declare and be accepted to their intended major.
2. For those students unable to declare after BL 155-158, they have a second opportunity to declare and be accepted to their intended major after finishing the BL 155-160 series with a GPA of 2.5 or better.
3. If a student has not earned the necessary GPA to declare their major by the end of BL155-160, those with a BL GPA between 2.25 and 2.50 may earn *conditional acceptance* to the major. Students with conditional acceptance will be granted permission to enroll in 6 more BL credits (or two classes, not including BL 478) within 2 semesters. These courses must be approved by their Biology advisor and the Biology department.

chair within a standard academic plan document that illustrates how a student will finish the BL or ES degree within a 4-year undergraduate experience. Additionally, the student must earn an average of at least 2.70 in those two courses in order to remove the conditional acceptance as a major. However, a withdrawal or a grade below C- in these 6 credits will remove them from eligibility to take BL courses.

4. Students below a 2.25 BL GPA after completing BL 155-160 will not be granted conditional acceptance and will not be eligible to enroll in additional BL courses other than repeating courses within the Principles series to improve their BL GPA and re-attempt major declaration upon GPA improvement (i.e., BL 155-160 >2.5 GPA). Students at this point are strongly recommended to consider alternate degree pathways to ensure timely degree completion.

**For intended Cell and Molecular Biology majors:**

1. If a student has earned a GPA of 3.0 or better in BL 155-158, they may declare and be conditionally accepted to the Cell and Molecular Biology major. To be accepted to the CMB major, the student must earn a B- or better in BL 213.
2. If a conditionally accepted CMB major does not earn a B- or better in BL 213, they will not be granted acceptance to the CMB major. Students at this point are strongly recommended to consider alternate degree pathways (e.g., BL) to ensure timely degree completion.
3. If a student does not have a GPA of 3.0 or better in BL 155-158, the student has two options for continuing in the BL department:
  - a. The student may attempt BL 213 to continue in the CMB major. However, a B- or better must be earned in BL 213 and the student must have a GPA above a 2.5 in BL 155-158 and 213 to declare. If this GPA is not attained, it is *strongly recommended* that the student considers alternate degree pathways to ensure timely degree completion due to the credit count and pathway complexity of this major.
  - b. Therefore, it is more strongly recommended for the student to enroll in BL 159-160 and pursue a BL major, in consultation with their advisor, to ensure timely degree completion. If the student earns a 2.5 or better in BL 155-160, they are eligible to declare a BL major (see point 3 and thereafter under "For intended Biology and Environmental Science majors").

**Grade Policy** for students in all biology majors:

1. A grade of C- or higher must be earned in courses required for each major or minor. A grade lower than C- requires that the course be repeated. In the case of an elective course for a major or minor in which a grade below C- was earned, the student may petition to take an alternative course. Effective with the fall 2011 semester, this policy applies to all students in biology major and minor courses, whether they have declared or not yet declared a biology major or minor. Courses in which a grade lower than a C- was earned prior to fall 2011 do not have to be retaken.
2. A cumulative GPA of at least 2.0 must be earned in courses required for each major or minor.
3. A cumulative GPA of at least 2.0 must be earned in support courses required for each major. This policy applies to first-year and transfer students matriculating to John Carroll University in fall 2011 or later.

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**Program Learning Goals in Biology.** Students will:

1. Demonstrate a broad knowledge of biology and develop competency in specific areas of interest.
  - A. Understand the basic chemical principles, cell structure and organization, and metabolism of living organisms.
  - B. Understand plant and animal anatomy and physiology, with an emphasis on form and function.
  - C. Understand the diversity of organisms, systematic biology and phylogeny, and biological interactions over geological time.
  - D. Understand the principles of molecular, transmission, quantitative, evolutionary, and population genetics.
  - E. Understand the theory of evolution by natural selection.
2. Use an empirical approach to evaluate biological phenomena from primary literature.

3. Communicate biological knowledge effectively.

**Program Learning Goals in Environmental Science.** Students will:

1. Demonstrate a broad knowledge of environmental science and develop competency in biology, chemistry, and earth science.
  - A. Understand the basic chemical principles, cell structure and organization, and metabolism of living organisms.
  - B. Understand plant and animal anatomy and physiology, with an emphasis on form and function.
  - C. Understand the diversity of organisms, systemic biology and phylogeny, and biological interactions over geological time.
  - D. Understand the role of evolution in generating the diversity of form and function seen in life on Earth.
  - E. Understand the role of the environment in determining the outcome of biological interactions.
  - F. Identify the consequences of environmental changes arising from human activities.
2. Use critical thinking to evaluate and interpret biological and environmental phenomena.
  - A. Critically assess and accurately interpret scientific data presented in visual or tabular form.
  - B. Identify the scientific underpinnings of current environmentally-themed news.
3. Collect and analyze scientific data and communicate its importance through effective oral and written presentation.
  - A. Demonstrate competence in conducting original research.
  - B. Present research results orally and in writing.

**Program Learning Goals in Cell and Molecular Biology.** Students will:

1. Demonstrate a broad knowledge of biology and develop competency in specific areas of interest.
  - A. Understand the basic chemical principles, cell structure and organization, and metabolism of living organisms.
  - B. Understand plant and animal anatomy and physiology, with an emphasis on form and function.
  - C. Understand the principles of molecular, transmission, quantitative, evolutionary, and population genetics.
  - D. Understand cell signaling, regulation of protein function, eukaryotic cell cycle control, and cancer.
  - E. Understand gene and genome analysis, genome organization, transposable elements, chromosome structure, replication, and expression of genetic information in eukaryotes.
2. Use an empirical approach to evaluate biological phenomena.
3. Analyze biological data and communicate its importance through effective oral and written presentation.

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Major and Minor Requirements
<p><b>Note:</b> Students may earn a degree in only one of the majors listed here. Double and triple majors in biology are not permitted. A maximum of 3 credits of BL 295, 398 and BL 399 combined will be accepted for any of the biology majors. To receive a Bachelor of Science in biology, transfer students must complete a minimum of 17 credit hours in the Department of Biology at John Carroll University. To receive a minor in biology, students must complete a minimum of 13 credit hours in the Department of Biology at John Carroll University.</p> <p><b>Comprehensive Examination:</b> Students in all biology majors are required to pass the Major Field test (MFT) in Biology within 12 months prior to their anticipated graduation date.</p> <p><b>Professional Development Program:</b> The Biology Department participates in the College of Arts and Sciences Professional Development Program, as designed for the majors in biology. Completion of the program will be noted</p>

in a student's academic transcript. Please see the Career Education section of the Bulletin for more information.

**Major in Biology:** 34 credit hours of biology courses, including at least one 400-level course (excluding BL 405 and 478), plus 250-27 credit hours of supporting courses in other departments. Courses are to be chosen with advisor approval and always include applicable laboratory corequisites. Students may count one of the following courses for Biology major credit: CH 431, CH 435, PS 326, or PS 426. None of these courses count as the 400-level biology requirement. Students should refer to the registration website to identify appropriate courses to complete the Core within the major (i.e., additional writing (AW), oral presentation (OP), and capstone courses).

*Required Courses:* BL 155, 156, 157, 158, 159, 160, 213; plus at least one course from each of the following areas: A) **cell-to-organism:** BL 230 and 231, 302, 350, 360, 410, 420, 471, or 475; B) **organism-to-biosphere:** BL 222, 331, 370, 406, 417, 419, 423, 424, 426, 435, 440, 447, or 454.

*Required Support Courses:* CH 141-144 (or 151H, 153), CH 221-224, MT 135 (or MT 133-134), DATA 228.

**Minor in Biology:** 21 credit hours of biology courses, including BL 155-160 and three 200-400 level courses. Students may count one of the following courses/course sequences for Biology minor credit: CH 431, CH 435, PS 326, or PS 426.

*Strongly Recommended:* CH 141-144, 221-224

**Major in Cell and Molecular Biology:** 34-37 credit hours of biology and biochemistry courses, plus 28-33 credits of required support courses in other departments. Courses are to be chosen with advisor approval and always include applicable laboratory corequisites. Students should refer to the registration website to identify appropriate courses to complete the core within the major (i.e., additional writing (AW) and oral presentation (OP), and capstone courses).

*Required Courses:* BL 155, 156, 157, 158, 213, 215 or 470, 459, 465, 470; CH 431 or 435, 437; plus three courses from: BL 159 and 160, 215, 295 (3 cr.), 301, 302, 310, 399 (3 cr.), 410, 470, 471, 475, CH 436.

*Required Support Courses:* CH 141-144 (or 151H, 153), CH 221-224; MT 135, DATA 228, PH 125-126.

**Major in Environmental Science:** 35-38 credit hours of biology and/or chemistry courses, plus 23-28 credit hours of required support courses in other departments. Courses are to be chosen with advisor approval and always include applicable laboratory corequisites. Students should refer to the registration website to identify appropriate courses to complete the core within the major (i.e., additional writing (AW), oral presentation (OP), and capstone courses).

*Required Courses:* BL 155, 156, 157, 158, 159, 160, 222, 224 or 435, 331, 417, 424 or 447, 444; plus two courses from: BL 224, 240, 260, 295 (3 cr), 370, 399 (3 cr.), 406, 419, 423, 424, 426, 435, 447, 454, CH 261/263.

*Required Support Courses:* CH 141-144 (or 151H, 153); MT 135, DATA 228; PH 115, 115L; plus one course or course sequence from: BI 101 & 201 (both must be taken); EC 101, 201; EN 291; PL 315, 316; PO 304; SC 380.

*Strongly Recommended:* CH 221-224

BL 155-160 is the normal introductory sequence for biology and environmental science majors. If, for a reason acceptable to the department, BL 157, 158, and 160 are taken separately from BL 155, 156, and 159, the student is expected to take BL 155, 156, and 159 or their equivalents before taking the laboratory courses. Entering freshmen will receive advanced placement and/or advanced standing in accord with scores listed on pages 24-25.

### **Pre-Health Professions**

Many students with healthcare career goals such as medical school or dental school choose Biology or Cell and Molecular Biology as their undergraduate major. Students should check with their intended post-graduation programs to ensure that they are completing all necessary prerequisite courses, as these majors may not include all needed course work. The Office of Pre-Health Professions can help students identify and plan for additional course work.

John Carroll University has early acceptance programs and linkages with a variety of healthcare professional schools, including medical and dental schools. For additional information, please see the Pre-Health Professions section of this *Bulletin* or visit the Pre-Health Professions website [www.jcu.edu/prehealth](http://www.jcu.edu/prehealth).

### **Pre-Veterinary Students**

A minimum of eighty hours of work with a veterinarian is required by Ohio State University and most schools of veterinary medicine. Pre-vet students should contact the Pre-Health Professions director during their first year for assistance in planning and for information about specific requirements and application procedures.

### **Case Western Reserve University Graduate Entry Nursing Program**

Biology majors interested in nursing as a career may choose to enter a cooperative program in pre-nursing/nursing and earn the Bachelor of Science from John Carroll University and the Master of Nursing from the Frances Payne Bolton School of Nursing at Case Western Reserve University. Students in this program normally attend John Carroll for three academic years and complete all University Core requirements and the following prerequisite courses: CH 141-144, CH 221-224, MT 135, DATA 228, BL 155-160, BL 213, BL 230/230L, BL 231/231L, BL 310/310L, EPA 229, PS 175, and one organism-to-biosphere course. Two upper-level electives in the first year at Case Western Reserve University complete the major requirements: NUMN 402 and NUMN 405. After successful completion of one year of the Graduate Entry Program at the Frances Payne Bolton School of Nursing, the student will be awarded the Bachelor of Science with a Biology major by John Carroll University. To be eligible for this program, students must complete at least 60 credit hours at John Carroll, have a minimum 3.00 grade point average, apply in writing to the dean of the College of Arts and Sciences by the end of the first semester of the junior year, and be accepted by the Frances Payne Bolton School of Nursing in the usual manner. Students planning to follow this course of study should contact the director of the Pre-Health Professions Program during the first semester of their sophomore year.

### **Ursuline College Accelerated Bachelor of Science in Nursing (B.S.N.) Program**

Ursuline College and John Carroll University have an agreement whereby at least two seats per year in the Breen College of Nursing at Ursuline College's Accelerated B.S.N. Program are designated for John Carroll University graduates. Students may apply to Ursuline College's Admission Office (through the coordinator of B.S.N. Enrollment) as early as the beginning of their junior year at John Carroll University.

Prior to beginning nursing courses, applicants must complete the following courses with a GPA of at least 3.0: BL 155-158, 213, 230, 230L, 231, 231L, 310, 310L; CH 141-144, 221, 223; DATA 122 (or MT 135 and DATA 228);

PL 316; PS 101, 175; SC 101, and EPA 229. In addition, applicants must have a GPA of at least 3.0 in mathematics and science courses and must be in good standing at John Carroll. Applicants for the two allotted seats will be considered in the order in which applications are received. When the designated seats are filled, other applicants will be considered on a case-by-case basis. Admission is not guaranteed, and acceptance into the program is at the sole discretion of Ursuline College. For more information, contact the John Carroll Pre-Health Profession director or visit the website for the Breen College of Nursing at Ursuline College, <http://www.ursuline.edu/donursing/>.

### **Biology Minors and Interdisciplinary Concentration**

An optional minor in biology is available to students majoring in any subject outside of biology.

Biology majors may elect an interdisciplinary concentration or minor in areas such as **neuroscience, professional healthcare preparation, or population and public health**. It is strongly recommended that students interested in these programs investigate them as early as possible in their academic careers. Interested students should refer to the Career Education section in this *Bulletin* for more information.

### **Teacher Licensure**

Students planning on obtaining licensure to teach Adolescent/Young Adult (AYA) Life Science at the secondary school level should consider taking ED 100 as soon as possible and should contact the Department of Education and School Psychology by the end of their first year for guidance on requirements.

### **Additional Information**

Many courses offered by the department include a laboratory and/or field-work component; these are listed as separate entries that immediately follow the entry for the corresponding lecture component of the course.

### **Graduate Studies in Biology**

The Department of Biology at John Carroll University offers a program of studies leading to the degree of Master of Science or Master of Arts. Degree requirements and courses are described in the *Graduate Studies Bulletin* and on the department website, [www.jcu.edu/biology](http://www.jcu.edu/biology).

Biology majors planning to continue studies leading to master's or doctoral studies are urged to consult publications and websites relevant to the proposed area of study, including *Peterson's Guide to Graduate Study*, *Graduate Programs and Admissions Manual of the Graduate Record Examination Board*, and websites of schools to which admission will be sought. Students should also consult their biology advisor for undergraduate program recommendations. In addition, they can seek assistance from the department chair and coordinator of graduate studies.

**Please note:** Expected course rotations are posted in the Biology Department.

**Courses numbered below 155 are non-majors courses and will not be counted towards any of the majors offered by the Biology Department.**

**101. SPECIAL TOPICS IN BIOLOGY 3 cr.** For non-science majors. Offered on an irregular basis and based on a topic chosen by the instructor. Used primarily for designation of courses transferred from other universities.

**102. SPECIAL TOPICS LECTURE IN BIOLOGY 4 cr.** Corequisite: BL 102L. For non-science majors. Offered on an irregular basis and based on a topic chosen by the instructor. Used primarily for designation of course transferred from other universities.

**102L. SPECIAL TOPICS LABORATORY IN BIOLOGY 0 cr.** Corequisite: BL 102. Two hours of laboratory per week.

**112. HUMAN BIOLOGY 4 cr.** Corequisite: BL 112L. For non-science majors. Three hours of lecture per week. Basic human anatomy, physiology, and reproduction.

**112L. HUMAN BIOLOGY LABORATORY 0 cr.** Corequisite: BL 112. Two hours of laboratory per week. Basic human anatomy, physiology, and reproduction using models, hands-on experimental techniques, and computer-based techniques.

**116. BIOLOGY, RACE, AND GENDER 3 cr.** For non-science majors. Three hours of lecture per week. Introduction to race, gender, sex, and sexuality from a biological perspective. The biological basis for human differences will be clarified and distinguished from stereotyped traits. Effects of genetic, environmental, and social factors on the human body and health will be explored. The dual nature of science as both contributing to and revealing effects of unequal power relations in the United States will provide context.

**135. THE SCIENCE OF ORIGINS 3 cr.** Prerequisite: EN 120/121 or EN 125 or HP 101; corequisite: PL 398. Emphasis on critical analysis, problem-solving, quantitative analysis, and written communication within the context of the science of origin as it relates to the universe, our solar system, Earth, and humans. Explains the scientific perspectives on these topics.

**136. THE BIOLOGY OF LANGUAGE 3 cr.** Prerequisite: EN 120/121 or EN 125 or HP 101, QA; corequisite: EN 299C. Emphasis on critical analysis, problem-solving, quantitative analysis, and written communication within the context of the biological basis of language within the settings of normal and impaired language.

**137. CLIMATE CHANGE: GLOBAL IMPACTS 3 cr.** Prerequisites: EN 120/121 or EN 125 or HP 101; corequisite: EN 291. Theory of anthropogenic climate change, evidence for recent climate change, predictions for future change, political and ethical issues surrounding the implementation of policy to combat anthropogenic climate change with an emphasis on globally-relevant impacts.

**140A. THE BIOLOGY OF EMOTION 3 cr.** Prerequisite: EN 120/121 or EN 125 or HP 101; corequisite EN 299. Emphasis on critical analysis, problem-solving, quantitative analysis, and written communication within the context of the biological basis of emotion.

**140B. THE BIOLOGY OF SLEEP AND CONSCIOUSNESS 3 cr.** Prerequisite: EN 120/121 or EN 125 or HP 101; corequisite: EN 299. Examines normal consciousness and perception, alterations of consciousness and perception, and the physical state of sleep and dreams.

**140C. THE BIOLOGY OF CREATIVITY 3 cr.** EN 120/121 or EN 125 or HP 101; co-requisite: AH 210. This course examines the cognitive and physiological aspects of art and creativity, with a focus on the physiology of the artist as well as the physiology of those who are exposed to works of art. Students will study how art appreciation and creativity engage and are processed by the human brain and body, using the foundation of the artists and the styles of art discussed the art history course. Students will also have the opportunity to explore the science of whether creativity and art appreciation are learned or innate, using biological evidence will be explored. The course will develop skills of writing and critical analysis.

**Courses numbered above BL 155 are for science majors or those intending graduate or professional study in the sciences.**

**155, 156, 159. PRINCIPLES OF BIOLOGY I-II-III 3-4 cr. each.** For science majors. 155 is prerequisite to 156 and 159. Three hours of lecture per week. 155: basic chemical principles; cell structure and organization; metabolism of plants and animals. 156: plant and animal anatomy and physiology. 159: biodiversity and evolutionary relationships among living organisms. Chair permission required for 4-credit BL 155, which includes supplemental readings on current and past events in biology, medicine, and medical ethics.

**157, 158, 160. PRINCIPLES OF BIOLOGY LABORATORY I-II-III 1 cr. each.** Corequisites: BL 155, 156, and 159. Three hours of laboratory per week. 157: laboratory study of the scientific method as applied to biology; cell division; development functions of cell membranes and enzymes; reactions and products of photosynthesis. 158

(prerequisite: BL 157): laboratory study of plant and animal anatomy and physiology. 160 (prerequisite: BL 157): evolutionary relationships among bacteria, algae, protists, fungi, and multicellular plants and animals.

**199A. BIOLOGICAL PROBLEM SOLVING I 1 cr.** Prerequisite: permission of instructor; corequisite: BL 155. One-and-one-quarter hour of lecture per week. Supplemental instruction on the topics of basic chemical principles, cell structure and organization, and metabolism of plants and animals. Students can earn credit towards graduation for both BL 199A and BL 199B, but only 1 credit can count towards the BL, CMB, or ES major.

**199B. BIOLOGICAL PROBLEM SOLVING II 1 cr.** Prerequisite: permission of instructor; corequisite: BL 156. One-and-one-quarter hour of lecture per week. Supplemental instruction on the topics of anatomy and physiology of plants and animals. Students can earn credit towards graduation for both BL 199A and BL 199B, but only 1 credit can count towards the BL, CMB, or ES major.

**213. GENETICS 4 cr.** Prerequisites: BL 155-158. Four hours of lecture per week. Principles of molecular, transmission, quantitative, and population genetics; social and ethical implications of genetics.

**The following courses are for declared Biology, Cell & Molecular Biology, Environmental Science, and Chemistry majors (unless otherwise noted). For questions, please contact the Department Chair of Biology.**

**215. INTRODUCTION TO BIOTECHNOLOGY 3 cr.** Prerequisites: BL 213 or a grade of at least B in both BL 155 and BL 157, plus instructor permission; corequisite: BL 215L. May not be taken concurrently with BL 470, and no credit will be given if BL 470 has been completed. One hour of lecture per week. Introduction to basic techniques of DNA analysis, including restriction digests, DNA cloning, plasmid and genomic DNA isolation, polymerase chain reaction, and computer analysis of DNA and protein sequences.

**215L. INTRODUCTION TO BIOTECHNOLOGY LABORATORY 0 cr.** Corequisite: BL 215. Four hours of laboratory per week.

**222. GENERAL ECOLOGY 3 cr.** Prerequisites: BL 155-160 or permission of instructor. Three hours of lecture per week. Interactions among plants, animals, and the physical environment. Ecological theory as it relates to population ecology, community dynamics, biogeochemical cycles, and biomes.

**224. TERRESTRIAL ECOLOGY 3 cr.** Prerequisite or corequisite: BL 222, DATA 228, BL 224L. One hour of lecture per week. Ecological data collection and analysis. Students study model organisms to examine various aspects of terrestrial ecology, including animal behavior, food web dynamics, competition, and population dynamics.

**224L. TERRESTRIAL ECOLOGY LABORATORY 0 cr.** Corequisite: BL 224. Four hours of laboratory per week.

**230-231. HUMAN ANATOMY AND PHYSIOLOGY I-II 4 cr.** Prerequisites: BL 155, 156, 157, 158; corequisites: BL 230L, 231L. BL 230 is prerequisite to BL 231. Three hours of lecture per week. Integrated discussion of human anatomy and physiology. Note: Completion of only BL 230 and 230L means the single semester will not count toward the BL major or BL minor. This class is intended for students planning to enter health professional programs such as anesthesiologist assistant, dentistry, nursing, occupational/physical therapy, optometry, and physician assistant.

**230L-231L. HUMAN ANATOMY AND PHYSIOLOGY LABORATORY I-II 0 cr.** Three hours of laboratory per week.

**240. EPIDEMIOLOGY 3 cr.** Prerequisites: Must be a declared Biology, Cell & Molecular Biology, Environmental Science, or Chemistry major, or Data Science, or a declared Population and Public Health minor; grade of C or higher in DATA 122, DATA 228, DATA 229, or EC 208. Three hours of lecture per week. Basic epidemiological principles, concepts, and methods used in surveillance and investigation of global and domestic health-related events; discussion of historical and current examples from epidemiologic studies; focus on populations living in resource-limited settings.

**260. POVERTY AND DISEASE 3 cr.** Prerequisites: BL 155-158. Three hours of lecture per week. Global and U.S. poverty; public health; epidemiology; U.S. health inequalities, e.g., diabetes, obesity, HIV/AIDS; global health inequalities, e.g., HIV/AIDS, tuberculosis, malaria; evolutionary factors in chronic and infectious disease; ethical issues in public health.

**295. UNDERGRADUATE BIOLOGY RESEARCH 1-3 cr.** Prerequisites: BL 155-158 and permission of instructor. Independent research performed under the direction of a Biology faculty member. May be repeated, but a maximum of 3 credits of BL 295, BL 398, and BL 399 combined will be accepted for any of the biology majors.

**301. INTRODUCTION TO CELL BIOLOGY 3 cr.** Prerequisites: BL 155-156. Three hours of lecture per week. Structure and function of plant and animal cells and their organelles. Emphasis on modern cell biology techniques.

**302. DEVELOPMENTAL BIOLOGY 3 cr.** Prerequisites: BL 155-156, 213. Three hours of lecture per week. Molecular, genetic, and cellular mechanisms of development. Emphasis on invertebrates and vertebrates.

**310. MICROBIOLOGY 4 cr.** Prerequisite: BL 213; corequisite: BL 310L. Two hours of lecture per week. Structure, physiology, and genetics of bacteria; ecological and medical importance emphasized. Discussion of viruses and eukaryotic microorganisms.

**310L. MICROBIOLOGY LABORATORY 0 cr.** Corequisite: BL 310. Four hours of laboratory per week.

**331. GLOBAL CLIMATE CHANGE 3 cr.** Prerequisite: BL 155-160. Three hours of lecture/discussion per week. Historical overview of climate change; effects of greenhouse gases, aerosols, and radiative forcing mechanisms on climate processes and feedbacks; effects of rapid climate change on selected ecosystems; predicted future changes; climate denial; political and ethical considerations in implementation of mitigation policies.

**350. VERTEBRATE ANATOMY 5 cr.** Prerequisites: BL 155-160; corequisite: BL 350L. Three hours of lecture per week. Anatomy, development, evolution, and phylogeny of vertebrates.

**350L. VERTEBRATE ANATOMY LABORATORY 0 cr.** Corequisite: BL 350. Six hours of laboratory per week.

**360. HUMAN PHYSIOLOGY 4 cr.** Prerequisites: Must be a declared Biology, Cell & Molecular Biology, Environmental Science, or Chemistry major or have a declared Neuroscience concentration. BL 155-158; corequisite: BL 360L. Three hours of lecture per week. Muscle physiology, circulation, respiration, excretion, and digestion as well as the neuronal and hormonal mechanisms regulating these processes.

**360L. HUMAN PHYSIOLOGY LABORATORY 0 cr.** Corequisite: BL 360. Three hours of laboratory per week.

**370. EVOLUTION 3 cr.** Prerequisites: BL 155-160. Three hours of lecture per week. Introduction to modern evolutionary biology, including evolutionary processes and speciation, character evolution, and macroevolution.

**398. DIRECTED READINGS IN BIOLOGY 1-3 cr.** Prerequisite: permission of instructor. Directed readings in a specific area of biology. A maximum of 3 credits of BL 398 and BL 399 combined will be accepted for any of the biology majors.

**399. SPECIAL PROBLEMS IN BIOLOGY 1-3 cr.** Prerequisites: junior status, 3.0 GPA in a biology major, and permission of instructor. Laboratory or field research in a specific area of biology under faculty supervision. A maximum of 3 credits of BL 398 and BL 399 combined will be accepted for any of the biology majors.

**405. SCIENTIFIC ILLUSTRATION 3 cr.** Prerequisites: permission of instructor. Experience in art not required. Develops skills of observation in biological sciences and in how to produce publication-quality illustrations of measured accuracy, conceptualized drawings, and diagrammatic images for dissemination of research results.

Development of a concise, comprehensive portfolio showcasing various techniques and graphic styles. An additional fee is required for personal illustration materials. Does not fulfill the 400-level biology course requirement for biology majors.

**406. TROPICAL FIELD BIOLOGY 3 cr.** Prerequisites: BL 155-160 and permission of instructor. BL 222 is recommended. Three hours of lecture per week; spring break field trip to a tropical rain forest in Central or South America required. Introduction to the biology and ecology of the tropics, with an emphasis on tropical field research. Includes experimental design, data analysis, write-up, and presentation. Group research project and program fee required.

**410. MEDICAL MICROBIOLOGY 3 cr.** Prerequisite: BL 213. Bacterial and viral pathogens of humans and those aspects of the immune response important in resistance and immunity to infectious diseases.

**415. INTRODUCTION TO SYSTEMATIC BIOLOGY 3 cr.** Prerequisites: BL 155-160, BL 370, or instructor permission. Three hours of lecture per week. Identification, naming, description, classification, and organization of extant and extinct biological diversity. Philosophy and practice of methods of reconstructing evolutionary history.

**417. INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS 4 cr.** Prerequisites: BL 155-160. Three hours of lecture per week. Introduction to analysis of spatial data using ArcGIS software. Students will acquire hands-on experience with a variety of analytical techniques and spatial data types, and apply their skills to investigate environmental problems using GIS.

**417L. INTRODUCTION TO GEOGRAPHICAL INFORMATION SYSTEMS LABORATORY 0 cr.** Corequisite: BL 417. Three hours of lab per week.

**419. CONSERVATION BIOLOGY 3 cr.** Prerequisites: BL 155-160; BL 222 is recommended. Three hours of lecture per week. Overview of the causes and consequences of biodiversity loss at gene, species, ecosystem, and global scales; identification of ecological and evolutionary principles underlying conservation strategies; critical analysis of conservation problems and solutions.

**420. PLANT PHYSIOLOGY 3 cr.** Prerequisites: BL 155-160. Three hours of lecture per week. Detailed study of photosynthesis, water relations, mineral nutrition, and stress responses in plants with emphasis on current research techniques.

**423. BIOLOGY OF THE AMPHIBIA 4 cr.** Prerequisites: BL 155-160. Corequisite: BL 423L. Three hours of lecture per week. Classification, evolution, ecology, and behavior of frogs, salamanders, and caecilians.

**423L. BIOLOGY OF THE AMPHIBIA LABORATORY 0 cr.** Corequisite: BL 423. Three hours of laboratory per week. Some weekend field trips required. Optional weeklong field trip at end of semester requiring an additional program fee.

**424. AQUATIC RESOURCES 4 cr.** Prerequisites: BL 155-160; corequisite: BL 424L. Two hours of lecture per week. Study of aquatic organisms and their environment. Study of algae, insects, and fish as biological indicators of water and habitat quality in stream, lake, and wetland ecosystems. Impacts of water pollution, acidification, and other anthropogenic disturbances on aquatic systems.

**424L. AQUATIC RESOURCES LABORATORY 0 cr.** Corequisite: BL 424L. Four hours of laboratory per week. Saturday laboratory with field trips to a variety of Ohio aquatic habitats and analysis of aquatic life in those systems.

**426. BIOLOGY OF THE REPTILIA 4 cr.** Prerequisites: BL 155-160; corequisite: BL 426L. Three hours of lecture per week. Classification, evolution, and ecology of extant and fossil reptiles, excluding birds.

**426L. BIOLOGY OF THE REPTILIA LABORATORY 0 cr.** Corequisite: BL 426. Three hours of laboratory per week. Some weekend field trips required. Optional week-long field trip at end of semester; requires an additional program fee.

**435. PLANT ECOLOGY 4 cr.** Prerequisites: BL 155-160. Three hours of lecture per week. Study of the distribution and abundance of plants from organismal, population, and community perspectives. Emphasizes both seminal and novel research.

**435L. PLANT ECOLOGY LABORATORY 0 cr.** Corequisite: BL 435. Four hours of laboratory per week.

**440. BEHAVIOR 3 cr.** Prerequisites: BL 155-160. Three hours of lecture/discussion per week. Evolutionary approach to animal behavior with emphasis on recent research.

**444. ADVANCED ECOLOGY 4 cr.** Prerequisites: BL 222, DATA 228; corequisite: BL 444L. Three hours of lecture/discussion per week. Topics include predator-prey interactions, global change, niche theory, competition, null models, and community assembly rules.

**444L. ADVANCED ECOLOGY LABORATORY 0 cr.** Corequisite: BL 444. Three hours of laboratory per week. Students work in teams on a project of their own choosing. Includes experimental design, data analysis, write-up, and presentation.

**447. ALGAE AS BIOINDICATORS 4 cr.** Prerequisites: BL 159, 160; corequisite: BL 447L. Two hours of lecture per week. Theory and practice of using algae as bioindicators of water quality in streams and lakes; covers taxonomy of indicator groups.

**447L. ALGAE AS BIOINDICATORS LABORATORY 0 cr.** Prerequisites: BL 159, 160; corequisite: BL 447. Four hours of laboratory per week. Some weekend field trips required. Emphasis is on diatoms, but cyanobacteria, green algae, euglenoids, and other indicator taxa will also be examined. Research projects required.

**454. DESERT BIOLOGY 3 cr.** Prerequisites: BL 155-160. Three hours of lecture per week; optional field trip to Western U.S. at end of semester (see BL 454L). Introduction to abiotic and biotic factors influencing desert ecosystems. Group literature review project required.

**454L. DESERT FIELD BIOLOGY 1 cr.** Prerequisite: permission of instructor; corequisite: BL 454. Weeklong field trip to deserts of the Western U.S. Program fee required.

**459. MOLECULAR CELL BIOLOGY 3 cr.** Prerequisite: grade of B- or higher in BL 213 or permission of instructor. Three hours of lecture per week. Cell signaling, protein regulation, and eukaryotic cell cycle, and cancer. Focus on current primary literature and experimental techniques. Presentation of a seminar required.

**465. MOLECULAR GENETICS 3 cr.** Prerequisites: grade of B- or higher in BL 213 or permission of instructor, CH 431 or 435. Three hours of lecture per week. Gene and genome analysis; genome organization; transposable elements; chromosome structure; replication and expression of genetic information with emphasis on eukaryotes. Reading and analysis of current primary literature.

**470. MOLECULAR METHODS LABORATORY 3 cr.** Prerequisites: CH 431 or 435, BL 215 or CH 437, grade of B- or higher in BL 213 or permission of instructor. Prerequisite/corequisite: BL 465 or 565. Eight hours of laboratory per week. Methods used in molecular, cellular, and developmental- biology research. Independent research project required.

**471. IMMUNOLOGY 3 cr.** Prerequisite: BL 213. Three hours of lecture per week. Concepts of humoral and cell-mediated immunity with emphasis on the cellular basis of the immune response. Experimental evidence emphasized.

**475. ENDOCRINOLOGY 3 cr.** Prerequisites: BL 155-158. One hour of lecture per week. The endocrine glands, hormones, and their mechanisms of action in mammals.

**478. BIOLOGY SEMINAR 1 cr.** Prerequisites: BL 155-158. One hour of lecture per week. Current topics presented by invited guests, faculty, and students.

**479. SPECIAL TOPICS IN BIOLOGY 1-4 cr.** Prerequisites: vary by topic. Offered on an irregular basis; topics chosen by instructor. A lecture/discussion course; may include laboratories or field trips. For directed readings, see BL 398; for student research, see BL 399.

# Borromeo Seminary Institute

*Adjunct Professors:* M. A. Latcovich (President/Rector), E. Kaczuk; *Adjunct Assistant Professors:* D. Ference, B. Rath, J. Koopman, M. Woost, J. Johnson, M. Ott, L. Belz; *Adjunct Instructor:* M. Quinlan

The Borromeo Seminary Institute, housed on the campus of the Center for Pastoral Leadership of the Catholic Diocese of Cleveland, prepares college students seeking the ordained priesthood of the Catholic Church. Its program is designed according to the norms and recommendations of the United States Conference of Catholic Bishops and its Program of Priestly Formation. Students are admitted to the program for collegiate seminarians by the Dioceses of Cleveland, or Youngstown, or by their religious order; they then matriculate at John Carroll University, where they are known as members of the Borromeo Seminary Institute (BSI).

BSI students complete all of the academic requirements of John Carroll University and are expected to fulfill additional course requirements specified by the collegiate seminary program. The formation program at the Seminary in Wickliffe is concentrated on Tuesdays and Thursdays, so that students may attend classes on the JCU main campus on Mondays, Wednesdays, and Fridays from 9:00–5:00.

All BSI students are required to complete specific courses in philosophy and theology. Study of Spanish and the classical languages of Latin and Greek is highly recommended. Course descriptions can be found in the pertinent department sections in this *Bulletin*. The course sequence is available online at <http://www.borromeoseminary.org/academics/philosophy/course-sequence/>.

## PHILOSOPHY

- 210. Ancient Greek Philosophy 3 cr.
- 225. Medieval Philosophy and Logic 3 cr.
- 240. 17<sup>th</sup>- and 18<sup>th</sup>-Century European Philosophy 3 cr.
- 246. 19<sup>th</sup>- and 20<sup>th</sup>-Century Philosophy 3 cr.
- 304. Philosophy of the Human Person 3 cr.
- 308. Philosophy of God 3 cr.
- 368. Ethical Theory 3 cr.
- 391. What Does Science Prove? 3 cr.
- 395. Metaphysics 3 cr.
- 396. Theories of Knowledge 3 cr.

To complete the Philosophy major, BSI students are required to complete PL 300 Methods in Philosophy (3 cr.) and either PL 450 (Seminar; 3 cr.) or PL 495 (Senior Thesis; 3 cr.) for a total of 36 credits.

## THEOLOGY AND RELIGIOUS STUDIES

- 200. Hebrew Bible 3 cr.
- 205. New Testament Introduction 3 cr.
- 238. Catechism of the Catholic Church 3 cr.
- 360. Catholic Moral Theology 3 cr.

Students may take other TRS courses of interest. Two additional courses may complete a TRS minor.

# English

*Professors:* D. M. La Guardia, J. S. McBratney, P. J. Metres, III, G. B. Bilgere, D. J. Rosenthal (Chair); *Associate Professors:* K. Gygli, B. K. Macaskill, M. Moroney (Assistant Provost), P. Kvidera, T. Pace, E. E. Butler, J. E. Feerick; *Writing Center Director:* M. Soriano Young

Students of English share in an enriched experience of imaginative language in which they read literature and produce lively, critical, creative, and professional writing. English majors learn to sharpen their analytical and writing powers, while studying literary works they can enjoy throughout their lives. Graduates with a degree in English flourish in law, business, government, education, research, medicine, and professional writing. Students majoring in English may choose the literature, creative writing, or professional writing track.

First-year English composition is required for all bachelor's degrees. Placement in composition courses is determined by SAT or ACT scores, high school GPA, and/or demonstration of requisite writing skills. An AP English score of four or higher allows students to test out of EN 125. Students needing intensive instruction in English composition are assigned to EN 120-121. All others are assigned to EN 125. Writing assistance is available to all students, for any writing assignment in any program, through the Writing Center.

Refer to individual course listings for indicated prerequisites or special permissions.

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## **Program Learning Goals in English (Literature Track).** Students will:

1. Read texts with active, critical skill to form and articulate accomplished interpretations.
2. Produce written analyses of literary texts that demonstrate awareness of audience, organizational sophistication, and clear argumentation.
3. Recognize the employment and contextual use of the formal elements of language and genre.
4. Build oral communication skills by listening to others' ideas and articulating their own responses and questions clearly to situate themselves in the conversation.
5. Gain knowledge of cultural and historical contexts of Anglophone and translated literature that enhances their appreciation for the voices either within or marginalized by the texts.

## **Program Learning Goals in English (Creative Writing Track).** Students will:

1. Read texts with active, critical skill to form and articulate accomplished interpretations.
2. Produce multiple drafts of original creative works that are honed and revised through the peer workshop process.
3. Produce written analyses of creative texts that demonstrate awareness of audience, artistic form, organizational sophistication, and clear argumentation.
4. Recognize the employment and contextual use of the formal elements of language and genre.
5. Build oral communication skills by listening to others' ideas and articulating their own responses and questions clearly to situate themselves in the conversation.
6. Gain knowledge of cultural and historical contexts of Anglophone and translated creative works that enhance their appreciation for the voices either within or marginalized by the texts.

## **Program Learning Goals in English (Professional Writing Track).** Students will:

1. Read texts with active, critical skill to form and articulate accomplished interpretations.
2. Produce extended written analyses of literary texts, informed by research, that demonstrate awareness of audience, knowledge of critical theory, understanding of formal elements of language and genre, formulation of an original question or thesis within the field, sophisticated organization, and clear and persuasive argumentation.

3. Build oral communication skills by listening to others' ideas and articulating their own responses and questions clearly to situate themselves in a larger critical and/or theoretical conversation that begins in but extends beyond the classroom.
4. Gain knowledge of cultural and historical contexts of Anglophone and translated literature which enhances their appreciation for the voices either within or marginalized by the texts.
5. Produce major and minor written works, demonstrate an understanding of the genre-specific uses of style and form in creative writing, and acquire an ability to use the self- and peer-revision processes to identify holistic and line-specific opportunities for improving creative texts.

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Major and Minor Requirements
<p><b>Major in English:</b> 39 credit hours (excluding any course ordinarily designed for first-year composition). Students may elect to complete one of three tracks: literature, creative writing, or professional writing.</p> <p><b>Literature Track</b></p> <ol style="list-style-type: none"> <li>1. Introductory surveys: 6 credit hours  EN 214 Major British Writers  EN 277 Major American Writers</li> <li>2. Two courses from the list below: 6 credit hours    EN 221 Shakespeare Game of Thrones  EN 222 Introduction to Shakespeare  EN 223 Dreamworlds  EN 224 Performing Shakespeare  EN 311 Old English Language and Literature  EN 312 Late Medieval Literature  EN 320 Literature in the Age of Henry VIII and Elizabeth I  EN 321 Literature in the Age of the Stuarts and the Civil War  EN 330 Augustan Literature, or  EN 331 Late 18th-Century Literature</li> <li>3. A global or multiethnic or minority literature course: 3 credit hours    EN 207 World Literature  EN 238 International Theatre  EN 280 Israeli/Palestinian Literature  EN 283 Immigrant Literature  EN 284 Writing Women  EN 285 Indian Literature  EN 286 African Literature  EN 278 African American Literature  EN 288 Japanese Literature  EN 472 Studies in African American Literature  EN 491 Feminist Literary Criticism</li> <li>4. A creative writing class: 3 credit hours    EN 131 Intro to Poetry Writing Workshop  EN 132 Intro to Fiction Writing Workshop  EN 133 Intro to Creative Writing Workshop</li> </ol>

EN 134 Intro to Creative Non-Fiction Workshop

5. A course on language or literary theory: 3 credit hours

EN 260 English as a Global Language  
EN 261 Sociolinguistics and Literature  
EN 485 Contemporary English Grammar & Linguistics  
EN 488 History of the English Language  
EN 489 Studies in Rhetoric and Composition  
EN 490 History of Literary Theory and Criticism  
EN 491 Feminist Literary Criticism  
EN 495 Critical Practices  
EN 496 Framed Narratives: Novel and Cinema

6. Six elective courses: 18 credit hours

Four electives must be at the 400 level. For literature-track students, three of the four 400-level courses should be literature courses. Whenever possible, students should take 300-level courses before taking 400-level courses.

1. Completion of CE 401, the professional development seminar series.
2. An Oral Presentation to be completed in a 400-level class. Co-register for EN 494 Oral Presentation along with the 400-level literature class.
3. With the written permission of the department chair, students may use as an elective for the English major one course in literature offered by the Department of Classical and Modern Languages and Cultures.

**Minor in English (Literature Track):** 18 credit hours (excluding first-year composition). 1) EN 214 and EN 277. 2) One course from 311, 312, 320, 321, 330, 331) One 400-level literature course. 4) Two EN elective at any level.

### **Creative Writing Track**

One 200-level literature course serves as the prerequisite for 300- and 400-level literature courses.

1. Introductory surveys: 6 credit hours

EN 214 Major British Writers  
EN 277 Major American Writers

2. Two courses from: 6 credit hours

EN 221 Shakespeare Game of Thrones  
EN 222 Introduction to Shakespeare  
EN 223 Dreamworlds  
EN 224 Performing Shakespeare  
EN 311 Old English Language and Literature  
EN 312 Late Medieval Literature  
EN 320 Literature in the Age of Henry VIII and Elizabeth I  
EN 321 Literature in the Age of the Stuarts and the Civil War

EN 330 Augustan Literature, or  
EN 331 Late 18th-Century Literature

3. A global or multiethnic or minority literature course: 3 credit hours

EN 207 World Literature  
EN 238 International Theatre  
EN 280 Israeli/Palestinian Literature  
EN 283 Immigrant Literature  
EN 284 Writing Women  
EN 285 Indian Literature  
EN 286 African Literature  
EN 278 African American Literature  
EN 288 Japanese Literature  
EN 472 Studies in African American Literature  
EN 491 Feminist Literary Criticism

4. Two introductory creative writing class: 6 credit hours.  
At least one course must be 131 or 133 (may take both).

EN 131 Intro to Poetry Writing Workshop  
EN 132 Intro to Fiction Writing Workshop  
EN 133 Intro to Creative Writing Workshop  
EN 134 Intro to Creative Non-Fiction Workshop

5. EN 401 Advanced Poetry Workshop. Prerequisite: either EN 131 or EN 133.

6. A second course from the advanced level. Prerequisite: either EN 131 or EN 132)

EN 402 Advanced Fiction Workshop  
EN 403 Special Topics in Advanced Writing Workshop  
EN 404 Advanced Creative Non-Fiction Workshop

7. One course on language or literary theory: 3 credit hours

EN 260 English as a Global Language  
EN 261 Sociolinguistics and Literature  
EN 485 Contemporary English Grammar & Linguistics  
EN 488 History of the English Language  
EN 489 Studies in Rhetoric and Composition  
EN 490 History of Literary Theory and Criticism  
EN 491 Feminist Literary Criticism  
EN 495 Critical Practices  
EN 496 Framed Narratives: Novel and Cinema

8. One 400-level literature course: 3 credit hours

9. Two electives at any level: 6 credit hours

10. A portfolio including a capstone reflection essay and presentation to be evaluated by the English Department

- 11.** Completion of CE 401, the professional development seminar series.

**Minor in English (Creative Writing Track):** 18 credit hours (excluding first-year composition). 1) Two courses from EN 131, 132, 133, or 134. 2) EN 401. Prerequisite: either EN 131 or 133. 3) One more course from EN 402, 403, 404. 4) One course in 20<sup>th</sup>-century literature, or a genre course, or another writing workshop. 5) One elective writing workshop at the 300 or 400 level. The Creative Writing minor may be combined with an English major in another track. Only one course taken for the CW minor may count as one course toward the 13 courses in the English major.

### **Professional Writing Track**

1. Introductory surveys: 6 credit hours  
EN 214 Major British Writers  
EN 277 Major American Writers
2. Two courses from: 6 credit hours  
  
EN 221 Shakespeare Game of Thrones  
EN 222 Introduction to Shakespeare  
EN 223 Dreamworlds  
EN 224 Performing Shakespeare  
EN 311 Old English Language and Literature  
EN 312 Late Medieval Literature  
EN 320 Literature in the Age of Henry VIII and Elizabeth I  
EN 321 Literature in the Age of the Stuarts and the Civil War  
EN 330 Augustan Literature, or  
EN 331 Late 18th-Century Literature
3. A global or multiethnic or minority literature course: 3 credit hours  
  
EN 207 World Literature  
EN 238 International Theatre  
EN 280 Israeli/Palestinian Literature  
EN 283 Immigrant Literature  
EN 284 Writing Women  
EN 285 Indian Literature  
EN 286 African Literature  
EN 278 African American Literature  
EN 288 Japanese Literature  
EN 472 Studies in African American Literature  
EN 491 Feminist Literary Criticism
4. A creative writing class: 3 credit hours  
  
EN 131 Intro to Poetry Writing Workshop  
EN 132 Intro to Fiction Writing Workshop  
EN 133 Intro to Creative Writing Workshop  
EN 134 Intro to Creative Non-Fiction Workshop
5. EN 250 Writing in the Professions 3 credit hours  
(encouraged as a preparation for specialized-level courses)
6. Two courses from the specialized level:  
  
EN 405 Writing about Film

EN 406 Writing and the Environment  
EN 407 Writing about Our Health  
EN 408 Writing in the New Media  
EN 409 Technical Writing  
EN 410 Special Topics in Writing

7. Study of Language and Theory: 3 credit hours. One course from:  
EN 260 English as a Global Language  
EN 261 Sociolinguistics and Literature  
EN 290 Tutoring Writing Across Contexts  
EN 485 Contemporary English Grammar & Linguistics  
EN 488 History of the English Language  
EN 489 Studies in Rhetoric and Composition  
EN 490 History of Literary Theory and Criticism  
EN 491 Feminist Literary Criticism  
EN 495 Critical Practices  
EN 496 Framed Narratives: Novel and Cinema
8. One 400-level literature course: 3 credit hours
9. An elective at any level: 3 credit hours
10. Internship(s) in Professional Writing: 3 credit hours
11. A portfolio of works.
12. Completion of CE 401, the professional development seminar series.

**Minor in English (Professional Writing Track):** 18 credit hours  
(excluding first-year composition). 1) EN 250. 2) Two courses from EN 131, 132, 133, 134, or 290. 4) Two courses in professional writing from EN 405, 406, 407, 408, 409, 410. 5) Internship(s) in professional writing. The Professional Writing minor may be combined with an English major in another track. Only one course taken for the PW minor may count as one course toward the 13 courses in the English major.

**Minor in Theatre: 18 credit hours**

1. Two of the following courses: 6 credit hours  
EN 232 Introduction to the Theatre  
EN 203 Introduction to Short Fiction  
EN 222 Introduction to Shakespeare  
CL 250 Classical Drama in English
2. Both of the following courses: 6 credit hours  
EN 233 Acting for the Stage  
EN 234 Directing for the Stage
3. One of the following courses: 3 credit hours  
EN 235 North American Theatre  
EN 238 International Theatre

4. EN 432 Theatre Capstone: 3 credit hours

\*\*\*Please note that up to six credit hours of the Theater minor may count toward the completion of the English major or minor (literature track), except for EN 233, EN 234, and EN 432.

### Teaching Licensure Requirements in English for Adolescent/Young Adults (AYA)

Students should note that the teaching licensure consists in part of courses in education. In addition to meeting these requirements, students must also meet the requirements of the English major. Students should consult with their advisors early in their program for details.

Course requirements for the Master of Arts in English are published in the *Graduate Studies Bulletin*.

**120-121. DEVELOPMENTAL WRITING I, II 3 cr. each.** Designed to prepare students who would benefit from a two-course writing sequence. 120: Instruction in reading, writing, and argument skills essential for university-level work; detailed instruction in usage, mechanics, form, and structure appropriate to academic work; development of the student's writing process, with focus on planning, drafting, and revising. 121: Further focus on academic writing; introduction to finding, evaluating, and synthesizing print and online sources appropriate to academic writing, including a major research project.

**125. SEMINAR ON ACADEMIC WRITING 3 cr.** An introduction to university-level writing. Instruction in principles of rhetoric and eloquence, the essentials of academic argumentation, critical thinking, audience awareness, reflection, and revision. Instruction in finding, evaluating, and synthesizing print and online sources appropriate for academic writing, including a major research project. Instruction in form, structure, usage, and mechanics appropriate to academic work.

**131. INTRODUCTORY POETRY WRITING WORKSHOP 3 cr.** Prerequisites: EN 120, 121; or EN 125; or placement out of EN 125 as determined by AP score. Fundamentals and practice of writing poetry.

**132. INTRODUCTORY FICTION WRITING WORKSHOP 3 cr.** Prerequisites: EN 120, 121; or EN 125; or placement out of EN 125 as determined by AP score. Fundamentals and practice of writing short stories.

**133. INTRODUCTORY CREATIVE WRITING WORKSHOP 3 cr.** Prerequisites: EN 120, 121; or EN 125; or placement out of EN 125 as determined by AP score. Fundamentals and practice of creative writing across genres.

**134. INTRODUCTORY CREATIVE NON-FICTION WORKSHOP 3 cr.** Prerequisites: EN 120, 121; or EN 125; or placement out of EN 125 as determined by AP score. Fundamentals and practice of writing creative non-fiction.

**199. SPECIAL TOPICS IN ENGLISH LANGUAGE AND COMPOSITION 1-4 cr.** Topic, prerequisite (if any), and number of credits announced each time the course is offered. Does not satisfy Core composition requirement.

**201. INTRODUCTION TO POETRY 3 cr.** Diction, form, and organization as principles of poetic communication and as bases for exercises in interpretation and evaluation.

**202. INTRODUCTION TO SHORT FICTION 3 cr.** Critical examination of short fiction. Selections from such authors as Hawthorne, Conrad, Chekhov, James, Hemingway, O'Connor, and Welty.

**204. INTRODUCTION TO THE NOVEL 3 cr.** Detailed examination of analytical techniques needed for the critical reading of fiction.

**205. INTRODUCTION TO FILM STUDIES 3 cr.** Introduction to the study of film: its stylistic tendencies, narrative strategies, histories, genres, and theoretical approaches. Spans the silent and the sound eras and offers examples of film from Hollywood and beyond.

**207. INTRODUCTION TO WORLD LITERATURE 3 cr.** Survey of world literature, chiefly non-Western literary works. Historical coverage, generic focus, and/or theme may vary from iteration to iteration.

**214. MAJOR BRITISH WRITERS 3 cr.** Strongly encouraged for all English majors. Critical survey of British authors and literary periods from the Middle Ages to the present.

**221. SHAKESPEARE GAME OF THRONES 3 cr.** Power, dissent, revolt, usurpation, and war. A study of Shakespeare's version of the turbulent period known as the "War of the Roses" as assess how his representations respond to Shakespeare's moment.

**222. INTRODUCTION TO SHAKESPEARE 3 cr.** Strongly encouraged for all English majors. Shakespeare's life and background; readings of representative plays from the comedies, histories, tragedies, and romances.

**223. DREAMWORLDS 3 cr.** Famous utopias and dystopias from classical time to the modern period. Analyzes how the genre's literary experiments transform reading into an instrument of political action and social reform.

**224. PERFORMING SHAKESPEARE. 3 cr.** Delving into a character, finding that character in you, finding you in that character, and investing that character with the vital spark of being alive through creative and empathic projection.

**231. BUILDING PEACE AFTER EMPIRE 3 cr.** Multidisciplinary study of the dynamics of conflict and peacemaking in South Africa, Northern Ireland, and other sites through literature, history, and film. Focus on the historical and cultural roots and persistence of conflict; the contestedness of history; peacebuilding, conflict transformation, reconciliation, and social restoration; and artists' and writers' role in creating just peace.

**232. INTRODUCTION TO THEATER 3 cr.** Why has theatre as an artistic live performance survived in the face of censorship, disapproval, and competition from technology? An examination of theatre's place in human history, its elements, and milestones in artistic movements.

**233. ACTING FOR THE STAGE 3 cr.** Study of both the theory and practice of acting; involves memorized monologues and scene work with a partner. Work with students in the directing class. Emphasis on empathy and collaboration. Counts toward Theater Minor only.

**234. DIRECTING FOR THE STAGE 3 cr.** Prerequisite: EN 232 or EN 233, or permission from the chair after consultation with the instructor. Practice and theory of stage directing, scene staging, production research, history and theories of directing. Counts toward Theatre Minor only.

**235. NORTH AMERICAN THEATRE 3 cr.** Examines theatre in the United States, Canada, and Mexico, each of which was a colony of one or more European powers. Examines how theatre in North America found an identity of its own, advocated social change in the pursuit of a more perfect republic and democracy, and—in its popular mode—challenged elite forms of theatre. Studies the American musical, the Québécois theatre movement of Canada, Mayan performance both in colonial Mexico and in modern Mexican theatre, immigrant theatre, vaudeville and burlesque, and the avant garde.

**236. DOBAMA THEATER INTERNSHIP 1-3 cr.** Prerequisite: permission of chair. Supervised and directed on-site internship learning at Dobama Theater for Theatre Minors.

**237. DESIGN FOR THE STAGE 3 cr.** Prerequisite: permission of chair. Designed to teach and practice the art of visual design, its process, and the power of a visual message that results from collaboration of the director and designers and that audiences can interpret and synthesize. Students are required to design sets and costumes for three different types of production and present in front of peers. Counts toward Theatre Minor only.

**238. INTERNATIONAL THEATRE 3 cr.** Exploration of theatre outside of the U.S. Tradition, culture, and ideas that aid in understanding today's practices. Focus on the artists and plays throughout the centuries that still fascinate audiences today. Topics vary among theatre in Europe, Asia, and Latin America, whether indigenous, classical, modern, or postmodern.

**240. DETECTIVE FICTION 3 cr.** Explores the origins and development of detective fiction in English in the nineteenth and twentieth centuries. Explores the place of the writer in a culture that saw the rise of science and technology, the birth of criminology, the ascendancy of the professional expert, the growth of a modern industrial society, and the expansion of the British Empire.

**250. WRITING AND THE PROFESSIONS 3 cr.** Introduction to the principles of and strategies for planning, writing, and revising professional documents common in government, business, and industry.

**251. BUSINESS COMMUNICATIONS 3 cr.** Prerequisites: EN 120 and EN 121, EN 125 or HP 101, and COM 125. A requirement for any student majoring in a field of study in the Boler School of Business, this course examines contemporary communication practices. Genres and topics covered in the course include business reports and electronic forms of communication; business communication issues; communication technologies; and business research, writing, and presentation. The course carries Additional Writing (AW) and Oral Presentation (OP) designations in the Integrated Core.

**261. SOCIOLINGUISTICS AND LITERATURE 3 cr.** Will use sociolinguistic approaches to literature to explore the insights that arise through analysis that focuses on language. Will unpick some of the assumptions that are made based on the way people speak, by understanding of the social and other conditions for the development of different varieties of English. Will read a variety of literary texts and watch two films. Completion of final project brings together material from both linked courses.

**275. ALCOHOL AND AMERICAN LITERATURE 3 cr.** Prerequisites: EN 120 and EN 121; EN 125. Examination of American literature that thematizes images of alcohol or efforts to curb its abuse. Since alcohol affects all despite gender, race, sexual orientation, age, and class, students will read a diverse array of writers.

**276. POVERTY IN AMERICAN LITERATURE 3 cr.** Study of American literature that thematizes poverty in order to understand how the creative imagination responds to socioeconomic inequality. All students will engage in ten weeks of service learning.

**277. MAJOR AMERICAN WRITERS 3 cr.** Strongly encouraged for all English majors. Critical survey of American authors and literary periods from the colonial era to the present.

**278. INTRODUCTION TO AFRICAN AMERICAN LITERATURE 3 cr.** Survey of major African American writers.

**279. SOCIAL JUSTICE IN FILM AND LITERATURE 3 cr.** Social justice, peace, and activism through the modes and media of cinema and literature. This course seeks to expose the student to the rich history of theory behind the topic of social justice and examine critically and reflectively the art that has arisen as a reaction to injustice in contemporary world today.

**280. ISRAELI AND PALESTINIAN LITERATURES 3 cr.** Comparative study of Israeli and Palestinian literatures; how Palestinians and Israelis narrate their national stories, staking a claim to a way of being and belonging to the land they co-inhabit. Topics include post-colonial theory, the politics of representation, historical versus literary narration, and theories of resistance and reconciliation.

**281. MASTERPIECES OF WESTERN LITERATURE I 3 cr.** Literary masterworks of Western literature from the ancient, Medieval, and Renaissance periods.

**282. MASTERPIECES OF WESTERN LITERATURE II 3 cr.** Literary masterworks of Western literature from the Enlightenment to the present, with some attention to contemporary non-Western works.

**283. IMMIGRANT LITERATURE. 3 cr.** A study of a wide array of literary and non-literary texts written by and about immigrants to the United States. An examination of the historical and cultural backgrounds of different ethnic and racial groups and how literary responses to the immigrant experience contribute to, clarify, and recreate concepts of American people and places.

**284. WRITING WOMEN: AN INTRODUCTION 3 cr.** Survey of work by British, American, and Anglophone women writers since 1800, with primary attention to lyric, short fiction, and drama.

**285. INDIAN LITERATURE 3 cr.** Survey of major works from the Veda to the contemporary Indian novel. All readings in English.

**286. AFRICAN LITERATURE 3 cr.** Major works, authors, and literary traditions of African Anglophone literatures.

**287. IRISH LITERATURE 3 cr.** Celtic myths and folklore; major works, authors, and literary traditions of Irish literature.

**288. JAPANESE LITERATURE 3 cr.** Key texts and authors of different historical eras, from ancient Japan to the present, as well as the historical and cultural developments in Japan that influenced literary production. All readings in English.

**289. INTERNSHIP 1-3 cr.** Prerequisite: permission of chair. Supervised and directed on-site internship learning in a position relevant to a major sequence of study.

**290. TUTORING WRITING ACROSS CONTEXTS 3 cr.** Focuses on tutoring in the Writing Center, with an examination of theories and practices applicable to teaching and tutoring writing in other contexts as well. Instructor permission required.

**291. ENVIRONMENTAL LITERATURE 3 cr.** Study of American environmental writing and climate change fiction (cli-fi).

**299. SPECIAL TOPICS IN LITERATURE 3 cr.** Introductory literature courses designed especially to meet Core requirements. Specific topics announced in advance.

**300. ADVANCED WRITING 3 cr.** Prerequisites: EN 120, 121; or EN 125; or placement out of EN 125 as determined by AP score. Fundamentals and practice in the essay and other non-fiction forms; emphasis on writing for specialized audiences.

**311. OLD ENGLISH LANGUAGE AND LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Examination of the language and literature of the Anglo-Saxons in the context of their early medieval milieu.

**312. LATE MEDIEVAL LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Survey of late medieval English literature, exploring its diversity from courtly romance to bawdy fabliau, including royal theatricality and religious devotion.

**320. LITERATURE IN THE AGE OF HENRY VIII AND ELIZABETH I 3 cr.** Prerequisite: a 200-level literature course. Survey of major authors, themes, genres, and forms of sixteenth-century English literature, including Sidney, Spenser, and Shakespeare.

**321. LITERATURE IN THE AGE OF THE STUARTS AND THE CIVIL WAR 3 cr.** Prerequisite: a 200-level literature course. Survey of major authors, themes, genres, and forms of seventeenth-century English literature, including works by Donne, Jonson, and Milton.

**330. AUGUSTAN LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Major authors, themes, genres, and forms of British literature from the Restoration to the mid-eighteenth century.

**331. LATE EIGHTEENTH-CENTURY LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Major authors, themes, genres, and forms of British literature during the latter half of the eighteenth century.

**340. ROMANTIC LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Survey of British literature from c. 1785-1830.

**351. VICTORIAN LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Survey of British literature from c. 1830 to 1900. Recent topics have included the Victorian response to Romanticism, industrialization, religious faith and doubt, "the Woman Question," aestheticism, and empire.

**360. MODERN BRITISH LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Study of major British writers, themes, and genres of British literature from 1890 to 1950.

**361. CONTEMPORARY BRITISH LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Study of British writers, themes, and genres of British literature from 1930 to the present.

**371. AMERICAN LITERATURE TO 1900 3 cr.** Prerequisite: a 200-level literature course. Authors, genres, and works of American literature to 1900.

**372. AMERICAN LITERATURE: 1900 TO PRESENT 3 cr.** Prerequisite: a 200-level literature course. Authors, genres, and works of American literature from 1900 to the present.

**382. TWENTIETH-CENTURY LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specific topic announced in advance and may include the novel, drama, or poetry.

**399. SPECIAL STUDY IN BRITISH, AMERICAN, OR WORLD LITERATURE 1-3 cr.** Topic, prerequisite (if any), and number of credits announced in advance.

**401. ADVANCED POETRY WRITING WORKSHOP 3 cr.** Prerequisite: EN 301 or 303. Intense, advanced work in crafting poems.

**402. ADVANCED FICTION WRITING WORKSHOP 3 cr.** Prerequisite: EN 302, 303, or 304. Intense, advanced work in crafting short stories.

**403. ADVANCED CREATIVE WRITING 3 cr.** Prerequisite: EN 301, 302, 303, or 304. Topic of special writing projects announced in advance.

**404. ADVANCED CREATIVE NON-FICTION WORKSHOP 3 cr.** Prerequisite: EN 302, 303, or 304. Intense, advanced work in creative non-fiction prose.

**405. WRITING ABOUT FILM 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Writing about film for reviewing, formal film criticism, entertainment writing, and film scholarship.

**406. WRITING AND THE ENVIRONMENT 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Study of the competing discourses that define our relationship to the natural world, frame environmental problems, and argue for public action.

**407. WRITING ABOUT OUR HEALTH 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Medical science writing, writing as healing, or other topics in health writing.

**408. WRITING IN THE NEW MEDIA 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Survey of visual rhetoric and design theories as they apply to digital short subjects.

**409. TECHNICAL WRITING 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Introduction to effective workplace writing practices; emphasis on technical and digital writing, audience and organizational needs, information design, ethics, usability testing, and team writing.

**410. SPECIAL STUDIES IN WRITING 3 cr.** Prerequisite: EN 250, 290, 300-304, or CO 225. Selected topics, such as grant and proposal writing, announced in advance.

**411. STUDIES IN MEDIEVAL LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Selected issues, authors, and genres of literature of the Middle Ages; specific topic announced in advance and may be one of the following: medieval women, drama, the Pearl-Poet, or theories of translation of medieval text.

**412. MEDIEVAL DRAMA 3 cr.** Prerequisite: a 200-level literature course. Detailed examination of medieval drama, which reached its pinnacle in the cycles of mystery plays of the fourteenth and fifteenth centuries and allows readers to question the relationship between religion, satire, and a love of the grotesque.

**416. CHAUCER 3 cr.** Prerequisite: a 200-level literature course. Detailed examination of the “first English poet.” Emphasis on *The Canterbury Tales* and *Troilus and Criseyde* to explore medieval ideas about authorship, social unrest, reform and heresy, gender, and “otherness.”

**421. STUDIES IN RENAISSANCE LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Selected issues, authors, and genres of the Renaissance period; specific topic announced in advance.

**422. STUDIES IN SHAKESPEARE 3 cr.** Prerequisite: a 200-level literature course. Selected studies of Shakespearean drama and/or poetry; specific topic announced in advance.

**425. MILTON 3 cr.** Prerequisite: a 200-level literature course. Detailed examination of the major poetry and selected prose.

**430. STUDIES IN EIGHTEENTH-CENTURY LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specialized study of issues, authors, and genres of literature of eighteenth-century England; specific topic announced in advance.

**432. THEATRE CAPSTONE 3 cr.** Prerequisites: prior participation in theatre productions; permission of chair in consultation with the instructor. The student must participate in a production by directing, designing, stage managing, or acting in a major role, as determined by the instructor. Also involves a writing and research component.

**441. STUDIES IN ROMANTIC LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specialized study of Romantic literature; specific topic announced in advance.

**443. KEATS 3 cr.** Prerequisite: a 200-level literature course. Examination of Keats’s poetry.

**445. BRITISH WOMEN WRITERS SINCE 1800 3 cr.** Prerequisite: a 200-level literature course. Examination of formal experiments and thematic concerns of major artists, with particular attention to the nineteenth and early twentieth centuries.

**454. STUDIES IN VICTORIAN LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specialized study of Victorian literature; specific topic announced in advance. Recent topics include aestheticism and empire, Victorian cosmopolitanism, and Victorian poetry.

**458. DICKENS 3 cr.** Prerequisite: a 200-level literature course. The major novels, with a study of their backgrounds, art, and language.

**460. STUDIES IN MODERN BRITISH LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specialized study of 20th-century literature; specific topic announced in advance.

**461. STUDIES IN CONTEMPORARY BRITISH LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specialized study of contemporary British literature; specific topic announced in advance.

**470. STUDIES IN AMERICAN LITERATURE TO 1900 3 cr.** Prerequisite: a 200-level literature course. Specialized study of American literature to 1900; specific topic announced in advance.

**471. STUDIES IN AMERICAN LITERATURE: 1900 TO PRESENT 3 cr.** Prerequisite: a 200-level literature course. Specialized study of American literature from 1900 to the present; specific topic announced in advance.

**472. STUDIES IN AFRICAN AMERICAN LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specific topic announced in advance.

**473. FAULKNER 3 cr.** Prerequisite: a 200-level literature course. Examination of his major writings as well as their background and cultural context.

**474. AMERICAN POETRY 3 cr.** Prerequisite: a 200-level literature course. Major American poets from Whitman to the present.

**480. STUDIES IN POSTCOLONIAL LITERATURES 3 cr.** Prerequisite: a 200-level literature course. Study of literary texts from formerly colonized nations in Africa, Asia, or elsewhere; specific topic announced in advance.

**481. STUDIES IN IRISH LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specific topic announced in advance.

**485. CONTEMPORARY ENGLISH GRAMMAR AND LINGUISTICS 3 cr.** Prerequisite: a 200-level literature course. Study of contemporary theories of English grammar. Focuses on ways of learning and thinking about grammar with respect to contemporary English usage.

**487. STUDIES IN CONTEMPORARY ANGLOPHONE LITERATURE 3 cr.** Prerequisite: a 200-level literature course. Specific topic announced in advance.

**488. HISTORY OF THE ENGLISH LANGUAGE 3 cr.** Prerequisite: a 200-level literature course. Study of the sounds, forms, and syntax of Early, Middle, Early Modern, and Modern English from its first, fraught centuries to its shape-shifting roles in the global community today. Also introduces the fundamentals of more general linguistic study.

**489. STUDIES IN RHETORIC AND COMPOSITION 3 cr.** Prerequisite: a 200-level literature course. Study of rhetoric, composition theory, and pedagogy, including a practicum.

**490. HISTORY OF LITERARY THEORY AND CRITICISM 3 cr.** Prerequisite: a 200-level literature course. Elements of literary theory, and a survey of the major theorists from Plato to the present.

**491. FEMINIST LITERARY CRITICISM 3 cr.** Prerequisite: a 200-level literature course. Study of various theories of feminist literary criticism. The social construction of gender and identity, the possibilities for women's creative expression, and the influence of gender-related issues on the study of literary texts.

**494. ORAL PRESENTATION 0 cr.** Oral presentation core requirement. Literature Track majors must co-register for this designation when registering for a 400-level literature course in which you plan to meet your OP requirement.

**495. CRITICAL PRACTICE 3 cr.** Prerequisite: a 200-level literature course. Survey of options available to literary critics of the twentieth and twenty-first centuries, and practice in the application of criticism to literary texts.

**496. FRAMED NARRATIVES: NOVEL AND CINEMA 3 cr.** Prerequisite: a 200-level literature course. Structural and thematic functions of pictorial and narrative frameworks in film and novel.

**497. HOPKINS SEMINAR 3 cr.** Prerequisites: a 200-level literature course and permission of the chair. Advanced, special seminar in literature taught by the visiting Hopkins professor; specific topic announced in advance.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: a 200-level literature course; consent of project advisor and department chair. Special projects in literature or writing. Projects must be approved before registration. See chair for forms and guidelines.

**499. SPECIAL STUDIES 1-3 cr.** Prerequisite: a 200-level literature course. Selected topics announced in advance.

# Business Intelligence (BI)

*Professor:* C. A. Watts (Chair); *Associate Professors:* M. P. Lynn, R. T. Greci, B. Hull; *Visiting Instructor:* A. Marculetiu

Business intelligence, or BI, is an umbrella term that refers to a variety of software application and techniques used to analyze an organization's raw data. BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting, as well as data summarization and visualization. The objective of the Business Intelligence faculty is to develop students' technical and analytical skills, enabling them to apply their expertise more fully as analysts, consultants, and project managers in their chosen fields. Technical and analytical skills are relevant to all organizational processes and to all business majors. As such, Business Intelligence courses are an integral part of the business core. They also serve key roles in the management, marketing, and supply chain management majors.

Students interested in a business major that includes the skills and knowledge related to BI should consider the management and human resources, marketing, and supply chain management majors. Students interested in software programming and application development should consider a major or minor in the Department of Mathematics and Computer Science, including Data Science, which focuses on statistics, computer science, and mathematics.

**100. BUSINESS ANALYSIS WITH EXCEL 1 cr.** How to answer key business questions, analyze company finances, forecast sales, and prepare business cases while improving your Excel skills.

**200. DATA-DRIVEN DECISION-MAKING 3 cr.** Prerequisite: BI 100 or BI 108. Introduction to management information systems, decision support systems, and the data-driven decision process. Special emphasis on database management and the strategic use of information to drive decision-making in organizations. Group projects add practical experience to the conceptual approach.

**341. ADVANCED DATA-DRIVEN DECISION-MAKING 3 cr.** Prerequisite: BI 200; EC 210 or other comparable statistics class. Develops skills to translate a variety of data types into conceptual insights, and exposes students to "big data" and the analytical process and tools to manage and exploit the data. Topics include data types and sources, constructing queries using SQL data analysis using Excel, Cognos and Power BI, predictive analytics, and reporting and presentation of analyses.

**371. BUSINESS DECISION OPTIMIZATION 3 cr.** Prerequisite: EC 210 or MT 122 or MT 228. Application of mathematical optimization to decision-making. Uses MS-Excel and several add-ins as tools to find optimal solutions to a wide variety of business problems. Topics include linear programming, network models, non-linear programming, goal programming, decision trees, and simulation.

**407. SEMINAR IN BUSINESS INTELLIGENCE 3 cr.** Prerequisite: BI 200. Study of contemporary issues in business intelligence not covered in depth in other BI courses. Specific topic, presentation method, and requirements designated by the seminar leader.

**498. INDEPENDENT STUDY IN BUSINESS** Prerequisites: overall GPA of 3.0 or higher; permission of chair and faculty member. Research project supervised by a full-time BI faculty member willing to act as advisor. The student selects an aspect of BI, establishes goals, and develops a plan of study that must be approved by the chair and filed with the dean's office. Consult the chair for the department guidelines established for such study.

## Career Education (CE)

Students may apply a maximum of four credits toward graduation requirements and, unless otherwise specified, no more than eight credits from any combination of AR, CE, FA, or PE (120-174) courses. Credit from CE courses may not be used to satisfy Core requirements. A maximum of three CE credits can come from internship experience.

**102. INTERNSHIP EXPERIENCE 1 1 cr.** Prerequisite: approval of Career Services, minimum 2.5 GPA. Supervised experiential learning in a position relevant to academic and career goals. Can be paid or unpaid. The student must complete 135 hours at the internship during the semester and specific course work assigned by the Career Services advisor. Credit is not awarded retroactively. Pass/Fail.

**103. INTERNSHIP EXPERIENCE 2 2 cr.** Prerequisites: approval of Career Services, minimum 2.5 GPA. Supervised experiential learning in a position relevant to academic and career goals. Can be paid or unpaid. The student must complete 135 hours at the internship during the semester and specific course work assigned by the Career Services advisor. Credit is not awarded retroactively. Pass/Fail.

**104. INTERNSHIP EXPERIENCE 3 3 cr.** Prerequisites: approval of Career Services, minimum 2.5 GPA. Supervised experiential learning in a position relevant to academic and career goals. Can be paid or unpaid. The student must complete 135 hours at the internship during the semester and specific course work assigned by the Career Services advisor. Credit is not awarded retroactively. Pass/Fail.

**199. INTERNSHIP EXPERIENCE-NONCREDIT TRANSCRIPT NOTATION 0 cr.** Prerequisites: approval of Career Services, minimum 2.5 GPA. Supervised experiential learning in a position relevant to academic and career goals. Can be paid or unpaid. The student must complete 135 hours at the internship during the semester and required documentation. Transcript notation is not awarded retroactively. Experience will be noted on transcript. No academic credit is awarded. Graded Satisfactory/Unsatisfactory.

**199i. INTERNATIONAL STUDENT INTERNSHIP EXPERIENCE 0 cr.** Prerequisite: Approval of Career Services. Qualifying work experiences must be paid and involve 20+ hours/week during fall or spring semester sessions. Curricular Practical Training (CPT) approval and Designated School Official (DSO) endorsement must be cleared with the Center for Global Studies. The Academic Advisor Verification Form for Curricular Practical Training must be submitted to the DSO. This course is for International students studying full-time on an F-1 Visa to accept paid internship opportunities requiring 20+ hours/week during spring or fall semester that are related to their course of study.

**401. COLLEGE OF ARTS AND SCIENCES PROFESSIONAL DEVELOPMENT PROGRAM 0 cr.** A series of online modules, workshops, and career-related experiences to practice, polish, and perfect professional skills necessary in securing internships, research experiences, entry into graduate and professional schools, and post graduation jobs. Signifies successful completion of all requirements, which vary by department.

# Chemistry (CH)

*Professors:* P. R. Challen, D. P. Mascotti, C.D. Bruce; *Associate Professors:* M. A. Nichols (Chair), M. J. Waner, Y. C. Chai, M. L. Kwan; *Assistant Professor:* M. P. Setter, M.K. Doud.

The Department of Chemistry is equipped with modern laboratory facilities available for hands-on experience for students preparing for careers in chemistry, biochemistry, medicine, biotechnology, and other fields. Recent graduates have gone on to graduate study in chemistry, biochemistry, medicine, dentistry, law, pharmacy, and forensic science. Others have gone directly into the work force in chemistry and allied fields. The department is approved by the Committee on Professional Training (CPT) of the American Chemical Society (ACS).

A bachelor of science in Chemistry is for students who desire a systematic training in chemistry (including biochemistry) as background for a career in chemistry, as well as in other related fields such as: health professions (e.g., medicine, dentistry, pharmacy, nursing, physical therapy, and physician assistant), business, education\*, environmental science, information science, journalism, forensic chemistry, or law. (\*Students wishing to teach chemistry or general science in secondary schools should confer with the Department of Education and School Psychology during their first year.) As an ACS-approved program, students completing the minimum requirements outlined by the CPT will be certified to ACS. There are pathways for all chemistry majors to achieve certification, and interested students should consult with their academic advisor or the department chair.

A Chemistry major is excellent preparation for a career in the chemical sciences. If one's goal is to be an entrepreneur or a career in sales or management, combining a chemistry major with a minor/major in business would be appropriate. This would also allow a student to complete the B.S. in chemistry and M.B.A. at John Carroll in five years of full-time study. Interested students should consult with their advisor early in their first or second year.

Combined with a second major or minor from the Department of Sociology and Criminology, a Chemistry major is excellent preparation for employment or graduate study in Forensic Chemistry.

Students interested in Neuroscience should investigate adding to that concentration a Chemistry major with a concentration in Biochemistry as early as possible in their academic careers.

Undergraduate research is a vital component of the modern chemistry curriculum. The department maintains an active undergraduate research program, and most majors are involved in research projects during their career. These projects occur with chemistry faculty at John Carroll, the Lerner Research Institute at the Cleveland Clinic Foundation, and other universities and local industries. The department was recognized in 2002 with a Heuer Award for Outstanding Achievement in Undergraduate Science Education from the Council of Independent Colleges for making undergraduate research a capstone experience in the curriculum.

The Chemistry Department participates in the College of Arts and Sciences Professional Development Program.

## Optional Concentrations in Chemistry

The **Concentration in Chemical Physics** is designed primarily for the student who intends to become a professional chemist. It provides the preparation necessary for graduate study in chemistry or employment in a chemically-related industry.

Students who successfully complete this concentration have satisfied the minimum requirements specified by the Committee on Professional Training (CPT) of the American Chemical Society (ACS). These students will be certified to the society by the department.

The **Concentration in Biochemistry** is intended for students who wish to use the undergraduate major in chemistry as preparation for further study and/or employment in medicine, dentistry, or any of the other life sciences: molecular biology, pharmacy, clinical chemistry, biotechnology, pharmacology, toxicology, industrial hygiene,

veterinary medicine, and other health-related fields. To serve such a variety of career goals, the program offers flexibility in some requirements.

### Application

Typically in the spring semester of the sophomore year, all intended chemistry majors must make a *formal application* to the department to be accepted as majors. Applicants with a minimum GPA of 2.5 in the initial chemistry core sequence (CH 141, 142, 143, 144 (or 151, 153), and 221, 223) may be accepted unconditionally as chemistry majors. A minimum GPA of 2.0 in the support courses is also required. A student who does not meet these criteria but ~~who~~ does have a minimum GPA of 2.25 in the initial chemistry core sequence will be considered for conditional acceptance as a chemistry major.

Chemistry majors must maintain a combined GPA of 2.0 in chemistry courses and in the required support courses to meet graduation requirements.

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### Program Learning Goals in Chemistry. Students will:

1. Demonstrate a working knowledge in the sub-disciplines of chemistry where they have completed course work (at least four of analytical, biochemistry, inorganic, organic and physical).
2. Apply their integrative knowledge of chemistry to solve problems.
3. Demonstrate competency in the laboratory skills necessary to acquire, analyze, and interpret experimental results.
4. Effectively communicate scientific information in a variety of forms (written, oral, mathematical).

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Major and Minor Requirements
<p>No changes in, substitutions for, or exceptions to the following requirements will be permitted without prior, written authorization of the department chair and the approval of the appropriate dean by academic petition.</p> <p><b>B.S. in Chemistry Requirements:</b> 48-567 total credit hours. Chemistry core courses (CH 141, 142, 143, 144 (or 151 and 153), 221, 222, 223, 224, 261, 263, 363, 367, 478) and 2 upper-division lecture electives (CH 366, CH 431, CH 435, CH 436, CH 439, CH 481, CH 495, CH 399, CH 398) and 1 lecture/lab pair (CH 431-CH 437, CH 435-436-437, CH 441-443, CH 481-482). CH 399 is strongly encouraged. The Capstone, Additional Writing and Oral Presentation requirements of the University Core Curriculum will be satisfied by CH 443, CH 398, or CH 399D.</p> <p><i>Required Support Courses:</i> MT 135, 136, PH 125, 125L, 126, 126L (or PH 135, 135L, 136, 136L).</p> <p><b>B.S. in Chemistry with a Concentration in Chemical Physics:</b> 70-75 total credit hours. In addition to the Chemistry core courses, students must take CH 366, CH 368, CH 431, CH 441, CH 443, CH 481, CH 482, as well as at least 6 credits of upper division electives (CH 398, CH 399, CH 495) at least one of which is laboratory based.</p> <p><i>Required Support Courses:</i> MT 135, MT 136, MT 233; PH 135, PH 135L, PH 136, PH 136L, and PH 246 or PH 325; EP 217. Pre-chemical engineering students should take PH 246.</p>

**B.S. in Chemistry with a Concentration in Biochemistry:** 62-72 ~~61-73~~ total credit hours. In addition to the Chemistry core courses, students must take CH 435, 436, 437, and three additional approved upper-division CH (CH 366, 398, 399 (3 cr), 439, 441-443, 481, 495). One of these electives may be approved BL or PS courses.

One upper-division elective may be selected from BL 301, 302, 310-310L, 410, 459, 465, 470, 471, PS 426 or other courses approved by the chemistry department chair.

*Additional Required Support Courses:* BL 155-156, 157-158.

**Minor in Chemistry:** 19-24 hours. CH 141, 142, 143, 144 (or 151 and 153), 221, 222, 223, 224 and at least two additional chemistry lecture courses at the 200 level or above.

### **Interdisciplinary Concentration**

The department collaborates in the interdisciplinary concentration in neuroscience. It is strongly recommended that interested students investigate the neuroscience concentration as early as possible in their academic careers. Refer to Neuroscience concentration in the Psychology section for more information.

Those who participate in the neuroscience concentration should complete the concentration in Biochemistry.

### **Pre-Engineering Programs**

Students interested in engineering have three options:

1. They may elect the 3-2 program, which consists of the first three years at John Carroll as a science major followed by two years at Case Western Reserve University. Successful completion of the 3-2 program leads to two bachelor's degrees: a B.S. from John Carroll and a bachelor's in engineering from Case Western Reserve. Further details are provided under "Engineering Programs" in "Preparation for Graduate and Professional Studies".
2. They may complete the B.S. in chemistry (ordinarily with a concentration in Chemical Physics) and then enter an engineering school to obtain an advanced degree. It would typically require a total of six years to obtain a B.S. from John Carroll and an M.S. from another institution.
3. They may choose to complete two years of pre-engineering at John Carroll and then transfer to an engineering school to pursue a bachelor's degree in engineering.

### **Optional Minor**

An optional minor in chemistry is available to students majoring in any other department. A cumulative quality-point average of 2.0 must be achieved in the chemistry course sequences. The requirements for the minor appear on a previous page.

### **Teaching Licensure**

Students interested in majoring in chemistry in preparation for teaching chemistry at the secondary level should consult both the Department of Chemistry and the Department of Education and School Psychology at the earliest opportunity. Completion of the B.S. in Chemistry with appropriate selection of electives will require additional science support courses to complete the licensure requirements for the State of Ohio.

**108. INTRODUCTORY CHEMISTRY BY INQUIRY 3 cr.** Prerequisite: EN 125; corequisite: PH 108. Three hours of instruction per week. An inquiry-based introduction to fundamental concepts of chemistry. Exploration of interactions and energy, then interactions and forces, which occurs across the two linked courses. Investigates gases, physical changes, and chemical changes. For non-chemistry majors. CH 108 and PH 108 fulfill the linked course requirement of the Integrated Core Curriculum.

**141-142. GENERAL CHEMISTRY I-II 4 cr. each.** Corequisites: CH 143-144. Four hours of lecture per week. Stoichiometry, thermochemistry, states of matter, atomic structure, chemical bonding, molecular structure, oxidation-reduction, acid-base, solutions. Homogeneous and heterogeneous equilibria, thermodynamics, electrochemistry, kinetics, chemistry of metals and non-metals, and other relevant topics. CH 141 fulfills the distributive natural science requirement of the Integrated Core Curriculum.

**143-144. GENERAL CHEMISTRY LABORATORY I-II 1 cr. each.** Corequisites: 141-142. Three hours of laboratory per week. Laboratory experiments illustrating principles developed in corequisite lecture courses.

**151. CHEMICAL PRINCIPLES 4 cr.** Prerequisite: permission of chair; corequisite: CH 153. Four hours of lecture per week. Introductory chemistry for the well-prepared student. Topics include stoichiometry, thermochemistry, states of matter, atomic structure, chemical bonding, oxidation reduction, molecular structure, acid-base, solutions, thermodynamics, kinetics, equilibria, electrochemistry, chemistry of metals and non-metals. Fulfills the distributive natural science requirement of the Integrated Core Curriculum.

**153. CHEMICAL PRINCIPLES LABORATORY 1 cr.** Prerequisite: permission of chair; corequisite: CH 151. Three hours of laboratory per week. Review of basic laboratory techniques. Experiments illustrating principles developed in the corequisite lecture course.

**170. CHEMISTRY OF POISONS 3 cr.** Prerequisites: EN 125 (or equivalent). corequisite: EN-240. Three hours of lecture per week. Emphasis on critical analysis, problem-solving, quantitative analysis, and written communication within the context of the biochemistry of poisons. CH 170 and EN ~~199~~240 fulfill the linked course requirement of the Integrated Core Curriculum.

**171. INFORMED HEALTH DECISIONS 3 cr.** Prerequisites: EN 125 (or equivalent); corequisite: ER 201. Three hours of lecture per week. Basics of biochemical literacy which enables non-science students to make better informed decisions on issues related to health, including diseases, nutrition, and medications. CH 171 and ER 201 fulfill the linked course requirement of the Integrated Core Curriculum.

**172. FORENSIC BIOCHEMISTRY 3 cr.** Prerequisites: EN 125 (or equivalent); corequisite: PO 213. Three hours of lecture per week. Basic biochemical principles and techniques as they pertain to forensic science. Emphasis on quality assurance, quality control, analysis, and interpretation of biochemical evidence for the legal system. CH 172 and PO 213 fulfill the linked course requirement of the Integrated Core Curriculum.

**173. ENERGY, AN IMPORTANT COMMODITY 3 cr.** Prerequisites: EN 125 (or equivalent); corequisite: ER 201. Three hours of lecture per week. Focuses on the impact of chemical and physical discoveries on our way of life. Enables the student to develop an appreciation of chemistry's influence on life and to apply that knowledge in making important personal and societal choices regarding energy usage. CH 173 and ER 201 fulfill the linked course requirement of the Integrated Core Curriculum.

**174. FOOD CHEMISTRY 3 cr.** Prerequisites: EN 125 (or equivalent). Corequisite: IC 209. Three hours of lecture per week. Living organisms require resources to fuel the processes necessary for staying alive. We require a certain number of calories to fuel metabolic processes and to provide building blocks to replace old cells and build new ones. This course will examine our core requirements for food as we eat to live, and some of the cultural, social, historical, and culinary dimensions as we live to eat. CH 174 and IC 209 fulfill the linked course requirement of the Integrated Core Curriculum.

**221-222. ORGANIC CHEMISTRY I-II 3 cr. each.** Prerequisites: CH 141-144 (or 151, 153); corequisites: CH 223-224. Three hours of lecture per week. Theoretical and descriptive treatment of the structure and reactions of the more representative classes of aliphatic and aromatic organic compounds. Aliphatic, alicyclic, and aromatic

hydrocarbons; stereochemistry, carbocation theory, electrophilic substitution reactions, functional derivatives of aliphatic and aromatic hydrocarbons, carbanion theory, nucleophilic displacement, elimination reactions, carbonyl chemistry and spectroscopic analysis.

**223-224. ORGANIC CHEMISTRY LABORATORY I-II 1 cr.** each. Corequisites: CH 221-222. Four hours of laboratory per week. Laboratory experiments to illustrate basic organic laboratory techniques, principles and reactions learned in the corresponding lecture courses, organic reactions, and the theory and application spectroscopic analysis to organic structure determination.

**261. ANALYTICAL CHEMISTRY 3 cr.** Prerequisites: CH 141-144 (or 151, 153); corequisite: CH 263. Three hours of lecture per week. Overview of chemical analysis; hypothesis testing, analysis of variance, correlation and regression confidence intervals, estimation, sampling distributions; equilibria; redox chemistry; basic principles of modern electrochemical, spectroscopic, and chromatographic analysis; sampling and sample preparation. CH 261 and 263 fulfill the foundational Quantitative Analysis (QA) requirement of the Integrated Core Curriculum.

**263. ANALYTICAL CHEMISTRY LABORATORY 1 cr.** Corequisite: CH 261. Four hours of laboratory per week. Practice in classical analysis, sampling and sample preparation, and introductory instrumental analysis. Experiments are designed to illustrate the principles discussed in CH 261, including principles of the collection, display, and analysis of data. CH 261 and 263 fulfill the foundational Quantitative Analysis (QA) requirement of the Integrated Core Curriculum.

**298. TEACHING ASSISTANT IN CHEMISTRY 0 cr.** Prerequisite: permission of chair. Duties may include preparation of laboratories, assisting faculty and student activities during laboratories, and/or grading. Graded SA/FA.

**363. PHYSICAL CHEMISTRY I: CHEMICAL THERMODYNAMICS AND KINETICS 3 cr.** Prerequisites: CH 141-144 or CH 151H, CH 153, MT 135 or MT 133-134, PH 125\*/PH 125L\* or PH 135\*/PH 135L\*; prerequisite/corequisite: MT 136. Three hours of lecture per week. Chemical thermodynamics, kinetic molecular theory and the properties of gases, and reaction kinetics.

**366. PHYSICAL CHEMISTRY II 3 cr.** Prerequisite: CH 363; prerequisites/corequisites: MT 136 and PH 126/126L or 136/136L. Three hours of lecture per week. Introduction to quantum mechanics, atomic and molecular structure, liquid and solid states, phase equilibria, electromotive force, and symmetry.

**367. PHYSICAL CHEMISTRY LABORATORY I 2 cr.** Prerequisites: CH 261, 263; prerequisite/corequisite: CH 363. Four hours of laboratory per week. Laboratory experiments designed to illustrate the principles discussed in CH 363 ~~364 and 365~~. Emphasis on scientific writing.

**368. PHYSICAL CHEMISTRY LABORATORY II 1 cr.** Prerequisite: CH 367; prerequisite/corequisite: CH 366. Four hours of laboratory per week. Laboratory experiments designed to illustrate the principles discussed in CH 363 ~~365~~, 366.

**398. LITERATURE RESEARCH IN CHEMISTRY 3 cr.** Prerequisite: CH 367, CH 478. Three hours of lecture per week. Literature-based, research course. Instruction in the proper use of chemical literature, as well as further development of a student's abilities to communicate chemistry in both writing and in oral presentation. Includes a final project which will include a written and oral presentation component. CH 398 fulfills the Capstone, Additional Writing and Oral Presentation requirement in the major for the Integrated Core Curriculum.

**399. UNDERGRADUATE RESEARCH 0-3 cr.** Prerequisites: approval of a faculty sponsor and/or permission of department chair; for CH 399D are CH 367, CH 478. A pre/corequisite of a third credit of CH 399 is required for registration in CH 399D. The number of credits to be agreed on by student and faculty sponsor and specified at registration. Minimum of four hours' work per week are expected per credit hour. CH 399A, 1 cr, first research experience; CH 399B, 1 cr, second research experience, CH 399C, 1 cr, third research experience. More than 3 credits may be taken for credit; however, only three credits of CH 399 may be used to fulfill an upper-division course elective. CH 399 may also be used as an upper-division lab credit. Systematic investigation of an original

research problem. A written report must be submitted by the time a third credit is completed. CH 399D satisfies the Capstone, Additional Writing and Oral Presentation requirement in the major for the Integrated Core Curriculum.

**431. GENERAL BIOCHEMISTRY 4 cr.** Prerequisites: CH 221-224. Four hours of lecture per week. One-semester survey; proteins, enzymes, nucleic acids, lipids, membranes, and carbohydrates. Approximately half of the course is devoted to metabolism and metabolic regulation. May be used as a corequisite for CH 437.

**435. BIOCHEMISTRY I 3 cr.** Prerequisites: CH 221-224; BL 155, 156 strongly recommended. Three hours of lecture per week. Structure/function of proteins, nucleic acids, lipids, biomembranes, and carbohydrates. Enzyme catalysis, coenzymes, regulation of proteins, DNA binding proteins, molecular genetics (introduction), laboratory methods, and signal transduction. *Note:* See listing under Biology for BL 465, a separate course focusing on the biochemistry/molecular biology of gene expression.

**436. BIOCHEMISTRY II 3 cr.** Prerequisite: CH 435. Three hours of lecture per week. Bioenergetics and the metabolism of carbohydrates, lipids, amino acids, and nucleotides. Emphasis on integration and regulation by metabolic, hormonal, and genetic factors. Photosynthesis and some physiological topics.

**437. BIOCHEMISTRY LABORATORY 1 cr.** Prerequisite or Corequisite: CH 431 or CH 435. Four hours of laboratory per week. Protein isolation, chromatography, electrophoresis, quantitative assays, enzyme kinetics, DNA isolation and restriction enzyme analysis, fluorescence and UV/VIS spectroscopy, and bioinformatics. *Note:* CH/BL 470 provides additional laboratory instruction in methods for biochemistry/molecular biology.

**439. BIOCHEMISTRY III 3 cr.** Prerequisite: CH 436. Three hours of lecture per week. In-depth examination of selected topics with extensive reading of original research articles and review papers. Topics covered in recent years: G-proteins, SH2 and SH3 domains in protein-protein recognition, signal transduction pathways, oncogenes, tumor suppressors, prenylation of proteins, ubiquitin-based protein degradation, anti-cancer drugs, regulation of gene expression, angiogenesis, pharmacokinetics gene delivery, and new developments in laboratory methods and instrumentation.

**441. INSTRUMENTAL ANALYSIS 3 cr.** Prerequisites: CH 261; prerequisite or corequisite: CH 365 or CH 361; corequisite: CH 443. Three hours of lecture per week. In-depth treatment of modern chemical instrumentation; quantitative analysis using UV/VIS, IR, NMR, MS, AAS, ICP, electrochemistry, chromatography; qualitative characterization of pure substances through interpretation of IR, NMR, and mass spectra. Emphasis will be on the unique capabilities and limitations of each technique. Highly recommended for students interested in pursuing a career in chemical research and/or development.

**443. INSTRUMENTAL ANALYSIS LABORATORY 2 cr.** Prerequisite: CH 263; corequisite: CH 441. Four hours of laboratory per week. Practice in instrumental analysis and experimental design, reflecting quantitative determinations and qualitative characterization of substances. Experiments are designed to utilize principles discussed in CH 441. CH 443 satisfies the Capstone, Additional Writing and Oral Presentation requirements in the major for the Integrated Core Curriculum.

**478. CHEMISTRY SEMINAR 0 cr.** Prerequisites: CH 221-224. One hour per week. All chemistry majors are required to complete satisfactorily one semester of CH 478. Meets one hour per week. Attendance at eight seminars per semester constitutes completion. A variety of topics is presented including chemistry/biochemistry research and aspects of professional development. Guest speakers from industry, government. Graded SA/FA.

**481. INORGANIC CHEMISTRY 3 cr.** Prerequisite: CH 363. Three hours of lecture per week. Principles correlating the chemistry of the elements and their compounds. Atomic structure, chemical periodicity, structure and bonding in molecules, symmetry and point groups, solid state materials, acid/base and redox chemistry, coordination chemistry, aspects of main group and transition metal chemistry.

**482. INORGANIC CHEMISTRY LABORATORY 1 cr.** Prerequisite: CH 367. Four hours of laboratory per week. Laboratory syntheses and analyses to illustrate the chemistry of the elements and their compounds.

**495. SPECIAL TOPICS IN CHEMISTRY 1-3 cr.** Subject matter not covered by established courses but of interest to the instructor and students. Topic will be announced in course schedule. May be repeated one time for credit.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: approval of faculty member and permission of department chair. Independent study under the supervision of a faculty member.

# Chinese (CN)

*Confucius Classroom Instructor: X. Zhu*

The program in Chinese is offered by the Department of Classical and Modern Languages and Cultures. Studying the Chinese language helps develop skills in listening, speaking, reading, and writing, but that is only the beginning of its benefits. Courses in Chinese open a window onto one of the world's most ancient civilizations. Students learn about Chinese history, cultural values, philosophical and religious beliefs, and aesthetic traditions, including the art of Chinese calligraphy.

Chinese is currently spoken by nearly one-fifth of the world's population. Since China is one of the five permanent members of the United Nations Security Council, Chinese is also an official U.N. language. Moreover, China plays a major role in the global economy that is likely to continue expanding. China is the largest trading nation in the world, plays **an important** role in international trade, and also has a close economic relationship with the United States. In short, a knowledge of Chinese promotes an appreciation and understanding of China's past and present while also equipping students to deal with its future.

Independent study courses are available to students who have completed advanced-level courses. Students are strongly encouraged to explore the East Asian Studies interdisciplinary major-minor program.

Students are also encouraged to participate in study-abroad programs and should consult early on with the coordinator **of** the Chinese language program and/or the department chair, **and with the** Center for Global Education.

**101. BEGINNING CHINESE I 3 cr.** Intensive functional approach to the four language skills in a cultural context. Classroom, **multimedia**, computer-assisted instruction. For students with little or no knowledge of Chinese, or by placement test. (Fall)

**102. BEGINNING CHINESE II 3 cr.** Prerequisite: CN 101 or equivalent or by placement test. Amplification of language skills in a cultural context. (Spring)

**201-202. INTERMEDIATE CHINESE I, II 3 cr. each.** Prerequisite: CN 102 or equivalent or by placement test. CN 201 or equivalent prerequisite for CN 202. Further development of the four language skills for communication in a cultural context; expansion of vocabulary, idiomatic usage, and grammar. (Fall: 201; Spring: 202)

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301-302. ADVANCED CHINESE I, II 3 cr. each.** Prerequisite: CN 202 or equivalent or by placement test. CN 301 or equivalent prerequisite for CN 302. Advanced study of the four language skills for communication in a cultural context; expansion of vocabulary, idiomatic usage, and grammar. (Fall: 301; Spring: 302)

**499. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# Classics (CL)

*Professor:* G. Compton-Engle (Chair); *Associate Professor:* K. A. Ehrhardt

Courses in classical studies are offered by the Department of Classical and Modern Languages and Cultures. The department offers major programs in classical languages and classical studies, as well as a minor in classical studies and a variety of individual courses that may be used to fulfill Core requirements or taken as electives.

Classics is an interdisciplinary field, encompassing the languages, literature, art, archaeology, history, philosophy, mythology, and religious lives of the Greeks and Romans in the broader ancient Mediterranean world. We offer Latin and ancient Greek languages from the introductory to advanced levels. In the introductory sequence, students build vocabulary and language skills and explore ancient cultures. In the upper-level Latin and Greek classes, students read literature by many authors, from Homer to St. Perpetua.

Courses with the CL designation are offered in English, with no knowledge of Latin or Greek required. Classics courses examine the Athenian democratic experiment, the Roman Republic, Greek art, ancient drama, mythology, and even barbarians. Many of these courses also may be used to fulfill Core requirements.

By helping students build strong thinking, writing, and speaking skills, a degree in classics prepares them for any career: law, medicine, teaching, politics, business, and more.

Students of almost any major may elect to earn the Bachelor of Arts in Classics degree (B.A.Cl.), instead of the B.A. or B.S., by completing four Latin courses at the 200 level or above. Students choosing the B.A.Cl. must still meet all the requirements for their major.

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## **Program Learning Goals in Classics.** Students will:

1. Communicate skillfully and effectively in both English and either Greek or Latin:
  - a. engage in effective interpretive reading;
  - b. engage in effective presentational speaking (English only);
  - c. engage in effective presentational writing.
2. Demonstrate knowledge about ancient Mediterranean societies and their cultural products:
  - a. demonstrate knowledge of ancient Mediterranean cultural products such as art, literature, music, popular culture, tradition, and customs.
  - b. demonstrate knowledge of how the history, politics, religion, or geography of ancient Mediterranean societies relate to their cultures and connect to each other.
  - c. read and analyze ancient Mediterranean cultural texts.
3. Demonstrate emerging intercultural competence:
  - a. demonstrate an awareness of the interplay of personal identity and culture.
  - b. interpret an event, cultural product, or issue from the perspective of a worldview outside their own.

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Major and Minor Requirements
<b>Major in Classics:</b> 36 credit hours.
<b>Classical Languages track:</b> Nine 3-credit courses in GK and/or LT at any level; CL 301 or 302; CL 410; and another CL course.
<b>Classical Studies track:</b> Six 3-credit courses in GK and/or LT at any level; CL 220, CL 250, CL 330, or another approved literature course; two of the

following: CL 301, CL 302, HS 205, HS 305, AH 317, or another approved CL, HS, or AH course; two of the following: PL 210, TRS 200, TRS 205, TRS 301, TRS 316, TRS 329, or another approved PL or TRS course; CL 410.

CL 410 fulfills the capstone requirement for either track in the major and should be completed during the student's junior or senior year.

**Minor in Classical Studies:** 18 hours. Six courses in any combination of GK, LT, CL, PL 210, TRS 205, AH 317, HS 205, HS 305, or other approved course focused on the ancient world.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Supervised independent study at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Topics to be selected by instructor and announced in the class schedule. Only a 3-credit course may apply to the Core. May be repeated with a different topic.

**220. CLASSICAL MYTHOLOGY 3 cr.** Introduction to the myths of Greece and Rome. Special attention to ancient conceptions of the gods, the nature of the hero, functions of myth, and modern retellings of classical myth.

**250. CLASSICAL DRAMA IN ENGLISH 3 cr.** Greek and Roman comedy and tragedy, with special attention paid to the tragic and comic hero, staging, and the role of performance within Greek and Roman culture.

**290. WOMEN IN ANCIENT GREECE AND ROME 3 cr.** Representation of women in ancient literature and art. An examination of both fictional and real women (e.g., Medea, Cleopatra) and the everyday details of anonymous women's lives.

**298. INTERMEDIATE INDEPENDENT STUDY (291-292) 1-3 cr.** Supervised independent study. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301. TOPICS IN ANCIENT GREEK HISTORY 3 cr.** Introduction to Greek history through consideration of primary sources (e.g., historical documents, material culture, or literary texts). Topics may focus on a period or theme in Greek history between the Bronze Age and incorporation into the Roman empire.

**302. TOPICS IN ROMAN HISTORY 3 cr.** Introduction to Roman history through consideration of primary sources (e.g., historical documents, material culture, or literary texts). Topics may focus on a period or theme from the Roman Republic and/or Empire.

**330. BARBARIANS: CONSTRUCTING THE SELF AND OTHER IN THE ANCIENT WORLD 3 cr.** Origins and functions of cultural stereotyping and scapegoating in the ancient world through consideration of historical texts, material culture, and modern theoretical approaches. Attention paid to the interactions of the cultures of Greece, Rome, and the ancient Near East, among others.

**340. THE ARCHAEOLOGY OF GREECE 3 cr.** Study of the major archaeological sites of Greece from the Bronze Age through the classical period. Attention paid to the development of Greek material culture (including architecture, sculpture, and pottery) and its relationship to Greek history. Includes a study tour in Greece.

**396. EXPERIENTIAL LEARNING IN CLASSICAL STUDIES 1-3 cr.** Prerequisite: instructor permission. Supervised experiential learning opportunity with accompanying assignments designed to deepen student awareness of and/or preparedness for career options in Classics, such as educational settings, museums, or cultural organizations. Pass/Fail. May be repeated twice.

**398. ADVANCED INDEPENDENT STUDY 1-3 cr.** Supervised independent study. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**410. CAPSTONE SEMINAR 3 cr.** Prerequisites: junior or senior standing; declared major in classical languages or classical studies; permission of instructor. Introduction to research methods in classics through in-depth study of a particular theme. Strong emphasis on writing and presentation of individual research.

**497. UNDERGRADUATE RESEARCH ASSISTANT 1 cr.** Prerequisites: junior or senior standing; permission of instructor. Allows students to become more familiar with the research process through assisting faculty members in their research. Pass/Fail. May be repeated for a cumulative maximum of 3 credit hours.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Supervised independent study. May be repeated with a different topic.

**499. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# Classical and Modern Languages and Cultures (CMLC)

*Professors:* K. M. Gatto, S. Casciani, G. Compton-Engle (Chair), J. Karolle-Berg,; *Associate Professors:* G. J. Sabo, S.J., E. Luengo, M. Pereszlenyi-Pinter, L. Ferri, K. A. Ehrhardt, M. L. Thornton; *Assistant Professor:* K. Nakano

Language study helps students become more competent global citizens. Language courses at John Carroll University put students in direct interaction with authentic cultural materials created in other languages and increase their capacity to understand the perspectives of other people and cultures. When students communicate in another language, even at a basic level, they experience new modes of listening, speaking, and interpreting the expressions of others. Language study has always been part of Jesuit education, but in the 21<sup>st</sup> century, increased global connectedness makes it all the more important that our students can communicate in languages other than English.

Consistent with the University's mission, the Department of Classical and Modern Languages and Cultures is committed to contributing to the development of students into responsible citizens of the world who excel in learning, leadership, and service. The department especially seeks to meet John Carroll's Academic Learning Outcome to graduate students who will "act competently in a global and diverse world." The Department contributes to this academic learning outcome through its own learning goals. Consistent with best practices of second language acquisition, these three goals are sought at all levels of instruction:

- Students can communicate skillfully and effectively in a language other than English, at a level commensurate with the language and program.
- Students can demonstrate foundational cultural and linguistic knowledge of a target-language area.
- Students can demonstrate emerging intercultural competence.

Courses in language study will actively involve the four skills of language learning: listening, speaking, reading, and writing. Courses will also introduce students to cultural materials relevant to the area of language study.

The department offers majors and minors in Classics (Classical Languages and Classical Studies), French and Francophone Studies, Spanish and Hispanic Studies, and Italian Studies (self-designed major or minor), and a minor in German.

Courses are also available in Chinese, Japanese, Slovak, and International Cultures. These programs have their own sections in the *Bulletin*. Students in East Asian languages are encouraged to consider the interdisciplinary major and minor in East Asian Studies. Language courses are an integral part of the major in International Business with Language and Culture (IBLC).

The Classical Studies (CL) courses are taught in English. Additionally, the department offers International Cultures (IC) courses, all of which are taught in English translation. The IC courses in particular are aimed at providing a cross-cultural approach to understanding today's multicultural world. They involve art, film, popular culture, historical perspectives, and literature. Many courses fulfill requirements in the Integrative Core Curriculum.

Major and Minor Requirements
<p style="text-align: center;"><b>CLASSICS</b></p> <p><b>Major in Classics:</b> 36 credit hours.</p> <p><b>Classical Languages track:</b> Nine 3-credit courses in GK and/or LT at any level; CL 301 or 302; CL 410; and another CL course.</p> <p><b>Classical Studies track:</b> Six 3-credit courses in GK and/or LT at any level, CL 220, CL 250, CL 330, or another approved literature course; two of the following: CL 301, CL 302, HS 205, HS 305, AH 317, or another approved CL, HS, or AH course; two of the following: PL 210, TRS 200, TRS 205, TRS 301, TRS 316, TRS 329, or another approved PL or TRS course; CL 410.</p> <p><b>Minor in Classical Studies:</b> 18 hours.</p>

### **MODERN LANGUAGES**

**Major in French and Francophone Studies, French Studies Track:** 31 credit hours.

**Major in Spanish and Hispanic Studies:** 31 credit hours.

**Minors in French and Francophone Studies, German, or Spanish and Hispanic Studies:** 15-18 hours; see individual language sections.

### **The Language Requirement in the Integrative Core Curriculum**

Students who choose to continue in the language that they took in high school will be required to complete the third semester (the current 201 course) in that language. This establishes the basic threshold of competency at the early-intermediate level, and ensures that students will not merely repeat what they learned in high school. If students place above the 201 level, this Core requirement will be waived. Students who choose to begin a new language will be required to take two semesters of that language (the current 101-102 courses).

Certain upper-division courses taught in the foreign language, as well as courses in CL (Classics, taught in English) and IC (International Cultures, taught in English) may fulfill other components of the Integrative Core.

### **Study Abroad**

Interested students should consult with their language program advisor or the language section coordinator, as well as the Center for Global Education, and check the Global Education website often for updates on new and existing programs. Students studying abroad are normally sophomores or juniors with at least a 2.5 GPA. Early consultation is advised.

### **Teaching Licensure**

The Department of Education and School Psychology at John Carroll does not offer multi-age licensure (K-12) in foreign languages. Individuals interested in foreign language teaching may seek an Alternative Resident Educator License for World Language (grades K-12) through the Ohio Department of Education. Interested students should contact the Ohio Department of Education or consult the chair of the education department for details.

# Tim Russert Department of Communication (COM)

*Professors:* J. J. Schmidt, M. E. Beadle; *Associate Professors:* D. R. Bruce, B. G. Brossmann, M. O. Finucane (Chair); *Assistant Professors:* C. Buchanan; C. DeVoss; S. Park; Visiting Assistant Professor M Emelu

Communication students examine how and why people create messages, and what effects those messages have. Then they put that knowledge to use as message creators.

Students focus their learning interests in one of three concentrations: Communication Advocacy, Digital Media, and Integrated Marketing Communication. Each area provides theory and praxis that will enable students to succeed in our ever-changing communication environment.

**Mission:** The Tim Russert Department of Communication educates students to become critical thinkers trained in advocacy, and effective communicators able to integrate theory and ethical principles in their professions while fostering awareness of diverse cultures and developing communication styles and technologies.

**Vision:** Inspiring individuals to create, understand, and analyze communication to become informed, effective, and ethical.

## Russert Department Learning Goals:

Graduates of the Russert Department will have the knowledge and ability to

- Create, present, and advocate ethical messages in a variety of communication forms for diverse audiences
- Evaluate message effectiveness and ethics
- Analyze how audiences receive, interpret, and react to messages
- Apply communication theories and perspectives to specific contexts
- Implement a research methodology appropriate to their area of study

Communication majors develop critical thinking and excellence in writing, and speaking. Students complete foundational courses and then pursue an area of interest with the assistance of a department advisor.

Department facilities include FM radio station WJCU, speech and debate lab, multimedia lab, podcasting studio, and the Klein Television Studio where students learn studio and field production/editing.

Internships and independent study opportunities provide students with experiences beyond the classroom. Students gain experience in communication industries while earning academic credit. The department has an established network of internships in the Cleveland area – one of the country's largest communication markets. Internships are available at major media outlets including television, radio, newspapers, and cable companies; public relations and advertising agencies; corporate and non-profit organizations.

Recent John Carroll Communication alumni enjoy careers in broadcasting, journalism, public relations, advertising, sales and promotions, law, marketing, management, and education, as well as with foundations and nonprofit organizations. The major is an excellent foundation for those who desire to pursue graduate study in communication, management, education, public affairs, or law.

The department is named in honor of the late Tim Russert '72. Mr. Russert was an American icon. He was a magnetic presence as the managing editor and moderator of NBC's *Meet the Press*, the longest running, most popular and influential of the Sunday morning political talk shows during his tenure. In 2016, his family donated a permanent display from Mr. Russert's "Meet the Press" set, and video excerpts from his historic interviews, to the University. The display, located in the O'Malley Center Atrium, keeps Mr. Russert's memory alive on campus and is a reminder of the collaboration that resulted in the creation of the exclusive NBC/JCU *Meet the Press* Fellowship.

Graduates of the department are eligible to apply for the *Meet the Press* Fellowship, awarded to a graduating senior motivated to pursue a career in political journalism. The fellowship is a nine-month (September-May) position at *Meet the Press*, NBC's leading public affairs program and requires a broadly based background in Communication and Political Science courses. Consult the website (<http://sites.jcu.edu/mtpfellowship/pages/tim-russert/>) for details.

The Russert Department participates in the College of Arts and Sciences Professional Development Program. Students complete the majority of requirements in COM 205 Professional Communication.

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### Major and Minor Requirements

Major in Communication : 42 credit hours (24 must be earned at John Carroll University)

The major requires:

I. COM Core classes completed by all communication students. 21 hours:

- A. COM 130 Audience Matters
- B. COM 140 Communication, Technology, & Society
- C. COM 205 Professional Communication
- D. COM 208 Interpersonal Communication
- E. COM 304 Research Methods
- F. COM 305 Communication Ethics
- G. COM 498 Internship/Capstone

Students applying to the Communication major must complete COM 130, COM 140, and COM 205 with a minimum grade of C in each course prior to declaring the major.

II. Breadth of Interest Courses: 6 hours

Students complete two courses selected from the list below. These courses provide breadth of knowledge in the Communication major.

- A. COM 301 Intercultural Communication
- B. COM 306 Conflict Negotiation
- C. COM 307 Organizational Communication
- D. COM 308 Small Group Communication & Leadership
- E. COM 309 Interviewing
- F. COM 311 Campaign Issues & Images
- G. COM 312 Narrative & Storytelling
- H. COM 313 Persuasion
- I. COM 314 Communication Analysis
- J. COM 338 The American Cinema
- K. COM 345 Diversity, Stereotypes, & Mass Media
- L. COM 349 Communication Law

III. COM Concentrations: 15 hours

#### **Communication Advocacy Concentration**

The ability to advocate effectively and ethically is critical to society. Whether ensuring that the most vulnerable have their voices heard, challenging erroneous claims, safeguarding rights, accessing information, expressing opinions, or advancing policies, successful advocacy is essential to social justice, law, public policy, sales, and virtually any area where the ability to persuade is critical to success.

Students completing the Communication Advocacy concentration will also have the knowledge and ability to:

- Advocate effectively in a variety of contexts;
- Identify and apply communication theories to explain how public messages or performances achieve their results;
- Write effective interpretations and critiques of messages

**Complete all of the following courses:**

COM 210 Introduction to Advocacy

COM 303 Crafting the Message

COM 400 Social Media Advocacy

**One 300 level elective:**

COM 300 Communication Theory

COM 310 Voices of the Outsider

COM 344 Communication in Sales & Marketing

COM 369 Social Media Strategy & Analytics

COM 371 Web & Interactive Design

COM 373 Sports Promotion & Fan Engagement

COM 375 Communicating About Health

COM 399 Seminar/Special Topics in Communication

**One 400 level elective:**

COM 402 Leadership & Communication

COM 404 Detecting Bunk

COM 473 Nonprofit Marketing

**Digital Media Concentration**

Today's communication professionals create content in a variety of media, from print to photography to audio and video. This concentration focuses on storytelling in digital forms. Courses in the concentration develop knowledge and skill in writing, researching and producing digital stories in multiple formats, and analyzing the impacts, effects and roles of digital media in our society.

Students completing the Digital Media concentration will have the knowledge and ability to:

- Apply ethics, critical thinking, social justice, and communication theories to storytelling in digital media, including journalism, video and audio.

**Complete all of the following courses:**

COM 255 Introduction to Digital Media

COM 360 Media Writing

COM 455 Mass Media Theory

**One 300 level elective:**

COM 302 Feature Photography

COM 340 Writing Screenplays

COM 343 Working in Sports Media

COM 344 Communication in Sales & Marketing  
COM 348 Editing & Production  
COM 350 Fundamentals of Journalism  
COM 369 Web & Social Media Analytics  
COM 371 Web & Interactive Design  
COM 373 Sports Promotion & Fan Engagement  
COM 399 Seminar/Special Topics in Communication

**One 400 level elective:**

COM 442 Audio Storytelling & Podcasting  
COM 460 Writing & Producing Documentaries

**Integrated Marketing Communication (IMC) Concentration**

IMC pushes students beyond the traditional boundaries of public relations, advertising, social media, and sales promotion, to think strategically, ethically, and creatively across channels and disciplines. Students examine and execute ways to understand audiences, craft messages, and coordinate communications to create strategic campaigns with clarity, consistency, and maximum communication impact.

Students completing the Integrated Marketing Communication concentration will have the knowledge and ability to:

- Integrate multiple theories and channels ethically to create campaigns
- Use consumer research to apply IMC strategies to develop strong campaigns
- Identify and analyze problems and provide solutions

**Complete all of the following courses:**

COM 270 Introduction to Integrated Marketing Communication  
COM 360 Media Writing  
COM 469 Advertising/Public Relations Seminar

**One 300 level elective:**

COM 302 Feature Photography  
COM 344 Communication in Sales & Marketing  
COM 348 Editing & Production  
COM 369 Social Media Strategy & Analytics  
COM 371 Web & Interactive Design  
COM 372 Branding  
COM 373 Sports Promotion & Fan Engagement  
COM 375 Communicating About Health  
COM 399 Seminar/Special Topics in Communication

**One 400 level elective:**

COM 442 Audio Storytelling & Podcasting  
COM 472 Integrated Marketing Campaigns  
COM 473 Nonprofit Marketing  
COM 474 Event Planning

**Note:** Students majoring in Communication are encouraged to complete ED 101 Making Sense of Data, ER 115 Quantitative Analysis in Science, Business, and Humanities, or PO 105 Political Analysis.

**Minor in Communication: 18 credit hours.**

**Choose one of these courses:**

COM 130 Audience Matters

COM 140 Communication, Technology, & Society

**Choose one of these courses:**

COM 210 Introduction to Advocacy

COM 255 Introduction to Digital Media

COM 270 Introduction to Integrated Marketing Communication

**Choose four electives at the 300-400 level**

**107. COMMUNICATION EXPERIENTIAL LEARNING 1 cr.** Prerequisite: permission of department chair. Students earn credit for effective participation in Communication department experiential learning activities including the Carroll News, IMC, JC-TV, Speech and Debate, and WJCU. Students create a learning contract with the experiential learning advisor and department chair. Course is graded pass/fail. May be repeated for a maximum of 3 credits.

**110. RADIO BOOT CAMP 1 cr.** Operations, programming and on-air performance in an FCC-licensed broadcast radio station. Emphasis on fundamental aspects of radio station organization as well as studio operation and on-microphone performance. WJCU, the university's Class A NCE FM radio station, provides the facilities and context for this course. Course is graded Pass/Fail.

**113. PHOTOSHOP 1 cr.** The course combines basic photo editing principles with journalism practices. Students will get an introduction to the Photoshop interface, while learning the essentials for editing photos. Among the topics covered will be cropping, color correction, photo design, and photo editing ethics. Students will spend part of each class working with the instructor on Photoshop projects and receiving real-time feedback. By the end of the five-week session, students should be able to edit and enhance photos using the software.

**114. JC-TV BOOT CAMP 1 cr.** An introduction to the creative and technical aspects of video production and the teamwork and communication concepts required for producing quality television/video programs. Students will acquire hands-on skills using professional equipment in the television studio and to record field reports. This includes field production and filming, studio set-up, and performance both in front of the camera (on-air talent) and behind the camera (various production positions).

**115. JOURNALISM BOOT CAMP 1 cr.** Everything you need to know to be a star reporter for The Carroll News, including some basics about John Carroll and where to find news on campus, how to find and interview people for your stories, how journalists write and structure stories, and how to use social media to spread the news.

*\*Note: One credit courses listed above count as elective hours toward graduation but do not fulfill requirements in the Communication major.*

**125. SPEECH COMMUNICATION 3 cr.** The Oral Foundation competency course for the University. Features the principles of oral communication, applying communication theory to the preparation and delivery of speeches in informative, argumentative, and persuasive settings with appropriate technology. Uses audience analysis and adaptation to foster development of communication competence, critical analysis, and aesthetic appreciation, all within an ethical framework.

**130. AUDIENCE MATTERS 3 cr.** In communication, the audience matters because all effective communication is tailored to an audience. However, the study of audience also encompasses different dimensions, conceptions, and uses of any individual or group who receives a message. This course introduces students to a wide range of audience matters, including how communicators analyze, target, develop, empower, commodify, ignore, and survey audiences. The course explores how audiences receive, interpret, create, and co-create messages. The communication process is understood more clearly once the role of the audience is appreciated.

**140. COMMUNICATION, TECHNOLOGY, & SOCIETY 3 cr.** Surveys the evolution of media and communication technologies; theories and models of communication; media effects on society and culture, and trends in newspapers, magazines, books, radio, television, film, the internet, social media, advertising, public relations, visual messages, media law and ethics, and global connections.

**198. INTERNSHIP NONCREDIT/TRANSCRIPT NOTATION 0 cr.** Prerequisite: Instructor permission. Open to COM majors who want their internship recognized but do not need/want credit. Course assignments will provide artifacts for enhancement of the student's e-portfolio. Creates a supervised learning experience. Noted on transcript.

**205. PROFESSIONAL COMMUNICATION 3 cr.** Prerequisite: COM 125, COM 130, and COM 140. Students develop the communication skills required for professional communicators across a broad set of communication media including individual and team presentations, written texts, and digital interactions. Primary focus is on strategic thinking combined with writing that produces effective messages aimed at different audiences. E-portfolio that is required for the major is established within this course.

**208. INTERPERSONAL COMMUNICATION 3 cr.** How people establish, maintain, and alter relationships with friends, strangers, work associates, and family members in professional, personal, and cross-cultural contexts. Discussion and application to professional and personal settings of theories of interpersonal communication, the role of self-awareness and culture, perception, diversity, verbal and nonverbal messages, listening, conflict, power, and ethics in relationships.

**209. INTERPERSONAL RELATIONSHIPS & LITERATURE 3 cr.** Major American Writers. Students learn how people establish, maintain, and alter relationships with friends, strangers, work associates, and family members in professional, personal, and cross-cultural contexts. Discussion and application to professional and personal settings of theories of interpersonal communication, the role of self-awareness and culture, perception, diversity, verbal and nonverbal messages, listening, conflict, power, and ethics in relationships as presented in different genres of literature. Fulfills the requirement for the Communication major; equivalent to COM 208.

**210. INTRODUCTION TO ADVOCACY 3 cr.** Prerequisite: COM 125. Students will learn to be responsible and effective advocates for ideas, causes, and policies, and will cultivate a respect for the vital role of evidence in a world too often factually challenged. Effective advocacy in the presence of opposing voices.

**212. BASIC PHOTOGRAPHY 3 cr.** Students learn the elemental skills of visual communication, using digital cameras, smart phones, and/or electronic tablets, and applying computer processing for digital images. Students consider the workflow and ethics involved in photo choice, processing, and placement to understand issues of photo manipulation, fairness, diversity, privacy, and copyright for digital and print applications.

**243. AMERICAN MEDIA 3 cr.** Students learn about mass communication in the digital age, including theories and models of communication, media effects, media law, ethics, and global connections. Students develop an understanding of the relationships between media and history. Topics studied include Vietnam, the TV War, politics and the use of social media, exposing corruption by the muckrakers, the foundation of investigative journalism.

**255. INTRODUCTION TO DIGITAL MEDIA 3 cr.** Explore the technical, social and cultural aspects of digital media. Learn basic journalistic research and verification methods; learn narrative theories to explore how and why people tell stories and the types of stories they tell; use these principles to produce basic stories using video, audio and social media.

**270. INTRODUCTION TO INTEGRATED MARKETING COMMUNICATION (IMC) 3 cr.** Overview of IMC in order to understand the function of and connectivity among advertising, public relations, promotion, and interactive media as key components of the marketing mix.

**298. INTERNSHIP 1 cr.** Prerequisite: Instructor permission. Sophomores who are COM majors or students who have expressed an intent to declare a COM major; supervised experiential learning opportunity with accompanying assignments designed to deepen student awareness of career options in Communication fields. Course assignments will provide artifacts for enhancement of the student's e-portfolio. May be repeated twice. Does not fulfill requirements for Communication major or minor.

**300. COMMUNICATION THEORY 3 cr.** Prerequisite: COM 130. Theories and perspectives on communication through speech, interpersonal conversation, media; theories across a variety of contexts, including advertising, public relations, and news.

**301. INTERCULTURAL COMMUNICATION 3 cr.** Our global world has changed how we interact with people from diverse cultures, both face-to-face and online. You will learn the concepts and theories of communication that help you understand the interactions of values, beliefs, traditions, identities, and food in multiple cultures. We will examine issues of diversity, globalization, and social justice, communicative interactions, and power dynamics among people with different cultural, social, national, racial/ethnic, linguistic, historical, and religious backgrounds.

**302. VISUAL STORYTELLING 3 cr.** This hands-on feature photography course explores visual elements of lifestyle through portraiture, food, and sense of place, using both ambient and applied lighting techniques.

**303. CRAFTING THE MESSAGE 3 cr.** This course examines how to create effective advocacy for a cause with social or political relevance. Students will learn the research and writing techniques necessary to draft effective policy briefs. They will learn how to create social media messages designed to draw attention to those briefs, and will conclude by studying the art of speech writing. Students will craft an effective speech advocating for the cause identified in their brief. Students will refine their presentation skills by delivering that speech. Course assignments will provide artifacts for enhancements of the student's e-portfolio.

**304. RESEARCH METHODS 3 cr.** Building on the department goal of understanding target audiences, we will explore qualitative and quantitative methodologies for defining and reaching audiences. Students will demonstrate an understanding of demographics, psychographics, primary and secondary research, survey design, focus groups, benchmark research (pre-and-post campaign assessment), one-on-one interviews, ethnography, narrative analysis, experimental design, case studies, and more.

**305. COMMUNICATION ETHICS 3 cr.** Ethical theories and their application to ethical issues in public, private and mediated communication; role of communication in expressing and realizing individual and social values. Use of case studies. Junior standing required.

**306. CONFLICT NEGOTIATION 3 cr.** Conflict is part of everyday life; our professional and personal lives. We navigate it at work, in friendships, in romantic relationships. It is neither good nor bad; when managed well, it becomes a positive element in relationships. When managed poorly, it can become divisive. Learn the theory and tools individuals and groups can use to manage conflict in constructive ways.

**307. ORGANIZATIONAL COMMUNICATION 3 cr.** Examines communication within and between organizations in a global context. Focus on management/communication theory for motivating/leading organizations in corporate, non-profit, and government settings. Students will develop awareness of their individual leadership style. Specific application of these approaches on socialization, decision-making, conflict, change, creativity, workforce diversity, ethics, and organizational culture.

**308. SMALL GROUP COMMUNICATION & LEADERSHIP 3 cr.** The course is designed to teach students about small group and team communication, how to apply theoretical concepts to the analysis of group interactions, becoming aware of individual strengths and weaknesses when functioning in small group contexts, and to develop skills for more effective group leadership.

**309. INTERVIEWING 3 cr.** Experiential focus on survey/marketing, media, employment and sales interviews. Analysis of theory, construction of questions, developing interview structure and evaluation. Application is emphasized, and students participate both as interviewers and interviewees.

**310. VOICES OF THE OUTSIDER 3 cr.** Uses of speech, video, film, song and other forms of communication to build communities and to advocate for change. Special emphasis on social protest, from the Civil Rights movement through Anonymous and the alt-Right. Communication as a window on culture and political economy.

**311. CAMPAIGN ISSUES & IMAGES 3 cr.** Offered in the fall of election years. Follows the communicative practices of the ongoing campaign. Students each focus on one campaign to develop a critical understanding of the tactics used, images portrayed, and issues raised. Develops an understanding of political campaigns through the lens of political communication theory.

**312. NARRATIVE AND STORYTELLING 3 cr.** Role of narrative in everyday communication practices, from conversations to interviews to persuasive messages. Verbal and nonverbal narratives. Narrative across multiple genres and media.

**313. PERSUASION 3 cr.** In-depth study of theories of persuasion, and a variety of case studies designed to apply these theories to the real world. Critical and ethical analysis of persuasion in contemporary culture.

**314. COMMUNICATION ANALYSIS 3 cr.** Prerequisites: EN 125, COM 125, COM 130, and COM 140. This course analyzes, interprets, and critiques persuasive messages from a wide variety of contexts, including speeches, advertisements, novels, films, music and campaigns. Using persuasive theories and methods, students will critique an interesting persuasive act of their choosing, write a detailed analysis and present it to their peers.

**334. REAL LIVES: ENTERING THE WORLD OF DOCUMENTARY 3 cr.** This class will introduce you to a variety of documentary forms that have evolved over time. We will examine how these forms variously attempt to represent the world. To do so, we will look at documentary cinema from its beginnings in the 1920s through the present day, concentrating primarily on U.S. filmmakers. This course will also help you further hone your critical thinking, written argumentation, analytical skills and creativity through your analysis of the films and writing a proposal for a documentary film.

**335. AMERICAN FILM 3 cr.** Major American Writers. Examines American Hollywood filmmaking as an art form, a business, and a shaper of culture. Identifies film techniques and traditional stories. Students explore the language of film and how film communicates. This course is not designed to cover international/world cinema, nor are the films meant to cover every aspect of American filmmaking. We will spend time carefully examining how films are constructed (lighting, editing, sound, etc.) and how specific filmmaking techniques create specific audience responses. We study the language of film by looking at film technique, film structure (narrative structure), and how specific films have shaped American culture in the last 100 years.

**336. INTERNATIONAL FILM 3 cr.** This class is a survey of world cinema from 1893 to the present. We will examine movies as a business, a social phenomenon, a series of technological innovations, and an art form. Although many people associate the movies with the American film industry, filmmakers in every historical period from all over the world have worked to both distinguish their work from that of Hollywood and to draw upon some approaches innovated by the Americans. We will examine how meaning in films is conditioned by the uses of camera, editing, lighting, sound and acting, explore the impact of technological developments on film production, the influence of culture on storytelling and evaluate the importance of genre and the legacy of individual “auteurs” (such as Truffaut and Kurosawa) throughout the history of cinema and explore various film theories. Through the lens of history, we can connect storytelling across borders with our own history and values and will see that some values are not limited by borders or time period, because, as human beings, we share common values and concerns. We are not nearly as different as we may, at times, think we are.

**338. THE AMERICAN CINEMA 3 cr.** Investigate American cinema's origins and development, the rise of the studio and star systems. Study of the American cinema's use of genres and the development of a film narrative style. Investigate film techniques and develop a language for discussing the art of film. Study the origin and development of classic Hollywood style and its use by film directors today. Practice active, critical viewing and complete research and writing about American film.

**340. WRITING SCREENPLAYS 3 cr.** Prerequisite: EN 125. The art and craft of creating a screenplay. Basics of writing a script, including motion picture structure, character development, plotting, and dialogue writing. Students will also learn the correct screenplay format and how motion pictures are written, filmed, and edited as well as the philosophy and business practices of the screenwriting profession.

**343. WORKING IN SPORTS MEDIA 3 cr.** Starting with a brief history of sports broadcasting, dive into a practical, skills-based course in which you cover sports on the field, on the air and online. Use the Klein TV Studio, WJCU radio, and the internet to do live event coverage, play by play, color commentary, and filming at sports events. Students must be able to attend events on weekends.

**344. COMMUNICATION IN SALES & MARKETING 3 cr.** Study of the sales and marketing process in an organization. Selling basics including prospecting, understand the buyer, customer care and closing strategies. Theory and application in research sales, marketing, and promotion.

**345. DIVERSITY, STEREOTYPES, & MASS MEDIA 3 cr.** History, problems, roles, struggles, and contributions of major ethnic groups in the U.S. in relation to mass media. Stereotyping, access limitations, evolution of ethnic media, issues, and problems in American mass media systems.

**348. EDITING & PRODUCTION 3 cr.** Prerequisites: COM 255 *or* COMM 241 *or* COMM 340. Students learn the art of post-production. Stories are constructed in the editing room; learn the theory and practice of the editing styles that professionals use to create them. Emphasis is placed on post-production methods that improve the both the visual and audio qualities of your product.

**349. COMMUNICATION LAW 3 cr.** Survey of major topics in U.S. communication law that are essential knowledge for all communication professionals, who must be aware of the risk of lawsuits as well as their constitutional and legal rights. Learn how interpretation of the First Amendment has evolved over time through landmark Supreme Court decisions. Segments on defamation (libel and slander), broadcast and internet regulation, commercial speech, copyright, privacy rights, public access to information and places, the rights of student media, and international communication law.

**350. FUNDAMENTALS OF JOURNALISM 3 cr.** Introduction to newsgathering and newswriting for print, broadcast, online and social media. Uses the Mac lab for classes, with assignments on- and off-campus to build practical experience in verification, interviewing, reporting on events and issues, and writing news and features. Brief introductions to journalism history, current ethical and practical issues, and the legal hazards faced by journalists. Some assignments offer students a choice to cover events and issues in their area of interest, such as sports, health, environment, politics, or the performing arts.

**351. INTRODUCTION TO JOURNALISM: ENVIRONMENTAL FOCUS 3 cr.** Climate Change. Introduces students to journalism, its role in society, values, and practices, and explores how these things influence the way journalists cover climate change and other environmental issues. Students will learn newsgathering and newswriting techniques for print, online, and social media, and build practical experience in verification, interviewing, reporting on events and issues, and writing news and features. Brief introductions to journalism history, current ethical and practical issues, and legal hazards faced by journalists. Some assignments are shared with PH 117, including a Signature Assignment in which students' present work from both courses on a website.

**360. MEDIA WRITING 3 cr.** Prerequisites: COM 255 or COM 270 Students develop the foundations for effective media writing -- clear, concise writing and relevant, engaging storytelling. Course work emphasizes how communication goals, audience, and medium influence message creation. Students advance their skills while writing pieces such as blog posts, video and audio scripts, social media posts, and other cross-channel communications.

**369. SOCIAL MEDIA STRATEGY & ANALYTICS 3 cr.** Social media management and data analysis skills are increasingly important in today's business environment. Students will learn how to manage a brand on social media, how to engage with customers, and how to analyze the voice of customers using social media analytics. This course offers hands on training of web and social media data gathering, analysis, visualization, and interpretation to create a data-driven social media strategy. Through case studies in the context of organizations (e.g. business, NGOs), students will also acquire different analytical approaches to critically evaluate effectiveness of digital initiatives.

**371. WEB & INTERACTIVE DESIGN 3 cr.** Prerequisite: COM 140. Study of the thought processes and aesthetics involved in the production of visual and interactive media from initial concept through development to actual construction. Encourages hands-on design and development skills using the latest industry-leading tools. Special emphasis on the creation of real world, portfolio-quality projects for print, web, and other communication channels.

**372. BRANDING 3 cr.** Prerequisites: COM 270 and COM 304. The brand is the heartbeat of a communication strategy, but what exactly is it? This course blends the study of real-world brands, theory, and research to examine how brands are built and work for consumers and companies. Through analysis and application, students explore the fundamentals of branding, as well as special topics such as co-branding, personal branding, and destination branding.

**373. SPORTS PROMOTION & FAN ENGAGEMENT 3 cr.** Students will learn about the essentials of promotion within the multibillion-dollar sports industry. We draw on communication theories and practices to teach most effective strategies for developing brand awareness for your team or organization, developing your fan base, especially through social media, and increasing overall presence.

**375. COMMUNICATING ABOUT HEALTH 3 cr.** Investigate the interpersonal communication processes that influence and are influenced by health and health contexts. This includes the study of physician and patient communication, family and friend communication, and everyday interpersonal communication as they relate to health care and the management of health issues. In particular, students will understand and investigate the role of interpersonal communication in health, health beliefs and behaviors, and health care management.

**398. INTERNSHIP 2 cr.** Prerequisite: Instructor permission. Juniors who are declared COM majors; supervised experiential learning in a position related to the student's intended area of study. Course assignments will provide artifacts for enhancement of the student's e-portfolio. May be repeated twice. Does not fulfill requirements for the Communication major or minor.

**399. SEMINAR/SPECIAL TOPICS IN COMMUNICATION 1-3 cr.** Topic will be announced in the semester course schedule.

**400. SOCIAL MEDIA ADVOCACY 3 cr.** Prerequisite: COM 210. Social media, especially Twitter, Facebook, and to a lesser extent, YouTube, are increasingly used to advocate for specific causes or to organize groups and events committed to those causes. This course examines how social media, in conjunction with traditional advocacy techniques, advances information, reinforces relationships, builds followings, promotes dialogue, and enhances collaboration, and helps mobilize action. Students will analyze readings and case studies, and will actively engage and critique an ongoing social media advocacy campaign in an area of interest. Course assignments will provide artifacts for enhancements of the student's e-portfolio.

**402. LEADERSHIP & COMMUNICATION 3 cr.** Prerequisite: COM 210. This course provides students with opportunities to understand theoretical, empirical, and practical aspects of leadership communication. At its core, leadership is influence, and influence comes through relationships built through social interaction, or communication. We will cover topics such as leadership and followership communication styles and practices, various leadership theories and perspectives; power and influence; team/group leadership; organizational, crisis, and public leadership; diversity; ethics in leadership; and leadership development. Students complete an original research project.

**404. DETECTING BUNK 3 cr.** The combination of free speech and the internet makes the global transmission of ideas nearly instantaneous. This provides wonderful opportunities for important advocacy, but also makes it easier to disperse bunk wildly and widely. Effective advocates must learn to protect themselves and their constituents. Developing the critical thinking skills to recognize and understand bunk, and the advocacy skills required to explain it to people ranging from family to experts within a field, is essential to an effective advocate. This course provides tools for spotting bunk, examines its prevalence in examples ranging from advertisements and fake news to big data and academic journals, and provides guidance on how to call bunk ethically and effectively. The course will include numerous case studies, and culminates in a significant paper in which the student identifies, explains and refutes bunk from a contemporary example. Course assignments will provide artifacts for enhancements of the student's e-portfolio.

**442. AUDIO STORYTELLING & PODCASTING 3 cr.** Prerequisite: COM 255 or COM 342. Survey, analysis and content creation in the podcast medium, with a focus on audio journalism and long form storytelling. Learn to create scripts for the ear; outline and structure audio stories; conduct and utilize in-person interviews and field research; voice and assemble professional audio narration. Analyze podcasts based on their content, writing, narrative structure, production value and societal significance. This course provides an opportunity to create professional-grade portfolio pieces that reinforce and synthesize coursework in the major.

**455. MASS MEDIA THEORY 3 cr.** Prerequisite: COM 255. Get acquainted with the theorists and research scholars whose work helps us to understand digital media and the roles these media play in our society and culture, including their effects on the human mind, our social interactions, and our economy. Explore narrative theory and the light it sheds on storytelling, helping us to understand how it works and why.

**460. WRITING & PRODUCING DOCUMENTARIES 3 cr.** Prerequisite: COM 348. Co-requisite: COM 460L. Students learn how to research, write, film and edit a video documentary. Produce and complete a seven-minute documentary.

**460L. WRITING & PRODUCING DOCUMENTARIES LAB 1 cr.** Co-requisite: COM 460. Students develop advanced editing skills.

**469. ADVERTISING/PUBLIC RELATIONS SEMINAR 3 cr.** Prerequisite: COM 270 and one 300-level course. Communicating the right message to the right audience in the right place at the right time matters in a highly competitive environment. This course explores theories, principles, practices, and methods of research in advertising and public relations across a variety of communication channels and media platforms. Through case studies this course will help students apply theories critically and ethically to analyze the practice in advertising and public relations of different types of organizations, such as business, NGOs, and government. Topics include crisis management strategies, stakeholder engagement, corporate social responsibility, the effective use of technology and visuals, storytelling, cross-cultural communication, increasing awareness, and shaping attitudes and behaviors.

**472. INTEGRATED MARKETING CAMPAIGNS 3 cr.** Prerequisites: COM 304, COM 360, and COM 372. Theory becomes practice. Students develop and pitch an integrated marketing communications campaign for a client.

**473. NONPROFIT MARKETING 3 cr.** Prerequisite: COM 304 Marketing is marketing is marketing, some might say. Those in the nonprofit sector may beg to differ. This course explores traditional aspects of marketing and how they apply to nonprofit organizations. Students examine how nonprofit marketing may at times be similar to the for-profit sector as well as the unique challenges and opportunities nonprofit marketers face.

**474. EVENT PLANNING 3 cr.** Prerequisites: COM 304, COM 360, and COM 372. An understanding of, and experience with, the communicative strategies and behaviors associated with effective meetings, conferences, and special events. Draws on theoretical areas of communication to study effective planning, project management, and provides opportunities to integrate theory and application.

**475. EVENT PLANNING: SPORTING EVENTS 3 cr.** Prerequisite: SPS 408 or instructor permission. An understanding of, and experience with, the communicative strategies and behaviors associated with developing sporting events such as tournaments, races, championships, and other special events in the sports arena. Draws on theoretical areas of communication to study effective planning, project management, and provides opportunities to integrate theory and application.

**494. INTERNSHIP 3 cr.** Prerequisites: senior standing; 2.0 GPA; COM major; permission of internship director. Supervised and directed experiential learning in a position relevant to a major sequence of study. Course assignments will provide artifacts for enhancements of the student's e-portfolio. CREDIT HOURS DO NOT APPLY TO MAJOR; DOES NOT FULFILL THE CAPSTONE REQUIREMENT.

**498. INTERNSHIP/CAPSTONE 3 cr.** Prerequisites: senior standing; 2.0 GPA; COM major; permission of internship director. Supervised and directed experiential learning in a position relevant to a major sequence of study. Course assignments will provide artifacts for enhancement of the student's e-portfolio.

**499. INDEPENDENT STUDY 1-3 cr.** Prerequisites: declared COM major; permission of instructor, chair, and Dean. Particular problem in communication examined in depth. Final paper and oral examination before a committee. Projects must be approved prior to registration.

# Computer Science (CS)

*Professors:* B. K. D'Ambrosia (Chair), D. W. Palmer, L. M. Seiter; *Assistant Professors:* E. Manilich, J. Gurary

## Major Programs

The Department of Mathematics and Computer Science offers two major programs in computing: a bachelor of science in Computer Science, and a bachelor of science in Computer Science with Healthcare Technology. They have a common set of core courses for the first two years of study, preparing students with a strong foundation in software programming and application development. The majors diverge for the upper-level courses, with Computer Science majors acquiring a strong understanding of how and why technology works, while Computer Science with Healthcare Technology majors augment a foundation in computer science principles and practices with technology and information processing from the healthcare field. The department also offers mathematics (MT) and data science (DATA) programs that are described in separate sections.

Technology is becoming an increasingly integral part of everyday life. It influences the music we enjoy, the medical advances we rely upon, the way we communicate, and how we do business. An understanding of technology is a vital skill set for an educated person in this century. Technology drives innovation in all of the sciences and business, as almost every significant challenge facing the world turns to computing as an aid to a solution.

The major in **Computer Science** leading to the B.S. prepares students for a career in technology, as well as graduate study in computer science. Computer science careers span the spectrum of possibilities: from working for national companies with large, well-established technology departments to founding entrepreneurial start-up companies at the frontier of future technology to filling critical support roles in virtually all possible fields, including medicine, business, manufacturing, consulting, government, law, and research.

The major in **Computer Science with Healthcare Information Technology** leading to the B.S. is a complete degree in computer science with additional and focused coursework that provides foundational knowledge for the technological side of the healthcare field. Students in this program have all the professional opportunities of those in the Computer Science major with additional preparation, insight, and hands-on experience for a healthcare-related career. Additionally, because of the intertwined nature of technology and medicine, this program can also provide a valuable foundation for the next generation of doctors and medical professionals.

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### **Program Learning Goals in Computer Science.** Students will:

1. Develop problem-solving and critical thinking skills and use these skills to solve complex computing problems.
2. Acquire a working knowledge of the theoretical foundations of computer science.
3. Acquire both a working knowledge and a theoretical understanding of the professional practice and formal methodologies of development of large software projects.
4. Acquire communication and interpersonal skills necessary to perform effectively in a technical environment.

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### **Program Learning Goals in Computer Science with Healthcare Information Technology.** Students will:

1. Achieve the learning goals for the Computer Science major.
2. Acquire both academic and hands-on knowledge and experience with standards, protocols, and practices of the healthcare technology field.
3. Gain HIPPA certification.

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### Major and Minor Requirements

**Major in Computer Science:** 45+ hours. CS 125, 128, 128L, 228, 242, 270, 328, 470, 475; DATA 150; MT 142; five additional CS courses at or above the 300 level. A comprehensive exam is required.

**Major in Computer Science with Healthcare Information Technology:** 45+ hours. CS 125, 128, 128L, 228, 242, 270, 312, 328, 470HC, 475HC, 476, 478; DATA 150; MT 142; two additional CS courses at or above the 300 level. A comprehensive exam is required. *Note:* Students must also complete HIPAA certification.

**Minor in Computer Science:** 22 hours. CS 125, 128, 128L, 228; DATA 150; MT 142 two additional courses at or above the 200 level.

**Minor in Computer Science with Healthcare Information Technology:** 22 hours. CS 125, 128, 128L, 228, 312, 476; DATA 150; one additional CS course at or above the 200 level. *Note:* Students must also complete HIPAA certification.

**125. INTRODUCTION TO WEB DESIGN AND PROGRAMMING 3 cr.** Principles of website design and creation. Introduction to HTML, cascading style sheets, and animation. Introduction to Javascript.

**128. INTRODUCTION TO SOFTWARE APPLICATION DEVELOPMENT 3 cr.** Corequisite: CS 128L. Fundamentals of computing. Utilizes a visual programming environment to design, build, and test software applications. Introduction to application development, inquiry-based simulation, rapid prototyping, and incremental problem solving. Students who have transfer or AP credit for CS 228 should confer with the chair of the Department of Mathematics and Computer Science regarding alternate courses for CS 128.

**128L. INTRODUCTION TO SOFTWARE APPLICATION DEVELOPMENT LABORATORY 1 cr.** Corequisite: CS 128. Programming laboratory intended to provide hands-on experience in applying the programming concepts learned in CS 128. Experience in learning the process of program development, with emphasis on techniques for testing and debugging.

**228. OBJECT-ORIENTED PROGRAMMING 3 cr.** Prerequisite: CS 128. Continuation of CS 128 emphasizing the benefits of object-oriented languages: modularity, adaptability, and extensibility. Object-oriented programming concepts include objects, classes, methods, constructors, message passing, interfaces, inheritance, and polymorphism. *Note:* A grade of C- or higher in CS 228 is required to register for any course that has CS 228 as a prerequisite.

**242. MODELS OF COMPUTATION 3 cr.** Prerequisites: CS 228 with a grade of C- or higher; MT 142 or 301. Fundamental concepts in automata theory and formal languages, including finite automation, regular expression, pushdown automaton, context-free grammar, and Turing machine. Applications of automata in current programming languages.

**270. SOFTWARE DEVELOPMENT PRACTICES 3 cr.** Prerequisite: CS 228 with a grade of C- or higher. Skills, tools, and techniques necessary for successful software engineering projects in a hands-on, project-oriented context. Students will work on development efforts each of which focuses on a different set of tools and techniques. Topics include system design, UML diagrams, unit testing, system testing, continuous integration, refactoring, performance and optimization, acceptance testing, and code maintenance.

**299. INDEPENDENT STUDY IN COMPUTER SCIENCE 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated.

**312. HEALTHCARE INFORMATION TECHNOLOGY 3 cr.** Prerequisite: CS 228 with a grade of C- or higher. Development, tools, and technology specific to healthcare information. Examples include: the HL7 information protocol, electronic medical records, HIPAA issues and practices for developers. DICOM standard for storage and manipulation of medical images, database storage, archiving and network requirements and protocols, security, data access, data maintenance, and backup practices and related software development issues.

**322. BIG DATA ANALYTICS (DATA 322) 3 cr.** Prerequisites: DATA 150; CS 228 or DATA 200, with a grade of C- or higher. Data mining algorithms, machine learning algorithms. Emphasis on real analyses in contexts such as business, government, and online social networks.

**325. ADVANCED WEB DESIGN 3 cr.** Prerequisites: CS 125, 228 with a grade of C- or higher, DATA 150. Design and development of Internet applications and dynamically generated websites. Integration of web and database technology. Exploration of popular web frameworks and APIs. Students cannot earn credit for both CS 225 and CS 325.

**328. ADVANCED PROGRAMMING 3 cr.** Prerequisite/corequisite: CS 242. Advanced object-oriented programming: exceptions, threads, synchronization; Data Structures/Collection API's. Introduction to algorithms and analysis of algorithms. Graphical User Interface APIs.

**340. DATA VISUALIZATION (DATA 340) 3 cr.** Prerequisite: CS 228 or DATA 200, with a grade of C- or higher. Introduction to basic data visualization techniques and analysis of classic data representations. Use advanced tools for generating and exploring static and dynamic visual representation of very large datasets.

**350. ADVANCED DATABASE SYSTEMS (DATA 350) 3 cr.** Prerequisites: DATA 150; either CS 228 or DATA 200, with a grade of C- or higher. Alternative data models and advanced database techniques, Big Data support, Web-DBMS integration technology, data-warehousing and data-mining techniques, database security and optimization, and other advanced topics.

**360. GAME DESIGN AND PROGRAMMING 3 cr.** Prerequisite: CS 228 with a grade of C- or higher. Exploration of game engine(s) and computer techniques that create both animated imagery of objects and interactive agent behavior, including artificial intelligence concepts. Graphical and game design followed by implementation via a large-team development of a class-designed game.

**435. NETWORKS AND CYBERSECURITY 3 cr.** Prerequisites: CS 228 with a grade of C- or higher; prerequisite or corequisite: CS 328. OSI model for networking with an emphasis on how vulnerabilities at each layer of the network stack could be exploited; ethical concerns in cybersecurity and modern methods used to secure networks against attack. Creation of a secure application that communicates over the internet.

**445. MOBILE TECHNOLOGY 3 cr.** Prerequisite: CS 228 with a grade of C- or higher. Development and implementation of applications for mobile devices such as tablets and smartphones; common object-oriented techniques, UI design, and backend integration for mobile development.

**470. SOFTWARE ENGINEERING PROJECT 3 cr.** Prerequisites: senior standing in the CS major, CS 270, permission of instructor or department chair; prerequisite or corequisite: CS 328; corequisite: CS 475. Simulation of the environment of the professional software developer working in a team on a large software project for a real client or for an open-source community. Development teams will make widespread use of previously learned tools and techniques. Student developers will use their skills, ingenuity, and research abilities to address various issues and deliver a working, useful system. Traditional or Agile development methodologies.

**470HC. SOFTWARE ENGINEERING HEALTHCARE PROJECT 3 cr.** Prerequisites: senior standing in the CS with Healthcare Information Technology major, CS 270, CS 312, permission of instructor or department chair; prerequisite or corequisite: CS 328; corequisite: CS 475HC. Students will develop a large software project related to Healthcare IT using the same methodologies and techniques as in CS 470.

**475. TECHNICAL WRITING IN COMPUTER SCIENCE 3 cr.** Corequisite: CS470. Written communication related to computer science emphasizing clear, concise expression of technical information. Exploration of several types of CS writing, including users' guides, help pages, tutorials, mainstream articles, and technical papers.

**475HC. TECHNICAL WRITING IN HEALTHCARE IT 3 cr.** Corequisite: CS 470HC. Application of the written communication skills described in CS 475 to Healthcare IT topics. HIPAA training and medical terminology.

**476. SYSTEMS TECHNOLOGY AND PRACTICES SEMINAR 3 cr.** Prerequisite: CS 270. Features a weekly guest speaker from the information technology profession, including Healthcare Technology. Students will develop individual, self-designed projects based on a speaker's topic.

**477. DESIGN PATTERNS 3 cr.** Prerequisite: CS 228 with a grade of C- or higher. Object-oriented design skills and techniques. Survey of all 23 "canonical" design patterns catalogued by Gamma et al, and the creation, structural, and behavior classes of patterns. Variations of these patterns, how and where to apply them, and how to use them together to build larger, more maintainable programs.

**478. HEALTHCARE TECHNICAL INTERNSHIP 3 cr.** Prerequisites: CS 270, junior standing in the CS or CS with Healthcare Technology majors, and permission of department chair. Highly individualized, culminating experience for students in the CS with Healthcare Technology major. Focuses on an information technology-related challenge that has been designed and approved by the CS faculty and a healthcare professional.

**479. HEALTHCARE MENTORING INTERNSHIP 3 cr.** Prerequisite: CS 478 and permission of department chair. This course is by *invitation only*. A student who excels in a CS 478 internship is provided the opportunity by the sponsoring organization to accept a second internship in the senior year. The student will serve as a mentor to the other students in CS 478 at the same institution, sharing insight and experience from his or her previous internship.

**480. SPECIAL TOPICS 0-3 cr.** Selected topics in an area of Computer Science that is not covered in established courses. May be repeated with a different topic.

**498. UNDERGRADUATE RESEARCH IN COMPUTER SCIENCE 0-3 cr.** Independent research in Computer Science under the direction of a faculty member. May be repeated for credit, but at most three credits of CS 498 or CS 499 may be used to satisfy an upper-division elective for the major or minor in Computer Science or Computer Science with Healthcare Technology. Satisfactory presentation of the results at a scientific meeting, department seminar, or University forum is ordinarily expected.

**499. INDEPENDENT STUDY IN COMPUTER SCIENCE 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated for credit, but at most three credits of CS 498 or CS 499 may be used to satisfy an upper-division elective for the major or minor in Computer Science or Computer Science with Healthcare Technology.

# Data Science (DATA)

*Professors:* B. K. D'Ambrosia (Chair), D. W. Palmer, L. Seiter; *Assistant Professors:* E. Manilich, R. Fang

## Major Programs

The Department of Mathematics and Computer Science offers a bachelor of science in Data Science. The department also offers Mathematics (MT), Computer Science (CS), and Computer Science with Healthcare Information Technology (CS) programs that are described in separate sections.

Data Science is an emerging academic discipline, a response to an increasing demand for people who are able to understand and analyze data. Data science provides powerful approaches for transforming large and complex data into information, knowledge, and intelligent decisions. John Carroll University's Data Science program utilizes an interdisciplinary approach with a focus on statistics and computer science, applied to a specific discipline such as business intelligence, communications, digital humanities, entrepreneurship, exercise science, biology, physics, political science, psychology, and sociology. The major in **Data Science** leading to the B.S. prepares students to explore the complex relationships between data, technology, and society. Data is everywhere, so data science skills are increasingly critical in almost every discipline. Data science careers span the spectrum of possibilities from working for national companies with large data analytics departments to founding entrepreneurial start-up companies at the frontier of future technology, while filling critical roles in all fields, including medicine, business, arts and entertainment, sports, government, law, manufacturing, and research.

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## Program Learning Goals in Data Science.

1. **Data Acquisition:** Students will collect, store, preserve, manage, and share data in a distributed environment through practical, hands-on experience with programming languages and big data tools.
2. **Problem Exploration:** Students will develop problem-solving skills through experiences that foster computational and data analytic thinking.
3. **Analysis:** Students will develop an in-depth understanding of the key technologies in data science: data mining, machine learning, visualization techniques, predictive modeling, and statistics.
4. **Domain knowledge:** Students will experience discipline-specific data use cases in order to solve real-world problems of high complexity.
5. **Interpretation:** Students will learn methods for effective data communication and visualization, and demonstrate their use in data representation.
6. **Social Value:** Students will explore social and ethical implications of the use of data and technology.

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Major and Minor Requirements
<p><b>Major in Data Science:</b> 45+ hours. CS 128 and 128L, or CS 228; DATA 100, 122 or equivalent, 150, 200, 261 (or 260), 300, 470; four approved courses (at least 12 credits) selected from one area of specialization; three additional DATA courses at or above the 300 level.</p> <p><b>Minor in Data Science:</b> 21+ hours. CS 128 and 128L, or CS 228; DATA 100, 122 or equivalent, 150, 200; two electives selected from DATA 261 (or 260), DATA courses at or above the 300 level, BI 200, BI 341, BI 371, or EC 410.</p> <p>Note: DATA 422 and 424 may not be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics and Analytics. DATA 260 and 261 may not be used to simultaneously satisfy requirements for the Data Science minor and the minor in Statistics &amp; Analytics.</p>

B.S. in Data Science – Four courses selected from one of the following areas of specialization. (12+ credits) Course list subject to change.			
<b>Business Intelligence</b> <ul style="list-style-type: none"> <li>• AC 201 or EC 201 or MHR 352 or SCM 301</li> <li>• BI 200</li> <li>• BI 341</li> <li>• BI 371</li> </ul>	<b>Communications</b> <ul style="list-style-type: none"> <li>• COM 304</li> <li>• COM 307</li> <li>• COM 309</li> <li>• COM 369</li> <li>• COM 373</li> </ul>	<b>Digital Humanities</b> <ul style="list-style-type: none"> <li>• EN 260</li> <li>• EN 311</li> <li>• EN 312</li> <li>• EN 488</li> <li>• EN 498**</li> </ul>	<b>Entrepreneurship</b> <ul style="list-style-type: none"> <li>• ER 115</li> <li>• ER 301</li> <li>• ER 304</li> <li>• ER 480**</li> </ul>
<b>Exercise Science</b> <ul style="list-style-type: none"> <li>• EPA 205/205L</li> <li>• EPA 206/206L</li> <li>• EPA 229</li> <li>• EPA 407</li> <li>• EPA 409</li> <li>• EPA 412</li> <li>• EPA 432</li> <li>• EPA 440**</li> </ul>	<b>Health Disparities &amp; Social Justice</b> <ul style="list-style-type: none"> <li>• BL 155/157</li> <li>• BL 156/158</li> <li>• BL 240</li> <li>• BL 260</li> <li>• BL 399**</li> <li>• PO 205</li> </ul>	<b>Physics</b> <ul style="list-style-type: none"> <li>• MT 135</li> <li>• MT 136</li> <li>• PH 135/135L</li> <li>• PH 136/136L</li> </ul>	<b>Political Science</b> <ul style="list-style-type: none"> <li>• PO 200</li> <li>• PO 203</li> <li>• PO 205</li> <li>• PO 300/300L</li> <li>• PO 319</li> <li>• PO 324</li> <li>• PO 337</li> <li>• PO 399 or 498**</li> </ul>
<b>Psychology</b> <ul style="list-style-type: none"> <li>• PS 100</li> <li>• PS 301/301L</li> <li>• PS 401/401L</li> <li>• PS 435</li> <li>• PS 399 or 498 or 499**</li> </ul>	<b>Sociology &amp; Criminology</b> <ul style="list-style-type: none"> <li>• SC 101</li> <li>• SC 350</li> <li>• SC 351</li> <li>• SC 497**</li> </ul>		

\*\* Independent study; requires permission of instructor and chair of the Department of Mathematics and Computer Science. Students should meet with the chair of the appropriate department to determine the availability of an independent study course before committing to specializing in Entrepreneurship or Sociology

**100. INTRODUCTION TO DATA SCIENCE 3 cr.** Essential exploratory techniques, interactive data discovery, and predictive analytics, including basic techniques for collecting, cleaning, and sharing data. Introduction to R programming.

**122. ELEMENTARY STATISTICS (MT 122) 3 cr.** Describing data by graphs and measures, sampling distributions, confidence intervals and tests of hypotheses for one and two means and proportions. Chi-square tests, correlation, and regression. Methods are illustrated in the context of quantitative research, with applications in disciplines such as sports, psychology, and social and natural sciences. Use of appropriate statistical software. For program requirements and prerequisites, equivalent courses include DATA 228, EC 210, and PO 105.

**150. DATABASE SYSTEMS 3 cr.** Relational database design and implementation, structure query language (SQL), entity relationship (ER) modeling, and database normalization.

**200. INTERMEDIATE DATA SCIENCE 3 cr.** Prerequisites: DATA 100, DATA 122 or equivalent, CS 128 or 228. Prerequisite or corequisite: DATA 150. Data modeling, machine learning, and natural language processing; fundamentals of inference in a practical approach. Introduction to Python programming. *Note:* A grade of C- or higher in DATA 200 is required to register for any course that has DATA 200 as a prerequisite.

**228. STATISTICS FOR BIOLOGICAL SCIENCES 3 cr.** Exploratory data analysis, probability fundamentals, sampling distributions and the Central Limit Theorem, estimation and tests of hypotheses through one-factor analysis of variance, simple linear regression, and contingency tables using appropriate statistical software. Course content in a biology context.

**260. INTERMEDIATE STATISTICS WITH SPSS 3 cr.** Prerequisite: DATA 122 or equivalent. Power analysis, factorial and repeated measures analysis of variance, nonparametric procedures, contingency tables, introduction to linear regression. Use of SPSS. *Note:* A grade of C- or higher in DATA 260 is required to register

for any course that has DATA 260 as a prerequisite. Students may not earn credit for both DATA 260 and DATA 261. DATA 260/261 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**261. INTERMEDIATE STATISTICS WITH R 3 cr.** Prerequisite: DATA 122 or equivalent. Topics of DATA 260 in the R programming environment. *Note:* A grade of C- or higher in DATA 261 is required to register for any course that has DATA 261 as a prerequisite. Students may not earn credit for both DATA 260 and DATA 261. DATA 260/261 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**299A. INDEPENDENT STUDY IN DATA SCIENCE 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated.

**299B. INDEPENDENT STUDY IN STATISTICS 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated.

**300. ADVANCED DATA SCIENCE 3cr.** Prerequisites: DATA 122 or equivalent, DATA 200 with a grade of C- or higher. Practical application of modern data science techniques; data acquisition, organization, visualization, modeling, and inference using Python.

**322. BIG DATA ANALYTICS (CS 322) 3 cr.** Prerequisites: DATA 150; CS 228 or DATA 200, with a grade of C- or higher. Data mining algorithms, machine learning algorithms. Emphasis on real analyses in contexts such as business, government, and online social networks.

**340. DATA VISUALIZATION (CS 340) 3 cr.** Prerequisite: CS 228 or DATA 200, with a grade of C- or higher. Introduction to basic data visualization techniques and analysis of classic data representations. Use of advanced tools for generating and exploring static and dynamic visual representations of very large datasets.

**350. ADVANCED DATABASE SYSTEMS (CS 350) 3 cr.** Prerequisites: DATA 150; CS 228 or DATA 200, with a grade of C- or higher. Alternative data models and advanced database techniques. Big Data support, Web-DBMS integration technology, data-warehousing and data-mining techniques, database security and optimization, and other advanced topics.

**422. APPLIED STATISTICS 3 cr.** Prerequisites: DATA 261; or DATA 100 and DATA 260; or DATA 228 and DATA 260; grade of C- or higher in DATA 260 or 260. Two-factor analysis of variance; categorical data analysis, logistic regression, factor analysis, simulation, analysis of large datasets; use of appropriate statistical software. DATA 422 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**424. APPLIED REGRESSION ANALYSIS 3 cr.** Prerequisite: DATA 261; or DATA 100 and DATA 260; or DATA 228 and DATA 260; grade of C- or higher in DATA 260 or 260. Multiple linear regression, collinearity, model diagnostics, variable selection, nonlinear models; autocorrelation, time series, and forecasting; use of appropriate statistical software. DATA 424 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**470. DATA SCIENCE PROJECT 3 cr.** Prerequisites: DATA 300, senior standing in the Data Science major, and permission of instructor or department chair. Simulation of the environment of the professional data scientist working in a team on a large data project for a real client. Students will encounter a wide variety of issues that naturally occur in a project of scale, using their skills, ingenuity, and research abilities to address all issues and deliver a usable data product.

**480. SPECIAL TOPICS 0-3 cr.** Selected topics in an area of Data Science or Statistics that is not covered in established courses. May be repeated with a different topic.

**498A. UNDERGRADUATE RESEARCH IN DATA SCIENCE 0-3 cr.** Independent research in Data Science under the direction of a faculty member. May be repeated for credit, but at most three credits of DATA 498 or

DATA 499 may be used to satisfy an upper-division elective for the major or minor in Data Science, or the minor in Statistics and Analytics. Satisfactory presentation of the results at a scientific meeting, department seminar, or University forum is ordinarily expected. DATA 498 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**498B. UNDERGRADUATE RESEARCH IN STATISTICS 0-3 cr.** Independent research in Statistics under the direction of a faculty member. May be repeated for credit, but at most three credits of DATA 498 or DATA 499 may be used to satisfy an upper-division elective for the major or minor in Data Science, or the minor in Statistics and Analytics. Satisfactory presentation of the results at a scientific meeting, department seminar, or University forum is ordinarily expected. DATA 498 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**499A. INDEPENDENT STUDY IN DATA SCIENCE 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated for credit, but at most three credits of DATA 498 or DATA 499 may be used to satisfy an upper-division elective for the major or minor in Data Science, or the minor in Statistics and Analytics. DATA 499 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

**DATA 499B. INDEPENDENT STUDY IN STATISTICS 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated for credit, but at most three credits of DATA 498 or DATA 499 may be used to satisfy an upper-division elective for the major or minor in Data Science, or the minor in Statistics and Analytics. DATA 499 cannot be used to simultaneously satisfy requirements for the Data Science major or minor and the minor in Statistics & Analytics.

# East Asian Studies (EA)

The East Asian Studies Program serves as a focal point for academic courses leading to an interdisciplinary major and minor in East Asian Studies. Intended to deepen students' knowledge and understanding of this important world region, the East Asian Studies Program also brings greater international awareness to the campus and community by sponsoring guest lectures, cultural performances, high school outreach, film series, study tours, and special events related to East Asia. For further information about East Asian Studies at John Carroll University, please contact the program via email at [eas@jcu.edu](mailto:eas@jcu.edu) or visit its website at [www.jcu.edu/eas](http://www.jcu.edu/eas).

The East Asian Studies Program is coordinated by the East Asian Studies Advisory Committee, faculty members of which are appointed for limited terms by the appropriate dean. As of the printing of this *Bulletin*, members include:

## Program Director

- Paul Nietupski, Ph. D. Professor of Theology and Religious Studies

## Committee Members:

- Peter Kvidera, Ph.D., Associate Professor of English
- Sokchea Lim, Ph.D., Assistant Professor of Economics
- Bo Liu, Ph.D., Associate Professor of Art History
- Emerita Professor Susan Orpett Long, Ph.D., Professor of Anthropology
- Pamela A. Mason, Ph.D., Associate Dean for Social Sciences, Education, and Global Studies; Associate Professor of Political Science
- Malia McAndrew, Ph.D., Associate Professor of History
- Keiko Nakano, M.A., Assistant Professor of Japanese
- Martha Pereszlenyi-Pinter, Ph.D., Associate Professor of French
- Roger W. Purdy, Ph.D., Associate Professor of History
- Feng Zhan, Ph.D., Assistant Professor of Finance
- Jie Zhang, M.A., Associate Librarian
- Gwendolyn L Compton-Engle

## Program Learning Goals in East Asian Studies. Students will:

1. Demonstrate at least second-year language proficiency (ACTFL's intermediate-mid) in an East Asian language.
2. Identify common elements of the East Asian region, as well as differences within the region based on society and culture.
3. Analyze an East Asian society from at least three disciplinary perspectives (including, but not limited to, anthropology, art history, economics, history, literature and the arts, political science, religious studies, and sociology).
4. Understand the role of artists, the arts, and the artistic impulse in society and recognize how history, politics, religion, philosophy, science, and technology influence art and how art influences history, politics, religion, philosophy, science, and technology.
5. Articulate the political, economic, and sociocultural relationships among East Asian nations and between East Asia and other regions.

Major and Minor Requirements
<p><b>East Asian Studies Major:</b> 36 credits</p> <p>The East Asian Studies (EAS) major offers a flexible course of study leading to the bachelor of arts (B.A.) that can help prepare students for graduate and professional study and careers in business, government, education, the arts,</p>

medicine, the sciences (including computer science), and law, among other areas. The EAS major can be combined with a second major or minor from another discipline.

Students majoring in EAS complete at least 36 credits (twelve courses) in EAS-approved course work from across the University curriculum, including foundational language training, course work that examines East Asia as a region, and more intensive and/or specialized studies. Distribution of courses in the EAS major is as follows:

1. Four courses in Chinese or Japanese language. Normally these include the 100-200 level sequence of language courses.
2. Eight additional EAS-approved courses in at least three different disciplines, including:
  - a. One course that examines an aspect of East Asia as a region (normally, but not always, at the 100-200 level) or that examines a country in East Asia other than the country whose language the student is studying.
  - b. Four courses at the 300-400 level, including any language courses beyond the four courses required above.
  - c. One 400-level capstone course. The capstone may involve a traditional research paper, internship, or some other structured project that ties together the student's EAS course work and reflects upon the student's experience in the EAS major. The capstone encourages students who are double majors to synthesize and reflect on both courses of study.

**East Asian Studies Minor: 24 credits**

Students in any major may pursue the East Asian Studies minor in order to deepen their understanding of this important world region. Students in the minor choose either the **East Asian Studies Language Minor**, which emphasizes Chinese or Japanese language, or the **East Asian Studies Interdisciplinary Minor**, which provides a broader interdisciplinary approach to the study of East Asia, including one year of Chinese or Japanese language.

The minor consists of 24 credits, normally 8 courses, distributed as follows:

**1. East Asian Studies Language Minor**

- a. Six courses in Chinese or Japanese language.
- b. Two additional EAS-approved courses in different disciplines.

**2. East Asian Studies Interdisciplinary Minor**

- a. Two courses in Chinese or Japanese language, normally the introductory course sequence.
- b. One course that examines an aspect of East Asia as a region, normally but not always at the 100-200 level.
- c. Five additional EAS-approved courses in at least three different departments.

**Study Abroad and Exchange**

EAS students are strongly encouraged to participate in short-term, semester long, or year-long study abroad programs, especially ones that include language study, in East Asian countries.

In China, our students take part in year-long, semester-long, and summer programs at the Jesuit consortium Beijing Center for Chinese Studies, of which John Carroll University is a founding member.

In Japan, our students can choose between year-long or summer exchange programs offered by Sophia University in Tokyo or Nanzan University in Nagoya, or semester-long study abroad at Kansai-Gaidai University, near Osaka.

Detailed, up-to-date information about John Carroll study opportunities in China and Japan can be found on the EAS website: [www.jcu.edu/eas](http://www.jcu.edu/eas).

Up-to-date information about additional study abroad and exchange opportunities in East Asian countries is available through the Center for Global Education at <http://sites.jcu.edu/global/>. The Center for Global Education also maintains current information on costs related to study abroad and exchange.

### **East Asian Language Courses at John Carroll University**

JP 101-102 Basic Japanese  
JP 201-202 Intermediate Japanese  
JP 301-302 Advanced Japanese  
JP 398-498 Supervised Study and Advanced Supervised Study

CN 101-102 Basic Chinese  
CN 201-202 Intermediate Chinese  
CN 301-302 Advanced Chinese  
CN 398-498 Supervised and Advanced Supervised Study

### **Select East Asian Studies-Approved Courses**

Course availability and offerings vary from semester to semester and year to year. For complete and up-to-date listings of EAS-approved courses, go to the EAS website, [www.jcu.edu/eas](http://www.jcu.edu/eas), or the class schedule published by the Registrar's Office. Course descriptions can be found in the department sections of this *Bulletin*.

Students may petition for relevant courses taken during East Asian study abroad/exchange to count toward the EAS major. Documentation, including a course description and detailed syllabus, is required for such petition.

Courses in any discipline with significant East Asian content may be counted toward the EAS major. Students must formally petition the EAS director for permission to count such courses toward the major. Documentation, including a course description and syllabus, is required for such petition.

**Special Study Programs:** Each year, EAS sponsors a special interdisciplinary study program with a study tour to East Asia. Current programs include:

- Even-numbered years: Japanese Popular Culture in Japan
- Odd-numbered years: China in Transition

These programs typically carry 3-6 credits at the 300 level and are cross-listed in the departments of participating faculty. Program emphasis and details change from year to year. For complete, up-to-date information on these programs and study tours, contact [eas@jcu.edu](mailto:eas@jcu.edu) and visit the EAS website at [www.jcu.edu/eas](http://www.jcu.edu/eas).

### **East Asian Studies (EA) Courses:**

**198. SPECIAL TOPICS IN EAST ASIAN STUDIES 1-3 cr.** Topic will be listed in the semester class schedule.

**199. PRESENTATIONS OF EAST ASIA 1 cr.** Further development of a paper or project completed for an EAS course or study abroad experience and intended for presentation at John Carroll's annual *Celebration of Scholarship* or other appropriate forum. Pass/Fail.

**298. SPECIAL TOPICS IN EAST ASIAN STUDIES 1-3 cr.** Topic will be listed in the semester class schedule.

**299A. INDEPENDENT STUDY 1 cr.** Prerequisite: permission of instructor. Directed reading or individual research.

**299B. INDEPENDENT STUDY 2 cr.** Prerequisite: permission of instructor. Directed reading or individual research.

**299C. INDEPENDENT STUDY 3 cr.** Prerequisite: permission of instructor. Directed reading or individual research.

**398. SPECIAL TOPICS: China 3-6 cr.** Prerequisite: permission of instructor. Typically includes faculty-led, short-term study tour, at additional cost to students. Since topics vary, students may register for more than one semester with the consent of their academic advisor. Depending on course content, students may petition for appropriate Core credit.

**490. CAPSTONE COURSE IN EAST ASIAN STUDIES 3 cr.** Prerequisite: senior standing and permission of EAS director. A project that ties together the student's EAS course work and reflects on the student's experience in the EAS major. Required to complete the major.

# Economics (EC)

*Professors:* F. J. Navratil (Emeritus), T. J. Zlatoper, W. O. Simmons (Associate Dean); *Associate Professors:* L. N. Calkins, A. M. Welki (Chair), S. K. Kahai; *Assistant Professor:* S. Lim; *Executives-in-Residence:* A. Aveni, J. Kleinhenz

Economics is the study of scarcity, choice, and efficiency. As British economist Alfred Marshall wrote, “Economics is a study of mankind in the ordinary business of life.” As such, it draws on history, philosophy, and mathematics to address such diverse topics as product and resource pricing, inflation, unemployment, interest-rate determination, environmental issues, and federal government expenditure and taxation policies. In addition, the theories and models of economics have been applied to non-traditional areas, including marriage, child-rearing, criminal behavior, discrimination, and ethics.

The primary goal of the economics faculty is to provide its students, the University, and the community with an understanding of economic theory and practice through quality teaching and advising, significant research, and appropriate community involvement.

The Economics program has been designated by NABE, the National Association of Business Economists, as a pathway to a CBE (Certified Business Economist) certification. The Economics program incorporates at least 70% of the CBE Body of Knowledge and positions students well to sit for the CBE examination.

## Major and Minor

Economics is considered one of the most flexible of all the potential fields of undergraduate study because students can choose to major in economics either through the College of Arts and Sciences (Bachelor of Arts), or through the Boler College of Business (Bachelor of Science). Moreover, a major in economics provides a comprehensive background for a variety of academic and professional fields. It is an ideal preparation for careers in business and for many graduate programs. Economics majors find employment in banking and other financial institutions, sales, consulting firms, government service, and teaching. In addition, many graduate programs—most notably law, business administration, and economics—regard the study of economics to be particularly beneficial because of its logical, ordered approach to problem solving.

The study of economics—the only social science honored by its own Nobel Prize—is intellectually challenging and rewarding. Economists use the scientific method to develop and test hypotheses and with their findings address vital current issues.

Students who choose to major in economics through the College of Arts and Sciences may apply to the department after completing EC 201-202. Acceptance as a major requires a 2.0 cumulative grade-point average and a 2.0 grade-point average in previous course work in economics.

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## **Program Learning Goals in Economics.** Students will acquire:

1. Knowledge of microeconomic theory, macroeconomic theory, and market failure, and the ability to apply them to domestic and global economic issues.
2. The skills necessary to identify and analyze the economic dimensions of individual, firm, and social problems.
3. The ability to use an economic way of thinking to identify solutions to problems that are unfamiliar.
4. The ability to recognize the limitations of proposed solutions to individual, firm, and social problems and situations.

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### Major and Minor Requirements

**Bachelor of Arts in Economics:** 34 credit hours. EC 201-202, 210, 301, 302, 499, and 15 additional upper-division EC hours.

*Required Support Courses:* MT 130, or MT 135. It is recommended that those interested in pursuing graduate work in economics or finance take MT 135-136.

It is strongly recommended that B.A. students minor in business or take additional courses in the Boler College, especially finance or the year-long sequence in accounting. Additionally, students planning graduate work in economics should take EC 409 Mathematical Economics, EC 410 Econometrics, and a course in linear algebra.

**Bachelor of Science in Economics:** 62 credit hours.

**Business Core:** 41 hours, including EC 499 and MHR 461.

**Major courses:** 21 hours, including EC 301, 302, with 15 hours in upper-division economics in addition to EC courses required in the business core (EC 201, EC 202, and EC 210).

During senior year, all majors must take an economics comprehensive examination which counts for a portion of the EC 499 grade. Consult the department for details.

Students who seek to double major in economics and finance can use a finance class (with chair approval) as an economics elective and are permitted the choice of taking MHR 499 or EC 499. In addition, Economics works well as a double major with Sports Studies and Political Science. Economics majors who would like to double major with an area besides finance should speak to the chair of the economics department.

**Professional Experience:** Relevant professional work or volunteer experience is required prior to graduation. This requirement must be satisfied by completing BPD 400 or BPD 402.

**Economics Minor:** 18 hours. EC 201-202, 12 hours at the 300 or 400 level.

**101. INTRODUCTION TO ECONOMIC PROBLEMS AND POLICIES 3 cr.** Survey of current socioeconomic issues and problems: market structure, costs and competition, international trade, environmental concerns, economic growth, financial panics, inflation, and unemployment. Uses basic economic concepts analytical tools. **Cannot be used to satisfy the EC major, the business core for business majors, or the business minor.**

**201-202. PRINCIPLES OF ECONOMICS I, II 3 cr. each.** Economic principles and problems, 201 (Microeconomics): the nature of economics and its method, the economic problem, demand and supply analysis, costs of production, market structures, product and resource pricing, and international trade. 202 (Macroeconomics): economic goals, basic information about the American economy, national income accounting,

international finance, theories of income determination, economic growth and instability, money and banking, monetary and fiscal policy, the public debt, and selected economic problems. Algebra is used in both courses.

**209. INTRODUCTION TO LINEAR REGRESSION 1 cr.** Prerequisite: MT 223 or MT 228 or MT 229 or chair permission. Simple regression analysis, bivariate correlation, multiple regression analysis, and time series analysis using regression-based approaches.

**210. BUSINESS ANALYTICS AND STATISTICS 4 cr.** Descriptive statistics, probability and probability distributions, sampling, and sampling distributions, hypothesis testing, chi-square analysis, analysis of variance, correlation, bivariate and multivariate regression analysis, time series, and index numbers.

**221. FUNDAMENTALS OF ECONOMICS 3 cr.** Study of basic economic principles, with an emphasis on macroeconomics. Microeconomic topics include supply and demand analysis, and elasticity. Macroeconomic topics include measurement of macroeconomic activity, national income accounting, aggregate demand and aggregate supply, money, and fiscal and monetary policy. **Does not satisfy degree requirements for the EC major or the Boler core.**

**301. MICROECONOMICS 3 cr.** Prerequisites: EC 201-202 and calculus (MT 130, MT 133-134, or MT 135), or permission of chair. Analysis of the behavior of consuming and producing units, determination of prices and outputs through the market, resource allocation and distribution. Problems of decision-making and planning.

**302. MACROECONOMICS 3 cr.** Prerequisites: EC 201-202 and calculus (MT 130, MT 133-134, or MT 135), or permission of chair. Theories of the determination of the level of national economic activity: output, income, employment, and its relationship to economic growth, stability, and the price level. Particular emphasis on the components of aggregate demand and aggregate supply.

**311. MONEY AND BANKING 3 cr.** Prerequisites: EC 201-202. Money and credit; historical and institutional development of the U.S. financial system; monetary theory; policies of financial regulators.

**312. ECONOMICS OF THE PUBLIC SECTOR 3 cr.** Prerequisites: EC 201-202. Theoretical and empirical analysis of public (government) expenditures and taxation. Topics include welfare economics, public goods, externalities, theories of distributive justice, income taxation, tax incidence, taxation and efficiency, and public choice theory.

**315. ENVIRONMENTAL ECONOMICS 3 cr.** Prerequisites: EC 201-202. Designed to acquaint students with analytical tools of environmental economics, including cost-benefit analysis, user charges, rationing of scarce resources, investment allocation criteria, and public expenditure criteria.

**321. LABOR AND HUMAN RESOURCE DEVELOPMENT 3 cr.** Prerequisites: EC 201-202. Examines the organization, functioning, and outcomes of labor markets; the decisions of prospective and present labor market participants; and public policies that relate to the employment and payment of labor resources. Typical topics include determination of wages, prices, profits; individual human capital acquisition and labor supply decisions; labor unions and collective bargaining; labor law and public policy.

**331. INDUSTRIAL ORGANIZATION AND PUBLIC POLICIES 3 cr.** Prerequisites: EC 201-202. Analysis of imperfectly competitive markets, focusing on interactions among market structure, firm behavior, and market outcomes. Measures of concentration, merger theory and policy, barriers to entry, monopolization, oligopoly models, pricing strategies, vertical strategies, market power, game theory, collusion and cartel theory, technological progress, and antitrust legislation.

**342. INTERNATIONAL ECONOMICS 3 cr.** Prerequisites: EC 201-202. International trade theory, commercial policy, and economic interdependence. Exchange rates and the foreign exchange market, the balance of payments, parity conditions, and the international monetary system.

**343. ECONOMIC DEVELOPMENT 3 cr.** Prerequisites: EC 201-202. Theoretical and policy issues in economic growth and development with emphasis on specific country policies and experience; alternative development paths;

problems of development planning; policies for achieving growth and development in emerging countries; and conditions necessary for continued growth in advanced countries.

**345. ECONOMIC HISTORY OF THE UNITED STATES 3 cr.** Prerequisites: EC 201-202. Growth of U.S. economy from colonial era to post-World War II. Development of transportation, commerce, labor, agriculture, industry, money and banking; economic and political issues and the increasing role of government in the economy.

**352. COMPARATIVE ECONOMIC SYSTEMS 3 cr.** Prerequisites: EC 201-202. Examines major world economic systems in theory and practice. Focuses on understanding how economic systems work and how economic theory interacts with government policy, history, and culture to explain economic performance in capitalist regulated markets, socialist regulated markets, socialist centrally planned economies, transitional economies, and other emerging economic systems.

**361. URBAN AND REGIONAL ECONOMICS 3 cr.** Prerequisites: EC 201-202. Applies analytical techniques of economic theory to urban and regional problems. Economic rationale of cities, urban and regional growth and development, classical location theory, analysis of urban markets, and policy approaches to urban and regional problems.

**405. SEMINAR IN ECONOMICS 3 cr.** Prerequisites: EC 201-202, and/or as announced. Contemporary issues in economics not covered in depth in other department courses. Specific topic, method of presentation, and student requirement designated by the seminar leader. Examples might include, but are not limited to, health economics, the portfolio approach to exchange rates and the balance of payments; alternatives to standard international trade models; causes and consequences of income and wealth inequalities.

**409. MATHEMATICAL ECONOMICS 3 cr.** Prerequisites: EC 201-202, and MT 130 or MT 135 or MT 133-134; or permission of chair. Economic analysis from a mathematical perspective. Static equilibrium analysis, comparative statics, and optimization using matrix algebra and calculus.

**410. ECONOMETRICS 3 cr.** Prerequisites: EC 201-202 and 210; or permission of chair; EC 301, 302, and 409 recommended. Building econometric models, understanding different econometric methods, and estimating models using computer packages.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: economics major with minimum overall GPA of 3.0; permission of chair and instructor. Research project supervised by a department member willing to act as advisor. The student selects an aspect of economics, establishes goals, and develops a study plan, which must be approved by chair and filed with the dean's office. Consult chair for department guidelines created for such study.

**499A. INDIVIDUAL RESEARCH PROJECT IN ECONOMICS I 0 cr.** Prerequisites: economics major; senior standing or permission of chair, B.S.E. students must have completed BPD 201, 202 and 301. The year-long sequence EC 499A and 499B is the capstone experience for the economics major. EC 499A represents the preliminary stages of an integrative senior seminar for all economics majors, and includes topic identification and development for the senior research project, and preparation for the economics comprehensive examination (MFT).  
**Offered fall semester only.**

**499B. INDIVIDUAL RESEARCH PROJECT IN ECONOMICS II 3 cr.** Prerequisite: satisfactory completion of EC 499A or permission of chair. Completion of a faculty-supervised research project, including multiple drafts and a presentation of the student's work. The writing process satisfies the University designation AW, the oral presentation satisfies the University designation OP, and the project itself satisfies the capstone requirement for the Economics major.  
**Offered spring semester only.**

# Education and School Psychology (ED)

*Associate Professors:* J. E. Jenkins, M. G. Storz (Chair), D. Shutkin, G. A. DiLisi, J. L. Rausch, , R. A. Allen, A. Moses, Y. Shang, ; *Assistant Professors:* D. Reynolds, M. Schauer, L. M. Shoaf.

The department offers an undergraduate major in education. Students who successfully complete a teacher education program in Early Childhood or Middle Childhood earn a bachelor of arts degree. Students who successfully complete a teacher education program in Adolescent Young Adult earn a bachelor of arts with a primary major in English, History, or Teaching of Mathematics with a secondary major in Education. Students successfully complete a teacher education program in Adolescent Young Adult earn a bachelor of science with a primary major in Biology, Chemistry or Physics. The education major consists of the teacher education program, which is designed to prepare students to meet the standards for Ohio teacher licensure. It is accredited by the Council for the Accreditation of Educator Preparation (CAEP); approved by the Ohio Department of Higher Education (ODHE).

The teacher education program prepares candidates for careers in one of three teaching licensure areas, offered as three concentrations within the education major:

Early Childhood (EC), Pre-K to 3<sup>rd</sup> grade and ages 3 through 8.

Middle Childhood (MC), 4<sup>th</sup> grade to 9<sup>th</sup> grade and ages 9 through 14.

Adolescent/Young Adult (AYA), 7<sup>th</sup> grade to 12<sup>th</sup> grade and ages 12 through 21. (For candidates in the AYA concentration, the academic subject area is the primary major, and Education is the secondary major.)

A unique aspect of the Teacher Education program is the professional development of pre-service candidates at John Carroll University. All candidates participate in a full academic year clinical experience in one school for both Pre-Student Teaching and Student Teaching. Pre-Student Teaching offers the opportunity to reflect, question, and continue with weekly experiences in one school that culminates in Student Teaching.

To qualify for the four-year Resident Educator license, the candidate must successfully complete the Teacher Education program and pass the appropriate exams mandated by the State of Ohio. Fees for required program and state assessments are paid by the student.

All teacher licensure candidates must submit to fingerprinting and background checks by government investigative agencies each year of their course of study.

*Note:* Licensure programs are subject to change based on recommendations of external accrediting bodies, e.g., Specialized Professional Associations (SPAs), the ODHE, and CAEP.

Program coordinators, faculty, and administrative staff counsel all undergraduate students interested in education as a major and/or license. Prospective education majors may be assigned an academic advisor in the Department of Education and School Psychology as their first-year/sophomore academic advisor. Prospective students interested in AYA licensure have an advisor in education and in their major field. Candidates must work closely with an advisor to complete a licensure program and/or a major in four years of full-time study. Those who declare an education major later in their academic program may expect to spend additional time completing requirements. Advisement forms and the Teacher Education Handbook are available at <http://sites.jcu.edu/education/>.

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## MISSION AND PROGRAM LEARNING GOALS

### Mission

The mission of the Department of Education and School Psychology is to provide educational leadership for a more just society in schools and community agencies. This mission is grounded in the Jesuit mission of the University and Jesuit history. The meaning and scope of the mission reflect all professional preparation programs housed within this academic unit.

To achieve its mission the department is committed to the following goals:

- To provide professional education in a liberal arts context.
- To foster a respectful, inclusive learning community sensitive to all dimensions of diversity.
- To focus on personal as well as professional development of the individual.
- To emphasize teaching that is anchored in a strong research base.
- To instill the Jesuit ideal of an educator in our candidates.

### **Program Learning Goals for Education and School Psychology**

#### Contexts

- I-1. Understands the central concepts, tools of inquiry, competing perspectives, and structure of the disciplines taught.
- I-2. Recognizes the value of understanding the interests and cultural heritage of each student.
- I-3. Plans instruction based on knowledge of subject matter, students, the community, and curriculum goals.
- I-4. Creates a learning environment of respect and rapport.

#### Learner Development

- II-5. Understands how children/youth develop and learn.
- II-6. Provides learning opportunities that acknowledge and support the cognitive and social development of learners.
- II-7. Understands how learners differ in their approaches to learning.
- II-8. Demonstrates flexibility, responsiveness, and persistence in adapting to diverse learners.

#### Practice

- III-9. Understands and uses a variety of instructional strategies; designs coherent instruction.
- III-10. Creates a learning environment that encourages social interaction, active engagement, and self-motivation.
- III-11. Uses knowledge of communication techniques to foster active inquiry, collaboration, and supportive interaction.
- III-12. Understands and uses formative and summative assessment approaches and strategies.

#### Person

- IV-13. Reflects on professional practices.
- IV-14. Fosters relationships with colleagues, parents, and agencies in the larger community.
- IV-15. Grows and develops professionally.

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### **Admission to Teacher Education**

Interested students must apply to and be accepted into the Teacher Education program prior to registration in upper-division education courses. An applicant must have taken, or be enrolled in, ED 100, ED 200 (for EC), ED 202 (for MC/AYA) and ED 253 at the time of application for admission. Students may not take any additional course work beyond ED 100, ED 200 (for EC), ED 202 (for MC/AYA), and ED 253 unless they are formally admitted to teacher education. Those accepted into the AYA licensure program must also be subsequently accepted into a departmental major, e.g., history, English, mathematics, chemistry.

For undergraduates, Teacher Education application is typically made during the semester in which ED 253 is taken, usually in the sophomore year. Application forms are available on the department's website, <http://sites.jcu.edu/education>.

Applicants for Teacher Education are evaluated by faculty and Teacher Education program coordinators on the basis of the admission criteria. **The department faculty approve all admissions to Teacher Education.**

## Admission Criteria and Decision

**Accepted**—Student may begin or continue taking Education courses toward program completion. This classification is given if all of the listed criteria are met. Once accepted into the Teacher Education program, the student is called a candidate.

### Criteria

1. Academic Record
  - 2.7 overall GPA
  - 2.7 education GPA based on **one or more of the following courses:** ED 100, ED 200, ED 202 and possibly ED 253
  - 2.7 content-area GPA
2. No or limited concerns regarding **oral and written communication based on course performance (EN 125, COM 125, ED 100, ED 200, ED 253) and interview process.**
3. No or limited concerns regarding dispositions for teaching **based on instructor observations in courses and field experiences.**
4. Successful criminal background check (i.e., Bureau for Criminal Investigation [BCI] and FBI).

**Accepted Conditionally**—Students may continue taking courses toward teacher licensure. This decision applies if criterion 1, 2, or 3 is not met.

### Criteria

1. Academic Record:
  - 2.3 – 2.7 overall GPA
  - 2.0 – 2.7 education GPA based on ED 100, ED 200, ED 202 and possibly ED 253
  - 2.0 – 2.7 content-area GPA for MC and AYA only
2. Some concerns regarding **oral and written communication based on course performance (EN 125, COM 125, ED 100, ED 200, ED 202, ED 253) and interview process.**
3. Some concerns regarding dispositions for teaching **based on instructor observations in courses and field experiences.**

*Note:* Conditional acceptance may be given for **up to two semesters, including the semester in which the student applies.** Depending on the student's performance in meeting the conditional acceptance criteria, an extended timeframe for program completion or dismissal from the program may result.

**Reject**—Student is not eligible for admission to Teacher Education. This decision applies if any of the following conditions is evidenced::

1. Criterion 4 (BCI & FBI check) is not met;
2. Criterion 1 (GPA) is not met
3. Significant concern regarding dispositions for teaching based on instructors' observations in coursework or field experiences.

### Appeal Process:

Due process is available to applicants who wish to appeal their classification. First, applicants should discuss the matter with their advisor. After this discussion, if applicants wish to pursue an appeal, they should do so in writing to the Teacher Education Program coordinators within thirty (30) days of notification of classification. If further action is required, an appeal may be made to the department chair.

### Grade Policy

1. A grade of C or higher is required in all education courses. A grade of C- or lower requires repeating the course, and the applicant should schedule a meeting with the advisor or Teacher Education Program coordinators to discuss progress in the program.
2. A grade of C- or lower in a course in the teaching field will be reviewed by the Teacher Education coordinators and the department chair to determine an appropriate course of action.

3. A minimum GPA of 2.7 is required throughout the program for the overall GPA, education GPA, and content areas.
4. Early Childhood candidates must receive grades of C or higher in all curriculum-content course work for licensure, e.g., AR 171, MT 175, MT 176, and ED 356.

### **Major Requirements**

The ED major includes course work in professional and pedagogical studies and disciplinary content; and culminates in the professional year. Many of the University Core courses may also fulfill program licensure requirements. Professional and pedagogical studies provide a planned sequence of courses that develop knowledge about education. A minimum of two-thirds of the credit hours in professional education studies must be earned at John Carroll University. The disciplinary content courses prepare pre-service teachers for their specific licensure area.

### **Professional and Pedagogical Studies**

Professional and pedagogical studies provide a planned sequence of courses that develop knowledge about education, for example, its social and historical foundations, and foster understanding and use of the principles of effective teaching. The following courses are common to all licensure areas (EC, MC, and AYA):

ED 100 Introduction to Education .....	3 cr.
ED 253 School and Society .....	3 cr.
ED 350 Multicultural Education in a Pluralistic Society .....	3 cr.
ED 386 Educational Technology .....	3 cr.
ED 405 Seminar in Teaching.....	3 cr.
ED 415 Educational Procedures for the Exceptional Child.....	3 cr.
ED 444 Student Teaching Internship.....	9 cr.

### **Early Childhood (EC) Specific Professional and Pedagogical Studies and Curriculum and Content**

The Early Childhood program develops expertise in working with children from ages 3 through 8 and pre-kindergarten through grade three. Candidates who earn an Early Childhood License may take the appropriate course work and state-mandated exams to earn the Early Childhood (4/5) Generalist Endorsement.

### ***Specific Professional and Pedagogical Studies required for Early Childhood Education***

ED 200 The Young Child: Development from Birth to Age 8 .....	3 cr.
ED 201 Learning, Assessment, and Individual Differences .....	3 cr.
ED 224 Educating and Caring for Young Children.....	3 cr.
ED 225 Assessment of Young Children and Their Families .....	3 cr.
ED 325 Developmentally Appropriate Curriculum and Methods .....	3 cr.
ED 331 Integrated Early Childhood Methods I: STEM .....	3 cr.
ED 332 Integrated Early Childhood Methods II: Social Studies .....	2 cr.
ED 333 Integrated Early Childhood Methods III: Movement and the Arts.....	1 cr.
ED 334 Integrated Methods Clinic .....	2 cr.
ED 334L Integrated Methods Clinic Lab .....	0 cr.
ED 255 Literacy Across the Curriculum .....	3 cr.
ED 355 Language Study and Phonics 3 cr.ED 456 Literacy Assessment and Intervention	3 cr.
ED 457 Literacy Methods Practicum.....	3 cr.

### ***Early Childhood Curriculum & Content (Licensure requirements) (16 credit hours)***

The disciplinary content courses prepare pre-service teachers of young children (ages 3 – 8) for professions in pre-school and school settings, grounded in developmentally appropriate practice, and responsive to individual differences and needs.

MT 175 Foundation of Elementary Mathematics .....	3 cr.
AR 171/AR 171L Interdisciplinary Science .....	3 cr.
ED 356 Children's Literature .....	3 cr.

MT 176 Topics in Early Childhood Mathematics .....4 cr.

***Early Childhood (4/5) Generalist Endorsement for Early Childhood Candidate (9 credit hours) and 50 hour field component***

ED 414 Middle School Education Philosophy and Instruction.....3 cr.  
ED 424A Middle Childhood Curriculum and Content Methods-  
Math and Science .....3 cr.  
ED 424B Middle Childhood Curriculum and Content Methods-  
Language Arts and Social Studies.....3 cr.

***Middle Childhood (MC) Specific Professional and Pedagogical Studies and Disciplinary Content***

The Middle Childhood program develops expertise in teaching students from ages 8 through 14 and grades four through nine. This program prepares middle-childhood educators in two of four content areas: language arts, math, science, and social studies.

***Specific Professional and Pedagogical Studies required for Middle Childhood Education***

ED 202 Adolescent and Young Adult: Learning and Development.....3 cr.  
ED 255 Literacy Across the Curriculum .....3 cr.  
ED 301 Educational Assessment .....3 cr.  
ED 330 Middle Childhood Education Philosophy and Instruction.....3 cr.  
ED 355 Language Study and Phonics.....3 cr.  
ED 424 Middle Childhood Curriculum and Content Methods .....4 cr.  
ED 424L Middle Childhood Curriculum and Content Methods Practicum.....0 cr.  
ED 456 Literacy Assessment and Intervention.....3 cr.  
ED 457 Literacy Methods Practicum.....3 cr.

***Middle Childhood Curriculum & Disciplinary Content (Licensure requirements) (2 curriculum content areas; number of credit hours varies by discipline)***

The curriculum and content courses of the Middle Childhood License prepare pre-service middle-level teachers to understand the unique nature of the middle-school environment and to organize the learning environment to respect developmental characteristics of middle-level students. Candidates are required to complete education and disciplinary content-area course work for two teaching areas, which include:

Language Arts (ED 424 plus 33-36 credit hours of specified course work in ED, EN and COM).  
Mathematics (ED 424 plus 22-24 credit hours of specified course work in MT and CS).  
Science (ED 424 plus 18 credit hours of specified course work in BL, CH, and PH).  
Social Studies (ED 424 plus 24 credit hours of specified course work in EC, PO, SC, and HS).

***Note:***

1. An overall GPA of 2.7 or higher must be maintained in disciplinary content-area course work for Middle Childhood and Adolescent/Young Adult Licensure.
2. Undergraduate candidates who complete less than one-half of disciplinary content course work at John Carroll will be required to pass the state assessment in the content area as a prerequisite for both student teaching, and the Middle Childhood and Adolescent/Young Adult Licensure.
3. Specific course work for each of the content areas may be found on the department's website.

***Adolescent/Young Adult (AYA) Specific Professional and Pedagogical Studies and Disciplinary Content***

The Adolescent/Young Adult candidate prepares to work with adolescents from ages 12 through 21 and grades seven through twelve in a specific content area. ED majors enrolled in the AYA concentration also complete a major in their content area. The disciplinary content area is the student's primary major, and the ED major with

AYA concentration is the secondary major. Through completing the two majors the student prepares for the teaching content area (left column) and for licensure in teaching the AYA concentration (right column).

Candidates may be licensed in at least one of the following teaching fields:

### **Primary Content Area Major**

English (48 semester hrs.)  
 History (54 semester hrs.)  
 Mathematics Teaching (37 semester hrs.)  
 Chemistry major/Biology minor (86-90 semester hrs.)  
 Biology (72-78 semester hrs.)  
 Chemistry major/Physics minor (94-99 semester hrs.)  
 Physics (66 semester hrs.)  
 Chemistry (55-56 semester hrs.)  
 Biology major/Chemistry minor (86-90 semester hrs.)

### **Secondary ED Major/AYA Concentration Licensure Area**

Integrated Language Arts  
 Integrated Social Studies  
 Integrated Math  
 Chemistry/Life Science  
 Life Science  
 Physical Science: Chemistry/Physics  
 Physics  
 Chemistry  
 Life Science/Chemistry

### ***Specific Professional and Pedagogical Studies required for Adolescent/Young Adult Education***

ED 202 Adolescent and Young Adult: Learning and Development.....3 cr.  
 ED 255 Literacy Across the Curriculum ..... 3cr.  
 ED 301 Educational Assessment .....3 cr.  
 ED 337 Adolescent Education Special Methods .....3 cr.  
 ED 427 Adolescent Education Special Topics .....3 cr.  
 ED 427L Adolescent Education Special Topics Practicum.....0 cr.

### ***Adolescent and Young Adult Disciplinary Content (Licensure requirements)***

The disciplinary content courses of the Adolescent and Young Adult License equip the pre-service secondary school teachers with the capacities and commitments to promote individual development and civic connection within and across diverse settings.

Students interested in AYA licensure major in education and also must major in an academic subject area and may need to complete additional courses specific to the discipline-area license. During the initial semesters, students should plan to complete Core requirements. Where possible, they should take courses that simultaneously meet the requirements of the University core, their disciplinary major, and/or AYA program requirements. These program requirements are subject to change based on the SPAs and Ohio Department of Education requirements.

#### ***Note:***

1. For the AYA license, an overall GPA of 2.7 or higher must be maintained in disciplinary content course work.
2. For the AYA license, undergraduate candidates who complete less than one-half of content-area course work at John Carroll will be required to pass the state assessment in the content area as a prerequisite for student teaching.

### **Professional Year of Clinical Practice**

The professional year is a unique aspect of the professional development of pre-service candidates at John Carroll University. All candidates participate in a full academic-year of clinical experience in one school for both pre-student teaching and student teaching. Pre-student teaching offers the opportunity to reflect, question, and continue with weekly classroom experiences that culminates in student teaching. As a requirement of the pre-student teaching and student teaching experiences, candidates meet on a regular basis in conference with the cooperating teacher and University supervisor to discuss teaching practice, receive feedback on areas for improvement, and

continue to develop as a future educator. Successful completion of pre-student teaching is a pre-requisite to student teaching.

### **Pre-Student Teaching**

The candidate applies two semesters before the projected student teaching semester. The pre-student teacher is assigned a cooperating teacher in one or more of his/her intended licensure and content areas. In addition, a University supervisor is assigned to each pre-student teacher.

Candidates for pre-student teaching are evaluated by the TE program coordinator and the chair on the basis of the following criteria:

1. Course work
  - A. Minimum GPAs
    - 2.7 overall
    - 2.7 in education courses
    - 2.7 in content areas for MC and AYA only
  - B. All course requirements have been completed or will be completed prior to student teaching.
2. Application to pre-student teaching, faculty interview, and resume.
3. No or limited concerns regarding dispositions for teaching **based on instructor observations in courses and field experiences.**

Decisions: Accept; Accept Conditionally

1. Accepted – candidate may proceed with pre-student teaching
2. Accepted Conditionally – Candidate meets with TE Coordinators to develop an intervention plan. All requirements in the intervention plan must be successfully met in order to proceed with student teaching. Candidate may continue taking courses toward teacher licensure. The decision applies when one or more of the listed criteria is evidenced.
  - i. Academic Record:
    - 2.5 – 2.7 overall GPA
    - 2.5 – 2.7 education GPA
    - 2.5 – 2.7 content-area GPA
  - ii. Some concerns regarding oral and written communication based on course performance and interview process.
  - iii. Some concerns regarding dispositions for teaching based on instructor observations in courses and field experiences.

### **Student Teaching**

During the pre-student teaching semester, each candidate applies for student teaching. In planning programs, candidates and advisors should be aware that student teaching is more demanding than course work. Therefore, candidates should schedule no more than the required 12 hours of education credit during the professional semester, including student teaching.

Approval is granted by the Council on Teacher Education and requires that the candidate has:

1. The following minimum GPAs:
  - 2.7 overall
  - 2.7 in education courses
  - 2.7 in teaching content area(s) for MC and AYA only
2. Successfully completed all clinical and field requirements for each course.

3. Completed all course requirements, education and disciplinary content area(s). Requests for one additional course beyond 12 hours during student teaching must be submitted in writing to the Council on Teacher Education as part of the application for student teaching.
4. Obtained a recommendation to continue into student teaching by the cooperating teacher and University supervisor through completion of the Final Evaluation Form
5. Demonstrated teaching practices that provide evidence of the department's dispositions for the teaching profession.

*Note:*

Admission to student teaching does not guarantee successful completion of the student teaching experience. Upon successful completion of all program requirements, the student may apply for the bachelor's degree. Upon successful completion of all program requirements and appropriate state licensure exams, the student may apply to the Ohio Department of Education for the Resident Educator License.

### **Program Assessment Points**

The program has several assessment points:

1. Admission to the University.
2. Application and acceptance into the Teacher Education program and approval by the faculty.
3. Ongoing evaluation of the candidate's course work, clinical and field experiences, and evidence of appropriate dispositions for the teaching profession based on instructor observations in courses and field experiences.
4. Application and acceptance into the Pre-Student Teaching semester, placement in an intensive field-based pre-student teaching experience with University supervision in preparation for student teaching and approval by the TE coordinators and department chair.
5. Application and admission to the professional semester for Student Teaching, and approval by the Council on Teacher Education.
6. Exit assessments to meet program requirements, i.e. edTPA.

*Note:* Other policies and procedures applying to teacher education candidates and the teacher education program may be found in the department's Teacher Education Handbook found on the department's website.

**100. INTRODUCTION TO EDUCATION 3 cr.** Prerequisite for admission to teacher education. Emphasis on self-evaluation as a teacher. Introduction to critical issues in education, the person as a teacher, criteria for effective teaching, and effective school settings. Includes a field experience component. Lab fee required.

**101. MAKING SENSE OF DATA 3 cr.** Provides an introduction to applied statistical reasoning. Focuses on key ideas and principles of collection, display, and analysis of data in the examination of inquiry and evaluation processes used in education and behavioral sciences investigations.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance.

**200. THE YOUNG CHILD: DEVELOPMENT FROM BIRTH TO AGE 8 3 cr.** Prerequisite: ED 100. Understanding child development, birth through age 8, across key developmental domains and the role of home and early childhood environments on development. Examination of similarities and differences between individuals and between social and cultural contexts as they impact development. May include fieldwork in diverse early childhood settings. Does not require admission into TE Programs.

**201. LEARNING, ASSESSMENT, AND INDIVIDUAL DIFFERENCES 3 cr.** Prerequisites: ED 100, 253, and formal admission to teacher education. Behavioral and cognitive learning theories, complex cognitive processes, motivation in learning and teaching. Classroom assessment, evaluation, and standardized testing. Consideration of student differences (i.e., culture, cognitive differences, and exceptionalities) and how such differences affect assessment, motivation, and learning.

**202. THE ADOLESCENT AND YOUNG ADULT: LEARNING AND DEVELOPMENT 3 cr.** Focuses on topics, developmental theories, and educational strategies that apply to the age ranges of middle childhood, adolescent, and young adult. Topics include learning theories and neuropsychological development to help students

learn to integrate research and theory into their teaching decisions. Field component allowing students to observe developmental theories in real-world settings.

**224. EDUCATING AND CARING FOR YOUNG CHILDREN 3 cr.** Prerequisites: ED 100, 253, and formal admission to teacher education. Introduction to past and present models of early childhood education, to becoming an early childhood professional, and to the concept of developmentally appropriate practice. Includes an introduction to making ethical decisions when working with children, their families, and colleagues. Particular focus on the role of play in early childhood education. Fieldwork in diverse early childhood settings.

**225. ASSESSMENT OF YOUNG CHILDREN AND FAMILIES 3 cr.** Prerequisites: ED 100, 253, and formal admission to teacher education and Early Childhood licensure. Creating, selecting, and using appropriate informal and formal assessments to understand and plan for young children's development and learning across domains. Discussion of techniques for collecting, analyzing, and using assessment information. Fieldwork in diverse early childhood settings.

**253. SCHOOL AND SOCIETY 3 cr.** Prerequisite for admission to teacher education. Foundations of education examined through historical, sociological, and philosophical perspectives to provide a comprehensive understanding of American education and related educational issues in a diverse society. Lab fee required.

**255. LITERACY ACROSS THE CURRICULUM 3 cr.** Prerequisites: ED 100, 253, and formal admission to teacher education. Literacy development examined through psychological, sociocultural, and historical perspectives. Examines literacy as an interactive, problem-solving process. Strategies that foster critical thinking, active engagement, and social interaction in the teaching of reading, writing, speaking, and listening across the curriculum. Includes field experience. Field assignment related to licensure and content area. Lab fee required.

**301. EDUCATIONAL ASSESSMENT 3 cr.** Prerequisites: ED 100, 253, and formal admission to teacher education. Principles of quality formative and summative classroom assessment. Examining differentiated assessments and feedback for different types of learners. Using data-based decision making and analyzing assessment data to examine instructional impact on student outcomes. Introduction to educational accountability, student growth models, and teacher evaluation systems.

**325. DEVELOPMENTALLY APPROPRIATE CURRICULUM AND METHODS 3 cr.** Prerequisites: ED 100, 225, 253, and formal admission to teacher education and Early Childhood licensure. Using child development principles, research-based practices and standards to inform planning, instruction, and assessment as well as interactions with families. Further discussion of developmentally appropriate practice, particularly in effective planning and teaching strategies. Includes an introduction to integrated curriculum and an anti-bias education approach. Fieldwork in diverse early childhood settings. Lab fee required.

**330. MIDDLE CHILDHOOD EDUCATION PHILOSOPHY AND INSTRUCTION 3 cr.** Prerequisites: ED 100, 253; prerequisite or corequisite: PS 262; and formal admission to teacher education and Middle Childhood licensure. Historical development, goals, and philosophy, and mission of middle-level education. Planning and managing, developmentally and culturally responsive instruction, and the use of organizational elements, such as interdisciplinary team, flexible scheduling, and grouping. Includes middle-level field experience.

**331. INTEGRATED EARLY CHILDHOOD METHODS I: STEM 2 cr.** Corequisites with ED 332 and 333, and application of course content during corequisite clinical practicum, ED 334. Examination of approaches to plan, teach, and assess for the development of young children's scientific, technological, engineering and mathematical knowledge and skills from preschool through grade 3. Focus on using in-depth content knowledge and an integrative approach across the disciplines.

**332. INTEGRATED EARLY CHILDHOOD METHODS II: SOCIAL STUDIES 2 cr.** Corequisite with ED 331 and 333, and application of course content during corequisite clinical practicum, ED 334. Focuses on planning, teaching, and assessing in order to promote young children's knowledge and skills in the social studies. Focus on applying in-depth content knowledge as well as integration across the disciplines.

**333. INTEGRATED EARLY CHILDHOOD METHODS III: MOVEMENT AND THE ARTS 2 cr.**

Corequisite with ED 331 and 332, and application of course content during corequisite clinical practicum, ED 334. Investigation of the planning and implementation of instruction and activities related to physical development, health and nutrition, and safety, in addition to instruction and activities promoting skills in and knowledge of the arts (art, music, theatre, etc.).

**334. INTEGRATED METHODS CLINIC 2 cr.** Corequisite with ED 331, 332, and 333. Supervised opportunities to apply principles of an integrated, developmentally appropriate curriculum and methods across the content areas of mathematics, science, social studies, physical education, and language arts. Lab fee required.

**334L. INTEGRATED METHODS CLINIC PRACTICUM 0 cr.** Corequisite: ED 334. Early Childhood teacher candidates will be required to observe, practice, and reflect on approaches to appropriate curriculum and methods as part of pre-student teaching (PST) experience. PST requires one full day (or equivalent) per week in an early childhood classroom.

**337. ADOLESCENT EDUCATION SPECIAL METHODS 3 cr.** Prerequisites: ED 100, 253, and formal acceptance into teacher education. Prerequisite for ED 427 and admission to Pre-Student Teaching. For Adolescent licensure program students. General methods and specific content-area methods for planning, implementing, and integrating curriculum, evaluating pupil achievement, and teaching to individual differences. Emphasis on strategies related to effective teaching and learning in each licensure content area. Lab fee required.

**350. MULTICULTUAL EDUCATION IN A PLURALISTIC SOCIETY 3 cr.** Cultural, racial, ethnic, socioeconomic, gender, and individual differences and their effects on American education and society studied from sociological, historical, and philosophical perspectives. Development of human-relations skills to address issues of diversity and social justice.

**355. LANGUAGE STUDY AND PHONICS 3 cr.** Prerequisite or corequisite: ED 255. Examines language development in various stages across the life span. Language development with focus on the grapho-phonemic, syntactic, semantic, and pragmatic systems as they relate to literacy instruction. Examination of relevant topics such as literacy development, phonemic awareness, metalinguistic awareness, , and lexical knowledge. Includes field experience.

**356. CHILDREN'S LITERATURE 3 cr.** For early childhood licensure program students. Critical analysis of various genres of literature for children focusing on multicultural literature and the relevance of literature across disciplines.

**357. ADOLESCENT LITERATURE 3 cr.** Critical analysis of the genres of adolescent literature with emphasis on major authors. Themes related to intellectual, social, cultural, and political issues, and the role of adolescent literature in the traditional language-arts curriculum. Required for students in AYA Integrated Language Arts Licensure and Middle Childhood with Language Arts concentration.

**380. SPECIAL PROJECTS OR FIELDWORK PLACEMENT 1-3 cr.** each semester. Prerequisite: permission of department. Special field placements for teacher licensure students.

**386. EDUCATIONAL TECHNOLOGY 3 cr.** Prerequisite: formal acceptance into the teacher education program; corequisite: ED 325 or ED 330 or ED 337. Principles and techniques affecting technology in educational contexts. Includes exploration of emerging technologies and selection, production, and integration of educational materials. Lab fee.

**405A. EARLY CHILDHOOD EDUCATION SEMINAR 3 cr.** Corequisites: ED 444A and admission to the professional semester. Integrates entire preservice preparation. Draws on past and current field experiences and course work to further explore topics related to early childhood education toward developing a coherent model of teaching children ages 3 – 8. Lab fee required.

**405B. MIDDLE CHILDHOOD EDUCATION SEMINAR 3 cr.** Corequisites: ED 444B and admission to the professional semester. Middle-level teacher's role of providing academic, social, career, and personal advisement to

young adolescents as well as working collaboratively with colleges, families, resource persons, and community groups. Understanding the role of activity programs and their place in a middle-level curriculum. Lab fee required.

**405C. ADOLESCENT EDUCATION SEMINAR 3 cr.** Corequisites: ED 444C; admission to the professional semester. Continued study of adolescent development, learner achievement, and assessment. Integrates program learning with student teaching experience. Development of the professional portfolio and preparation for job interviewing. Lab fee required.

**414. MIDDLE CHILDHOOD EDUCATION PHILOSOPHY AND INSTRUCTION 3 cr.** Historical development, goals, philosophy, and mission of middle-level education. Planning and managing, developmentally and culturally responsive instruction, and use of organizational elements such as interdisciplinary team, flexible scheduling, and grouping. Includes middle-level field experience. For Early Childhood Education candidates pursuing 4-5 Endorsement.

**415. EDUCATION PROCEDURES FOR THE EXCEPTIONAL CHILD 3 cr.** Formation of skills in curriculum development, grouping, special procedures, planning, educational diagnosis, and other techniques suitable for working with a specified population of exceptional children. Requires work with students and parents in field settings.

**424. MIDDLE CHILDHOOD CURRICULUM AND CONTENT-SPECIFIC METHOD 3 cr.** Prerequisites: ED 330 and acceptance into pre-student teaching. Specific content-area methods for planning, implementing, and integrating curriculum, assessing student achievement, and teaching to individual differences. Taken concurrently with pre-student teaching. Lab fee required.

**424L. MIDDLE CHILDHOOD CURRICULUM AND CONTENT-SPECIFIC METHODS PRACTICUM 0 cr.** Corequisite to ED 424. Middle Childhood teacher candidate will be required to observe, practice, and reflect on approaches to appropriate curriculum and methods as part of the pre-student teaching (PST) experience. The PST requires one full day (or equivalent) per week in a middle childhood classroom with time spent divided between the candidate's two areas of concentration.

**424A. MIDDLE CHILDHOOD CURRICULUM AND CONTENT METHODS: MATH/SCIENCE 3 cr.** Specific content-area methods for planning, implementing, and integrating curriculum, assessing student achievement, and teaching to individual differences. Focus on math and science content in grades 4 and 5. Blended online and campus-based course. For Early Childhood Education candidates pursuing Grades 4-5 Endorsement.

**424B. MIDDLE CHILDHOOD CURRICULUM AND CONTENT METHODS: SOCIAL STUDIES AND LANGUAGE ARTS 3 cr.** Specific content-area methods for planning, implementing, and integrating curriculum assessing student achievement, and teaching to individual differences. Focus on social studies and English language arts content in grades 4 and 5. For Early Childhood education candidates pursuing Grades 4-5 Endorsement.

**427. ADOLESCENT EDUCATION SPECIAL TOPICS 3 cr.** Prerequisites: ED 337 and acceptance into pre-student teaching. Practical application of issues to pre-student teaching field setting. Taken by adolescent and PE licensure program students the semester preceding student teaching. Topics include lesson design, implementation, and assessment through the lens of culturally responsive practices. Taken concurrently with prestudent teaching. Lab fee required.

**427L. ADOLESCENT SPECIAL TOPICS PRACTICUM 0 cr.** Corequisite: ED 427. Adolescent Young Adult teacher candidates will be required to observe, practice and reflect on approaches to appropriate curriculum and methods as part of the pre-student teaching (PST) experience. The PST requires one full day (or equivalent) per week in a high school classroom.

**444A. EARLY CHILDHOOD EDUCATION INTERNSHIP 9 cr.** Corequisites: ED 405A and admission to the professional semester. Develops the special knowledge and competencies required of pre-K to 3<sup>rd</sup>-grade teachers through observation and teaching in early childhood settings and classrooms under the joint supervision of University and school personnel. Requires a full-time, full-semester placement at an early childhood setting. Lab fee required.

**444B. MIDDLE CHILDHOOD EDUCATION INTERNSHIP 9 cr.** Corequisites: ED 405B and admission to the professional semester. Full-time student teaching in a middle-level setting under the supervision of a qualified teacher and a University supervisor. Lab fee required.

**444C. ADOLESCENT EDUCATION INTERNSHIP 9 cr.** Corequisites: ED 405C and admission to the professional semester. A full-day semester of teaching in an accredited secondary school under the direction of a classroom teacher qualified in the content area and a University supervisor. Supervision includes personnel with advanced training in the relevant content area. Lab fee required.

**456. LITERACY ASSESSMENT AND INTERVENTION 3 cr.** Prerequisites and/or corequisites: ED 255 and 355. In-depth examination of formal and informal tools for assessing literacy development with emphasis on planning, implementing, and evaluating intervention strategies. Includes field experience.

**457. LITERACY METHODS PRACTICUM 3 cr.** Prerequisites: ED 255, 355, 456. Practicum experience that includes advanced examination of various literacy methods and techniques for instructional planning and development of intervention plans based on assessment and diagnosis of reading abilities. Site-based course. Includes tutoring within a practicum setting.

**480. SPECIAL TOPICS 1-6 cr.** Prerequisite: permission of department chair. In-depth study of a topic in workshop form or as an individual project under supervision.

# Entrepreneurship (ER)

*Professors:* J. J. Schmidt (Director), N. Piracha, D. Mascotti; *Associate Professors:* M. P. Lynn, R. Greci;  
*Assistant Professors:* S. B. Moore (Associate Dean), D. Winkel (Kahl Chair)  
*Executive Professor:* T. Bonda

Intentionally designed for students from all majors, the Entrepreneurship minor has programs for business, STEM, and liberal arts students. By combining your major with entrepreneurship you have the opportunity to study what you are passionate about while

- learning how to generate ideas and develop your creativity,
- get hands-on experience working in teams on real-life business and social problems,
- build professional networks at JCU and in the community, and
- launch your ideas.

A recent study by the World Economic Forum identified entrepreneurial skills like creativity, complex problem solving, emotional intelligence, and cognitive flexibility as the most critical skills for the future workplace.

People who are curious and creative, can spot opportunities in their environment, create solutions, and communicate them effectively are valuable in any field or organization.

This program provides a home where we guide curious students as they identify and solve big problems using their innate creativity and passion.

Both *U.S. News and World Report* and *Bloomberg Business Week* have recognized the JCU entrepreneurship program as a top 25 program nationally. All classes in the minor take place in the Burton D. Morgan Creativity and Entrepreneurship Classroom, a new space designed to enhance curiosity, creativity, and imagination. Students from the minor have several opportunities to develop their ideas:

- participate in several local, regional, and national competitions,
- receive coaching and mentoring through LaunchNET (*one of only five such programs in the country*),
- receive mentorship from the Entrepreneurs Association, a group of private business owners.

Faculty from the business, liberal arts, and STEM fields teach in the minor, offering a unique interdisciplinary opportunity. Required courses depend on the student's major.

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**Program Learning Goals in Entrepreneurship.** Entrepreneurship minors will:

1. Demonstrate understanding and application of design thinking and research.
2. Demonstrate understanding and application of customer development and research.
3. Analyze real-world problems using creative and critical thinking, and business modeling.
4. Demonstrate group collaborative skills.
5. Demonstrate persuasive oral and visual presentation.
6. Understand the ethical issues involved with entrepreneurial ventures.

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Minor Requirement
<p>The Liberal Arts and STEM track: ER 201, 301, 304, 305*, 306*, and 480 or 481. (18 hours)  *Open only to majors in Liberal Arts and STEM.</p> <p>The Business track: ER 201, ER 301 (or MHR 364), ER 304, (AC 201<sup>†</sup>, AC 202<sup>†</sup>, MK 301<sup>†</sup>) ER 480 or ER 481. (12 additional hours)  <sup>†</sup> Part of the Business Core for Business students or Business Minors</p>

**110. CREATIVE PROBLEM SOLVING 1 cr.** Develops creative ability and its application to problem solving. Uses experiential exercises and the lenses of visual, digital, and musical arts to create and present projects/ideas.

**115. QUANTITATIVE ANALYSIS IN SCIENCE, BUSINESS, AND HUMANITIES 3 cr.** Uses quantitative data sets to identify and recognize problems, analyze options, draw inferences, make decisions, and effectively represent and communicate results. Cases drawn from science, business, humanities, politics, and education. Discussion of the ethical collection, use, and representation of data.

**120. POVERTY AND SOCIAL ENTREPRENEURSHIP 3 cr.** Focuses on several major issues rooted in poverty and the difference between service and social entrepreneurship in working with these issues. Study and analysis of national and international social entrepreneurship projects related to poverty and the resources needed to implement a social enterprise.

**150. INTRODUCTION TO THE SOCIAL INNOVATION FELLOWS PROGRAM. 1 cr.** Prerequisite: Admission to the Social Innovation Fellows program. Learn about the program's curriculum and co-curriculum, about Ignatian history and values as they pertain to innovation and entrepreneurship, and what it means to think and act entrepreneurially.

**151. INTRODUCTION TO ENTREPRENEURIAL THINKING. 1 cr.** Prerequisite: Admission to the Social Innovation Fellows Program. During this class Social Innovation Fellows work together as a team to plan, organize, and execute a social innovation project at JCU.

**201. CREATIVITY, INNOVATION, AND DEVELOPMENT 3 cr.** Students practice creativity through techniques for improving the flexibility and originality of their thinking, thereby developing an entrepreneurial mindset. Using this mindset, students generate ideas and recognize problems worth solving using different creative approaches in various settings and fields. Students work with a team to develop an innovative solution to one of these problems, to identify an audience for it, and to communicate the solution to that audience.

**202. CREATIVITY, INNOVATION: SCIENCE AND INNOVATION 3 cr.** (coreq EPA 201) Students practice creativity through techniques for improving the flexibility and originality of their thinking, thereby developing an entrepreneurial mindset. Using this mindset, students work with a team to study issues and ideas related to the principles of basic physics in their EPA class and in this class develop ways to address these ideas (social or business), identify an audience for it, and communicate the idea. Students present their idea as a signature joint project for both classes. Equivalent to ER 201.

**203. CREATIVITY, INNOVATION: ENERGY 3 cr.** (coreq CH 173) Students practice creativity through techniques for improving the flexibility and originality of their thinking, thereby developing an entrepreneurial mindset. Using this mindset, students work with a team to study issues and ideas related to the principles of energy in their CH class and in this class develop ways to address these ideas (social or business), identify an audience for it, and communicate the idea. Students present their idea as a signature joint project for both classes. Equivalent to ER 201.

**204. CREATIVITY & INNOVATION: HEALTH 3 cr.** (coreq CH 171) Students practice creativity through techniques for improving the flexibility and originality of their thinking, thereby developing an entrepreneurial

mindset. Using this mindset, students work with a team to study issues and ideas related to the principles of health concepts in their CH class and in this class develop ways to address these ideas (social or business), identify an audience for it, and communicate the idea. Students present their idea as a signature joint project for both classes. Equivalent to ER 201.

**230. LAUNCHING THE SOCIAL INNOVATION VENTURE 3 cr.** Prerequisite: Instructor Permission, EN125. Experiential course in developing a new venture. Students work individually to create a manuscript (for a non-fiction book) in an area of interest using the key concepts needed to develop a start-up.

**301. INTRODUCTION TO ENTREPRENEURSHIP 3 cr.** Prerequisite: ER 201. This experiential course continues the process critical to the entrepreneurial mindset. Students will practice human-centered design processes, idea generation and validation, product prototyping, business design and modeling, customer development, and persuasive pitching. This course requires individual and team presentations.

**304. SOCIAL ENTREPRENEURSHIP 3 cr.** Prerequisites: ER 201 and ER 301 or MHR 364. Applies the skills developed in ER 301 to social enterprises. Introduces the meaning and importance of social entrepreneurship in the modern economy and demonstrates how entrepreneurial orientation can assist in the attainment of nonprofit and social objectives as a means to obtain social justice. Students work in teams to develop a social entrepreneurial project and then present it in oral and written form to entrepreneurs.

**305. ACCOUNTING & FINANCE FOR ENTREPRENEURS 3 cr.** Introduces accounting and finance concepts and fundamentals for an entrepreneurial venture or idea. Focuses on the money needed to start a venture, revenue and expense forecasting, and sources of start-up capital. Also covers business ownership options and issues, and ethical issues as they relate to entrepreneurial finance. (For Arts and Sciences Students.)

**306. ENTREPRENEURIAL MARKETING & SALES 3 cr.** Prerequisite: ER 301. Introduces marketing and sales concepts for entrepreneurial ventures, using real-life experiences and products to develop marketing and sales programs and to present them to entrepreneurs and business owners. Involves working in teams to develop marketing sales plans and the ability to present ideas in both oral and written form. (For Arts and Sciences Students)

**330. PROMOTING THE SOCIAL INNOVATION VENTURE 3 cr.** Prerequisite: ER 230 and instructor permission. Students take the manuscript created in ER 230 and develop a plan for promoting and marketing their book. Students completing the required activities will publish their books at conclusion.

**350. SOCIAL INNOVATION & ADVOCACY. 1 cr.** Prerequisite: Admission to Social Innovation Fellows Program. Discussing and studying social innovators and their advocacy efforts. Uses case studies and experiential exercises to understand and create advocacy movement around social innovation efforts.

**351. SELLING IDEAS. 1 cr.** Prerequisite: Admission to Social Innovation Fellows Program. Discussing and studying frameworks to mobilize resources around entrepreneurial and innovative ideas. Uses case studies and experiential exercises to design and execute resource mobilization plans for student ideas.

**399. SEMINAR/SPECIAL TOPICS IN ENTREPRENEURSHIP AND INNOVATION.1- 3 cr.** Topic will be announced in the semester course schedule.

**480. ENTREPRENEURSHIP FIELD EXPERIENCE 3 cr.** Prerequisite: permission of the academic director, completion of at least 12 hours of course work in the minor, including ER 305 or 306 (AC 202 or MK 301 for students on the Business track). A capstone course that uses and expands upon the entrepreneurial mindset and skills developed throughout the minor. Students complete a group project that involves the development of a new idea from conception to launch, the presentation of the idea to a group of entrepreneurs.

**481. ENTREPRENEURSHIP INTERNSHIP CAPSTONE 3 cr.** Prerequisite: Permission of the Academic Director, completion of at least 12 hours of courses in the minor, including ER 305 or ER 306 (AC 202 or MK301 for students on the Business track). A capstone course that involves directed and supervised work experience in organization on entrepreneurial ventures. Students will complete a final project and presentation.

**498. INDEPENDENT STUDY 1- 3 cr.** Prerequisite: permission of academic director, declared entrepreneurship minor. Supervised independent study in an area of entrepreneurship. Projects must be approved prior to registration.

# Exercise Science and Sports Studies (ESSS)

*Associate Professors:* K. M. Manning (Chair), G. S. Farnell; *Assistant Professors:* J. Nagle Zera, B. Turner;  
*Visiting Instructor:* J. Beiting; *Administrator:* B. C. Beigie

The majors in Exercise Science and Sports Studies (ESSS) are offered by the Department of Exercise Science and Sports Studies.

The Exercise Science and Sports Studies majors at John Carroll University are committed to the value and importance of physical activity in the lives of all people. To that end the department provides a comprehensive curriculum that encourages the development of knowledge, skills, and dispositions across the continuum of physical activity, including: 1) the PE 100-level physical activity curriculum; 2) the Exercise Science major; and 3) the Sports Studies major (see the Mike Cleary major in Sports Studies).

The Exercise Science and Sports Studies major programs are formation programs grounded in broad-based curriculums that provide depth of knowledge in the scientific foundations of human movement and human behavior as preparation for graduate school and multiple career opportunities, as well as a breadth of knowledge within the humanities, social sciences, philosophy and religion, integrated into the majors' curriculum through the liberal arts Core. The Exercise Science and Sports Studies majors are grounded in the dignity of the individual and promote goals and outcomes related to that dignity as well as the maximum achievement of individual potential.

## Overview of the Majors

**Exercise Science:** A focus on the fitness, movement, motor, and sports skills of diverse populations. The Exercise Science major provides candidates with the knowledge, skills, dispositions, fieldwork, practicum and internship experiences to enter into careers in fitness, wellness, and allied health. Upon graduation, Exercise Science majors have entered graduate programs in such areas as exercise physiology, athletic training, nutrition, nursing, occupational therapy, physical therapy, chiropractic, strength and conditioning, and personal fitness. Candidates may need additional prerequisite course work depending on the graduate program selected. One on one academic advising will assist the candidates in preparing an individualized academic program. Candidates interested in a career in a health or allied health profession should register with the director of Pre-Health Professions.

**Sports Studies:** The foundation of the Sport Studies Major is the study of how sport is presented as a product to the public; the study of sport as human behavior; and the study of sport from an individual and collective framework. The major has a focus on administration, management, planning, and implementation of sports programs as well as sports-related cognate areas such as marketing, management, and communications. The Sports Studies major provides candidates with the knowledge, skills, dispositions, fieldwork, practicum and internship experiences within a course of study responsive to their specific area of interest related to careers in sports and athletic administration, and sports, fitness, and wellness for diverse populations. For additional information on the Sports Studies major, see the Mike Cleary Major in Sports Studies.

Candidates interested in one of these majors are encouraged to meet with the department chair to map out an inclusive four-year plan for graduation.

The Department of Exercise Science & Sports Studies is committed to providing a progressive sequence of professional development opportunities for our candidates within courses, and specifically through fieldwork, practicum and internship experiences.

## The Unit Learning Outcomes ESSS propose to accomplish:

1. The development of knowledge, skills, and dispositions in the science of human movement and behavior through an integrated curriculum across content domains.
2. The development of expertise in the application of knowledge, skills, and dispositions within course, field, and internship experiences relevant to professional values and goals.

3. The development and implementation of communication skills across multiple domains, e.g., written, oral, and physical, that serve the primary role of conveying knowledge through implementation of practice, feedback, therapy, and ongoing support.
4. The development of problem-solving, critical thinking, and reflective practices indicative of a knowledge and evidence-based practice based on a framework of conceptual knowledge.
5. The development of appropriate professional behaviors as demonstrated through knowledge, skills, and dispositions within course work, fieldwork, practicums, internships, and professional opportunities.
6. The development of values-based, ethical behavior grounded in the liberal arts, observed through personal and professional behaviors, and representative of the Ignatian ideal of a leader in service to others.

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**Program Learning Goals in Exercise Science.** Students will demonstrate:

1. Knowledge of the structure and function of the human body.
2. Knowledge of history, philosophy, mission, personal and professional identity.
3. Knowledge of lifespan development, developmental disabilities, and developmental regression.
4. Knowledge of movement skills, motor skills, fitness skills, and sports skills development and learning.
5. Knowledge of health, lifestyle wellness, lifestyle disabilities, and working with diverse populations.
6. Knowledge of organization, leadership, and planning for a variety of situations.
7. Knowledge of research and the appropriate use of research in papers and projects, and for problem-solving and critical thinking.
8. Knowledge in applied settings.
9. Knowledge related to moral and ethical behavior for a movement professional.

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Major and Minor Requirements
<p><b>Major: Exercise Science.</b> 49-50 hours: EPA 201, 205/205L, 206/206L, 208, 229, 232, 407, 409, 412, 432, 435, 497, plus 4 elective courses selected from the Theory and Methods courses, or Sports Studies courses.</p> <p><b>Minor: Exercise Science.</b> 26 hours: EPA 205/205L, 206/206L, 208, 229, 407, 409, and two electives from the Theory and Methods courses.</p> <p><b>Major: Sports Studies</b> (see the Mike Cleary Major in Sports Studies).</p>

**Requirements for Acceptance and Continuation as an Exercise Science major:**

**Assessment of Academic Progress Includes:**

### 1. Application Process

- A formal meeting with the Chair for Exercise Science and Sports Studies.
- An evaluation of academic course work.
- The fulfillment of the following academic requirements:
  - 2.0 or higher major GPA
  - 2.0 or higher overall GPA

### 2. Acceptance Decisions

- **Accept:** Candidate may continue to take course work within the major course of study.

- **Conditional Acceptance:** Candidate may continue to take course work within the major course of study, but certain restrictions have been placed on continuation in the program. Conditional acceptance may remain in effect for no longer than one (1) academic year.
- **Defer:** Student is not accepted into the major at this point.

### 3. Continuation in the Major

- Student evaluations will be conducted each semester for continuation in the program.

### 4. Practicum

- Candidates must identify one, or more, practicum experiences that align with their professional and/or graduate school goals. The total practicum requirement is 50 hours.
- These hours are completed in relation to enrollment in EPA/ SPS 232 Research Methods.
- Candidates will register for EPA/SPS 232A for the semester in which they complete the practicum requirements.
- Approval of the practicum(s) experiences by the ESSS Director of Practicum and Internships must be obtained in writing prior to beginning the experience.
- Please consult the Practicum Handbook for specific details and required forms.

### 5. Capstone Experience: Internship

- Candidates must identify a specific 150 hour internship experience that aligns with intended professional and/or graduate school goals.
- Prior to the beginning of the internship, candidates are responsible for the following:
  - Completion of the 50 hour practicum requirement.
  - Meeting with the John Carroll internship director for approval of the specific internship experience.
  - Obtaining approval from the proposed internship site supervisor for completion of all internship requirements.
  - Registration in EPA 497A in the semester that the internship is completed, summer, fall or spring.
  - Completion and submission of all required formal documentation to the John Carroll internship director for final approval of the internship experience.
- Approval of the internship experience by the John Carroll internship director must be obtained in writing, prior to beginning the experience.
- Please consult the Internship Handbook for specific details and required forms.
- If a candidate is not approved for an internship, additional content-area course work will be substituted.

### 6. Exit Assessment

- Candidates for graduation will complete a formal exit interview in their final semester of course work.
- Candidates for graduation will complete a formal written program evaluation specific to their major.

## Physical Education Courses (PE)

### Activity Courses

**Note:** Students may apply a maximum of 4 Physical Education (PE 120–199) credits toward graduation requirements and, unless otherwise specified, no more than 8 credits from any combination of AR, CE, FA, or PE (120–199) courses. Credits from PE courses (120-199) may not be used to satisfy Core or major requirements.

**120. INTRODUCTORY SWIMMING 1 cr.** For the non-swimmer; based on the Red Cross learn-to-swim program.

**130. INTRODUCTION TO BASIC PHYSICAL CONDITIONING (MS130) 1 cr.** Introduction to the basics of physical conditioning and its benefits. Modeled on the U.S. Army method of increasingly challenging exercises to

build aerobic skills and endurance leading to enhanced physical fitness. Principal aspects of stretching, conditioning, and recovery. Also, cardiovascular and respiratory fitness, weight control, and stress control.

**131. ADVANCED PHYSICAL CONDITIONING (MS 131) 1 cr.** Builds on the student's knowledge of physical conditioning to increase physical fitness. Modeled on the U.S. Army method of increasingly challenging exercises to build aerobic skills and endurance leading to enhanced physical fitness. Principal aspects of stretching, condition, and recovery. Also, cardiovascular and respiratory fitness, weight control, and stress control.

**132. LEADERSHIP IN PHYSICAL TRAINING (MS 132) 1 cr.** Develops the ability to plan, organize, and lead a physical conditioning program and evaluate others conducting physical training. Uses the U.S. Army physical conditioning method.

**133. ADVANCED LEADERSHIP IN PHYSICAL TRAINING (MS 133) 1 cr.** Develops the ability to plan, organize, and lead a physical conditioning program and evaluate others conducting physical training. Uses the U.S. Army physical conditioning method.

**142. BEGINNING GOLF 1 cr.**

**143. INTERMEDIATE GOLF 1 cr.**

**144. WEIGHT TRAINING 1 cr.**

**145. JOGGING 1 cr.**

**146. BEGINNING TENNIS 1 cr.**

**147. INTERMEDIATE TENNIS 1 cr.**

**148. ADVANCED PHYSICAL PERFORMANCE 1 cr.** Involves learning about the different components of a comprehensive strength and conditioning program. Students gain knowledge and practice in the use of the different training modalities to increase individual athletic physical performance.

**161. RACQUETBALL 1 cr.**

**163. HANDBALL 1 cr.**

**170. BASKETBALL 1 cr.**

**174. VOLLEYBALL 1 cr.**

**176. PICKLEBALL 1 cr.**

**180. NUTRITION 1 cr.**

**199. SPECIAL TOPICS 1 cr.**

#### **Theory and Method Courses (EPA)**

**200. CURRENT HEALTH ISSUES 3 cr.** Current health issues affecting the daily lives of all people. Physical fitness, mental fitness, behavior, drugs, alcohol, STD, nutrition. Emphasis on current health research; discussion and application of course material.

**201. FOUNDATIONS OF EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Corequisite: EPA 201A. Major ideas, institutions, movements, and individuals in the fields of exercise science and sports studies. Includes an examination of potential careers in exercise science, sports studies, and allied health professions. Includes a fieldwork experience.

**201A. FIELD WORK EXPERIENCE 0 cr.** Corequisite: EPA 201. 10 hour minimum observation experience in a selected field of professional interest.

**202. ADVANCED FIRST AID AND EMERGENCY CARE 2 cr.** Essential information for developing the functional first-aid capabilities required by physical education teachers, coaches, allied health professionals, and other special-interest groups. Designed according to the guidelines of the American Red Cross for its course in Advanced First Aid and Emergency Care.

**203. AMERICAN RED CROSS COMMUNITY CPR 1 cr.** Techniques for basic life support for cardiopulmonary emergencies, as in cardiovascular collapse, ventricular fibrillation, or cardiac standstill. Artificial ventilation and CPR for adults, children, and infants. NOTE: May not be used as an elective in the exercise science or sports studies majors.

**205. HUMAN ANATOMY 3 cr.** Corequisite: EPA 205L. Structure and function of the human body, including cells, tissues, and skin, as well as the skeletal, articular, and muscular systems.

**205L. HUMAN ANATOMY LAB 1 cr.** Corequisite: EPA 205. Includes use of slides, human skeletons, and dissections to study cells, tissues, and skin, as well as the skeletal, articular, and muscular systems of the human.

**206. HUMAN PHYSIOLOGY 3 cr.** EPA 205; corequisite: EPA 206L. Structure and function of the body, including the nervous, circulatory, lymphatic, respiratory, renal, reproductive, and digestive systems.

**206L. HUMAN PHYSIOLOGY LAB 1 cr.** Corequisite: EPA 206. Dissection and examination of animal hearts and brains; use of various measuring devices for studying the nervous, circulatory, respiratory, renal, reproductive, and digestive systems.

**208. LIFESPAN PHYSICAL GROWTH AND DEVELOPMENT 3 cr.** Study of lifespan normal developmental patterns (cognitive, sensory, neurological, skeletal, muscular, emotional, and social), and the relative influence of these systems on neuromotor maturation, motor skills development, and learning across the lifespan.

**213. ORIENTEERING (MS 213) 1 cr.** Designed to develop students' ability to determine their location on a map, plot a course to travel/navigate over familiar terrain, and end at a known/desired location. U.S. Army standard maps and equipment. A detailed introduction to the principles of land navigation and orienteering that includes map reading, compass use, terrain association, pace count, plotting techniques, route planning, and safety and survival in hot and cold weather environments.

**229. HUMAN NUTRITION 3 cr.** Overview of basic nutritional guidelines relevant to daily life; the role of nutrition in development and efficiency of energy systems and energy balance; and disabilities related to insufficient or inappropriate nutritional practices.

**232. RESEARCH METHODS IN EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Prerequisite: QA Course. Corequisite: EPA 232A. Research methodology used in exercise science, allied health and sports studies. Emphasis on the individual aspects of the research process, such as the use of research databases, developing reviews of literature, developing research questions. Development of a research proposal is required.

**232A. PRACTICUM EXPERIENCE 0 cr.** Corequisite: EPA 232. A minimum of 50 hours of onsite experience in a professional area of interest with supervision by a certified professional. Includes formative and summative evaluations by the supervision.

**298. TEACHING ASSISTANT 0 cr.** Prerequisite: permission of chair. Duties may include preparation of laboratories, assisting faculty and student activities during laboratories, and/or grading. Graded SA/FA.

**299. SPECIAL TOPICS 1-3 cr.** Prerequisite: permission of instructor. Topics are published in the schedule of classes for each term.

**303. CARE, PREVENTION, AND TREATMENT OF ATHLETIC INJURIES 1 2 cr.** Prerequisites: EPA 206/206L; corequisite: EPA 303L. Introduction to basic concepts of athletic training. Emphasis on common athletic injuries, basic conditioning, prevention, recognition, and treatment of athletic injuries.

**303L. CARE, PREVENTION, AND TREATMENT OF ATHLETIC INJURIES LAB I 1 cr.** Corequisite: EPA 303. Introduction to basic wrapping and taping techniques used to prevent, care for, and treat athletic injuries. A hands-on laboratory course used to develop these basic skills.

**304. CARE, PREVENTION, AND TREATMENT OF ATHLETIC INJURIES II 2 cr.** Prerequisites: EPA 303 and 303L; corequisite: EPA 304L. Topics from 303 expanded: in-depth examination of athletic injury evaluation, management, and basic rehabilitation concepts.

**304L. CARE, PREVENTION, AND TREATMENT OF ATHLETIC INJURIES II LAB 1 cr.** Prerequisites: EPA 303 and 303L; corequisite: EPA 304. Extension of EPA 303L. Emphasis on wrapping and taping techniques used to prevent, care for, and treat athletic injuries. This is a laboratory course used to develop these skills.

**310. METHODS, MATERIALS, AND RESOURCES IN EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Prerequisite: acceptance into Exercise Science or Sports Studies major. Examination and development of individual mission, goals, and philosophy statements relevant to specific career plans. Examination of the role of movement within the multiple career plans, relevance of this knowledge base to professional development. Emphasis on professional development, planning, organization, and implementation of plans in situations relevant to career goals, such as teaching, coaching, fitness and rehabilitation, athletic training, and sports administration.

**340. LIFESTYLE WELLNESS 3 cr.** Overview of the holistic nature of lifestyle wellness, the multiple factors that contribute to, or influence, wellness, prevalent themes and types of programs related to wellness, and the role of exercise science and allied health professionals in the wellness process. Examination of the wellness culture within our society and the factors that influence lifestyle wellness throughout the lifespan.

**399. SPECIAL TOPICS 1-3 cr.** Prerequisite: permission of instructor. Topics are published in the schedule of classes for each term.

**407. EXERCISE PHYSIOLOGY 3 cr.** Prerequisites: EPA 206 and 206L; prerequisites or corequisites: BL 231 and BL 231L. Study of human physiology during exercise and as a function of physiological problems associated with physical stress. Emphasis on bioenergetics and neuromuscular concepts of exercise, as well as cardiorespiratory and environmental consideration in exercise.

**409. KINESIOLOGY 3 cr.** Prerequisites: EPA 206 and 206L, or prerequisites or corequisites: BL 231 and BL 231L. Experience in movement, analysis of the physiological bases of muscular activities, and general effects on body functions.

**411. FITNESS AND MOTOR SKILL DEVELOPMENT IN CHILDREN 3 cr.** Curriculum, procedures, methodology, instructional strategies, and assessment related to fitness skills, motor skills, sports skills, and physical activities that are developmentally appropriate—intellectually, physically, emotionally, and socially—for children from pre-kindergarten through the primary grades. Field experience.

**412. EXERCISE TESTING AND PRESCRIPTION I 3 cr.** Prerequisite: EPA 407, prerequisite or corequisite: EPA 409. Overview of the proper assessment and interpretation of various exercise tests, and appropriate exercise prescriptions for apparently healthy individuals. Designed to prepare exercise science students for the American College of Sports Medicine's (ACSM) Certified Exercise Physiologist certification and for employment in various health and fitness settings.

**413. EXERCISE TESTING AND PRESCRIPTION II 3 cr.** Prerequisite: EPA 412. Overview of the adaptations necessary for proper assessment, interpretation, application of various exercise tests, and appropriate exercise prescriptions for special populations. Overview of each unique physiology, effects of the condition on the exercise response, effects of exercise training on the condition, and recommendations for exercise testing and programming in a selected topics format, including normal and diseased.

**420. DISABILITIES: LEARNING, MOVEMENT, AND PROGRAM DEVELOPMENT 3 cr.** Prerequisites: EPA 208, PS 175, or PS 261. Disabilities and the impact on movement and motor development as encountered in schools, physical education, recreation, athletics, and allied health programs. Emphasis on the etiology of disabilities, appropriate learning, and therapy environments to enhance physical development and motor proficiency, current qualitative and quantitative research, and techniques for assessment, program development, and implementation. Practicum experience.

**432. MOTOR LEARNING 3 cr.** Prerequisite: EPA 208, PS 175, or PS 261. Acceptance into Exercise Science major, Senior Standing. Study of human motor behavior as influenced by cognitive and physiological development, maturation, motivation, and learning. Emphasis on normal development as well as regressive development as a function of aging and/or disability.

**433. THEORETICAL PRINCIPLES OF STRENGTH AND CONDITIONING 3 cr.** Prerequisite: EPA 409, prerequisite or corequisite EPA 407. Principles and concepts of body movement specific to joint biomechanics, and related issues and use of appropriate terminology; principles related to the selection and use of assessment techniques for cardiovascular efficiency and strength and conditioning; principles that guide the development and implementation of strength and conditioning programs. Laboratory experiences included.

**435. ETHICAL PROBLEMS IN EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Prerequisites: acceptance into Exercise Science or Sports Studies major; senior standing. The nature of ethics through the study of ethical issues in exercise science and sports studies, e.g., use of performance-enhancing drugs, fitness guidelines for youth sports, recruiting, eligibility, and professionalism.

**440. INDEPENDENT STUDY 1-3 cr.** Prerequisite: instructor's permission. Intensive study of problems and concerns in a selected area of health, physical education, or exercise science.

**496. PRACTICUM 3 cr.** Prerequisites: acceptance into Exercise Science or Sports Studies major; junior or senior standing; and permission of instructor and chair. Supervised application of the principles of exercise science in an environment selected by the individual candidate, such as athletic training, cardiac rehabilitation, fitness and coaching in various contexts. A proposed plan must be approved by the JCU internship coordinator prior to enrollment. Final paper developed in conjunction with the practicum.

**497. INTERNSHIP AND SEMINAR 3 cr.** Prerequisites: acceptance into Exercise Science major; senior standing;. Candidates select an internship assignment in line with their graduate school area of interest, e.g., athletic training, strength and conditioning, physical therapy. A proposed plan must be approved by the internship coordinator prior to enrollment; final research paper must relate to the internship. Completion of internship experience is required.

**EPA 497A. INTERNSHIP 0 cr.** Includes a 150 hour onsite experience in exercise science in a selected area of professional interest with a supervisor holding professional certification in the specific area of expertise. Includes formative and summative evaluations by the supervisor.

**498. INDIVIDUAL RESEARCH PROJECT 1-3 cr.** Available to exercise science majors who have created a research project idea in collaboration with a faculty member. Instructor and chair permission required.

**499. SPECIAL TOPICS 1-3 cr.** Prerequisite: permission of instructor. Topics are published in the schedule of classes for each term.

# Finance (FN)

*Professors:* F. J. Navratil (Emeritus), W. B. Elliott; *Assistant Professors:* F. Zhan, *Assistant Professors:* J. Kang, S. B. Moore (Associate Dean), X. Zhang

Finance applies economics, accounting, and mathematics to financial decision-making. Corporate finance analyzes how firms should manage and fund their assets. Courses in finance deal with a wide array of companies, including small firms, companies regulated by governmental bodies, and large corporations that engage in complex international operations. Classes in international finance teach students to assess complex international operations. Classes in corporate finance teach students to assess firm financial decisions as well as their financial health and future. Investment courses prepare students to analyze different mediums of savings and investments. Courses in financial institutions inform students about how such firms manage their assets and liabilities in light of macroeconomic considerations and regulatory restrictions.

Because the discipline of finance is intellectually challenging and rigorous, it not only prepares students for a large number of today's appealing and rewarding careers in business and industry but also provides excellent background for graduate programs. Graduates of the Boler finance program are actively sought by corporate recruiters, who know these students have been well prepared for the world of contemporary finance. Many finance students become financial analysts and managers. Others enter the consulting or legal professions or develop careers in the various occupations related to investment activity or financial institutions. The Finance program has recently been accepted into the CFA Institute University Recognition Program. This status is granted to institutions whose degree program incorporates at least 70% of the CFA Program Candidate Body of Knowledge (CBOK). The program positions students well to sit for the CFA exams. Many John Carroll University graduates in finance have become high-ranking financial officers of prominent and successful companies or have achieved important positions in banks and governmental agencies active in financial matters. Professional experience and internships are not required, but strongly encouraged. Many finance majors take advantage of the opportunities presented by the Boler internship initiatives.

## Optional Concentration in Finance

The concentration in Financial Planning and Wealth Management provides finance students with course work relevant to a career path in financial planning. The courses are intended to partially meet the education requirements for those who wish to earn a Certified Financial Planner (CFP) certification.

See the separate section on Wealth Management and Financial Planning (PFP) in this Bulletin for the concentration and course descriptions.

## Program Goals: Undergraduate Finance Major

The broad goal of the finance program is to extend the understanding of financial theory and practice among our students, the University, and the broader community. We pursue this goal through quality teaching and advising, significant research, and appropriate community involvement.

## FINANCE

Upon graduation, finance majors from John Carroll University should have a strong academic foundation in finance that allows them to:

- Enter a career in financial management and have the potential to lead.
- Enter a quality graduate program in a variety of fields, especially in business.

- Seek further professional certification in finance or a related field (for example, as a Chartered Financial Analyst (CFA), Certified Financial Planner (CFP), Certified Managerial Accountant (CMA), Series 6 and Series 7 exams).

Graduating seniors in finance should have:

1. Knowledge of financial accounting, financial markets, financial instruments, and financial theories.
2. Skills necessary to define and solve *familiar* financial management problems.
3. Ability to articulate financial problems and pose appropriate solutions to problems that are *unfamiliar*.
4. Ability to recognize limitations of suggested solutions and deal with ambiguity inherent in many situations.

Major Requirements
<p><b>Major in Finance:</b> A total of 64-68 credit hours as described below.</p> <p><b>Business Core:</b> 41 credit hours, including MHR 461 or MHR 463.</p> <p><b>FN 312:</b> Prospective finance majors must complete FN 312 with a minimum grade of C.</p> <p><b>Major Courses:</b> 24-27 credit hours. AC 310 or 303-304; EC 301, and 302 or 311; FN 316, 342, 440, 441; plus one of the following seven courses: FN 405, 418, 439, 442, 444, 452, or 498.</p> <p><b>Concentration Requirements</b>  Major in Finance with a concentration in Financial Planning and Wealth Management: A total of 64 credit hours including the business core and the following Major Courses: 23 credit hours. EC 301, and 302 or 311; FN 316, 342, 440; PFP 301, 371, 372.</p>

**142. PERSONAL FINANCE 2 cr.** Cannot be counted as part of the business minor or finance major. Personal financial decision-making, including use of credit, insurance products, banking, and other financial services, as well as investing for future financial goals.

**312. BUSINESS FINANCE 3 cr.** Prerequisites: AC 201-202, EC 201-202, and EC 210. Financial problems in organization, operation, expansion, and reconstruction of business concerns, particularly the corporate type.

**316. FINANCIAL MARKETS AND INSTITUTIONS 3 cr.** Prerequisite: minimum grade of C in FN 312. Examines the functions financial intermediaries perform in transferring and transforming wealth in financial markets. Provides a broad understanding of the characteristics of domestic and global financial markets and features of instruments that are traded in them.

**342. INVESTMENTS 3 cr.** Prerequisite: minimum grade of C in FN 312. Principles in the selection and management of investments, from the viewpoints of large and small investors.

**405. SEMINAR IN FINANCE 3 cr.** Prerequisites: minimum grade of C in FN 312 and/or as announced. Contemporary issues in finance not covered in depth in other departmental courses. Topics, method of presentation, and requirements designated by the seminar leader.

**418. REAL ESTATE FINANCE 3 cr.** Prerequisite: minimum grade of C in FN 312. Introduction to real estate with a focus on financial aspects; theory and measurement of returns and risks on real estate and real estate-related assets; valuation theory for owner-occupied and income-producing properties.

**439. INTERNATIONAL BUSINESS FINANCE 3 cr.** Prerequisite: minimum grade of C in FN 312. Tools and techniques necessary to understand the financial management of the firm in an international environment. Exchange rate determination, risk analysis, transactions denominated in foreign currency, nontraditional trading practices, and the unique problems faced by multinational firms. Exchange rate risk in foreign securities investments.

**440. INTERMEDIATE CORPORATE FINANCE 3 cr.** Prerequisite: minimum grade of C in FN 312. Expands knowledge of corporate finance developed in FN 312. Involves extensive use of spreadsheet modeling and simulation software to address complex financial problems. Topics include capital budgeting, financial planning, working capital management, capital structure, and dividend payout policy.

**441. CASE STUDIES IN FINANCIAL MANAGEMENT 3 cr.** Prerequisites: FN 440 and either FN 316 or FN 342. The capstone course in the finance major. Incorporates the case study method so that students can demonstrate their knowledge of corporate finance, financial markets, and financial institutions from previous course work in the major, including economics and accounting courses. Also emphasizes oral and written communication skills.

**442. RISK MANAGEMENT AND INSURANCE FUNDAMENTALS 3 cr.** Prerequisite: minimum grade of C in FN 312. Focuses on the management of business risks whose outcomes are subject to some degree of direct control (e.g., fire damage that may be preventable), as compared to risks whose outcomes are a result of changing market forces.

**444. MANAGING FINANCIAL RISK WITH DERIVATIVES 3 cr.** Prerequisite: minimum grade of C in FN 312. Introduction to analytical and decision-making processes used to transfer risk with futures and options. Theory and application of pricing, speculating, and hedging techniques in financial markets.

**452. PORTFOLIO MANAGEMENT 3 cr.** Prerequisites: FN 342 and permission of instructor. Focuses on the Dornam Fund, a student-managed investment portfolio. Provides theory and experience in professional money management; identification of investment objectives, information assessment for security selection, and evaluation of fund performance.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: Finance major with an overall GPA of 3.0 or higher; permission of chair and instructor. Research project supervised by a member of the department willing to act as advisor. The student selects an aspect of finance, establishes goals, and develops a plan of study that must be approved by the chair and filed with the dean's office. Consult the chair for department guidelines established for such study.

# Fine Arts (FA)

*Lecturer:* C. Caporella

Courses in the fine arts help enrich and extend the mind and body. With a strong Jesuit tradition of sacred expression, as well as a commitment to greater human discovery, John Carroll University offers a range of courses in music and dance. There are opportunities to study the fine arts in both group and solo settings. Most courses in the fine arts will qualify for the CAPA requirement in the new Integrative Core Curriculum. Students interested in courses in the visual or theatre arts should consult the sections of the *Bulletin* on Art History and Humanities as well as Communication and Theatre.

Students may apply a maximum of four 1-credit FA courses toward graduation. Unless otherwise specified, no more than eight 1-credit courses from any combination of courses in Arts and Sciences (AR), Communication (COMM) 140-175, Career Education (CE), Fine Arts (FA), International Cultures (IC) and/or Physical Education (PE) 120-180 may be applied toward graduation.

## Choral Ensembles

**109C. CECILIA SINGERS 0-1 cr.** A women's vocal ensemble that explores, prepares, and performs both secular and sacred repertoire. Music includes literature from a variety of musical styles, cultures, and traditions, including classical, contemporary, and American music such as Broadway and vocal jazz. The choir performs at various concerts and events on campus. Audition required.

**109D. UNIVERSITY SCHOLA CANTORUM 0-1 cr.** A select SATB vocal ensemble that performs sacred and secular repertoire throughout the academic year. Students explore, prepare, and perform music literature from a variety of musical periods. Genres include chant and polyphony through standard sacred repertoire, contemporary sacred and popular tunes, madrigals, a cappella, and vocal jazz. Audition Required.

**109E. UNIVERSITY CHAPEL ENSEMBLE 0-1 cr.** A vocal and instrumental ensemble that offers liturgical music for regular weekend Masses, special liturgies, and prayer services on campus. Students explore, prepare, and perform sacred and liturgical repertoire from a variety of musical styles with a focus on contemporary liturgical music and praise songs.

## Dance

**105A. MODERN DANCE 1 cr.** Introduction to basic movement principles and appreciation of dance in general. Developing efficiency of movement, range of motion, strength, endurance, agility, coordination, and stability, with a focus on alignment and relaxation. No previous dance experience required.

**105B. SOCIAL/BALLROOM DANCE 1 cr.** Introduction to the rhythms, styles, and movements used in partner dances. Dances may include the waltz, tango, foxtrot, cha cha, rumba, swing, mambo, and merengue. No previous dance experience required.

## Instrumental Ensembles

**110A. JCU PEP BAND 0 cr.** An instrumental ensemble that offers music to support the Blue Streaks' athletic teams and enhance the atmosphere at their games. Informal audition required.

**110B. JCU JAZZ ENSEMBLE 0-1 cr.** An instrumental ensemble that plays an array of classic and contemporary stage band pieces in various styles. The jazz ensemble performs at concerts and special events on campus as well as at jazz festivals in the greater Cleveland area. Informal audition required.

**110C. JCU WIND ENSEMBLE 0-1 cr.** An instrumental ensemble that rehearses and performs music composed, transcribed, or arranged for woodwind, brass, and percussion instruments. Students learn musical concepts and technique through regular rehearsal and study in an ensemble atmosphere. Informal audition required.

**110D. STRING ENSEMBLE 0-1 cr.** An instrumental ensemble that prepares and performs music composed, transcribed, or arranged for strings. Literature from a variety of musical periods and traditions is explored in a weekly rehearsal environment. Students improve their playing technique while creating music in a group setting. Informal audition required.

**110J. BRASS ENSEMBLE 0-1 cr.** An instrumental ensemble that explores musicianship, embouchure, and technique in the context of an all-brass group. Repertoire includes classical, traditional, and contemporary music. Weekly rehearsals. Informal audition required.

**110K. PIAZZOLLA ENSEMBLE: THE NUEVO TANGO 1 cr.** A unique ensemble that explores the music of the prolific Argentinean composer Astor Piazzolla. Piazzolla created a whole new genre of music between the 1950s and 1990s while living in New York City and later in Argentina, France, and Italy. Open to instrumentalists and vocalists of all types.

**110L. RECORDER CONSORT 1 cr.** An ensemble that prepares and performs literature from the liturgical, Renaissance, and baroque styles. The different instruments of the recorder family are introduced, technical skills are developed, and ensemble playing is explored.

## **Applied Music**

**112A. BEGINNING CLASSROOM GUITAR 1 cr.** Introduction to various guitar styles with an emphasis on reading music and beginning guitar technique. Basic music theory is introduced.

**112B. INTERMEDIATE CLASSROOM GUITAR 1 cr.** A continuing analysis and applied study of guitar styles and music theory. Guitar study at the intermediate level offers a focus on guitar chords and their application in all styles of music. Classical, folk, pop, and jazz styles are introduced. The study of music theory and its related chord progressions is continued. Placement audition required.

**112C. ADVANCED CLASSROOM GUITAR 1 cr.** A refinement of applied guitar styles, including classical guitar, is offered along with advanced music theory and its application. Placement audition required.

**115. CLASS VOICE 1-2 cr.** The art of vocal production with individual attention in a class setting. Fundamentals of singing: posture, breathing, tone production, song interpretation, and diction. Students are required to give several solo performances in class during the semester.

**116. THE ROLE OF CANTOR 0-1 cr.** The applied study of song as a means of leading the prayer of a worshiping community. Each student will study techniques of vocal production, diction, and gesture to regularly lead the singing at worship services and liturgies on campus. Weekly attendance at a JCU liturgy is required. The cantor also learns solo verses and/or passages to which the congregation responds. Audition required.

**120. APPLIED VOICE 1-3 cr.** Weekly individual instruction in voice. Individual vocal technique is addressed through breathing, vocalization, and a general understanding of the physiological properties of the vocal mechanism. Permission required.

**121. APPLIED GUITAR 1-3 cr.** Weekly individual instruction in guitar. Development of guitar technique as it relates to the individual student. Various guitar styles are offered with an emphasis on note reading and technique as assessed for the individual student. Permission required.

**122. APPLIED PIANO 1-3 cr.** Weekly individual instruction in piano. Musical and technical skills are addressed with a focus on developing musicianship, listening skills, piano technique, and good practice habits as they pertain to the study of the piano while building a repertoire and performance capabilities. Permission required.

**123. APPLIED ORGAN 1-3 cr.** Weekly individual instruction in organ. Musical and technical skills are addressed with a focus on developing musicianship, listening skills, organ technique, and registration with good practice habits as they pertain to the study of the organ while building a repertoire and performance capabilities. Permission required.

**124A. LITURGICAL KEYBOARD I 1-3 cr.** Basic keyboard and accompanying skills with a focus on their application in a liturgical setting. Students study and play music from a variety of genres, including classical, hymnody, contemporary music, and praise songs. Accompanying service music and acclamations as well as sight-reading are addressed. Practicum includes attendance and playing at one of the JCU weekend liturgies. Permission required.

**124B. LITURGICAL KEYBOARD II 1-3 cr.** Builds on the skills developed in Liturgical Keyboard I with a focus on ways to encourage and enhance congregational singing from the keyboard. Introduces chant and choral octavo accompaniments. Practicum includes attendance and playing at one of the JCU weekend liturgies with chorus. Permission required.

**125. DIRECTED INSTRUMENTAL/VOCAL STUDY 1-3 cr.** Applied instrumental/vocal study with a performance venue studio class for beginning, intermediate, and advanced students. Includes 30 minutes of scheduled, individual applied instruction each week along with one weekly gathering of all applied students for performance opportunities. Applied fee.

## **General Music**

**150. INTRODUCTION TO MUSIC 1-3 cr.** Introductory music course designed to enhance the knowledge of music and the art of analytical, perceptive, and critical listening. Demonstrates the diversity that exists in music by presenting it within the context of the world. Explores sources, mediums, and characteristics of musical sound, basic elements of music, forms, styles, composers, historical periods, and cultural traditions. May include an experiential element.

**151. GREGORIAN CHANT: THE SONG OF THE ROMAN CHURCH 1 cr.** Explores the unaccompanied sacred song of the Roman Rite of the Catholic Church. An introduction to Gregorian chant notation and musical elements is offered, with weekly, in-class singing of chant melodies.

**152. THE CHANTS OF TAIZÉ PRAYER: MUSIC OF PEACE AND UNITY 1 cr.** Focuses on the story of Bro. Roger Schütz and the founding of the Taizé interdenominational community as well as the singing of the repetitive chants that have become the hallmark of Taizé prayer around the world.

**153. INTRODUCTION TO JAZZ IMPROVISATION 1-3 cr.** Fosters an understanding of and appreciation for the art of jazz improvisation. Students encounter the history of jazz and learn applied skills in jazz improvisation by analyzing its melody, harmony, and rhythm. Basic music theory, including chords and scales in the context of the jazz idiom, is explored.

**154. AMERICAN SONG: THE JAZZ IDIOM 1 cr.** Explores the various periods and artists of this American musical culture. Examination of the components of jazz composition and improvisation while singing its most popular melodies in a class setting.

**155. AMERICAN MUSIC: THE FOLK IDIOM 1 cr.** Explores the music of America's roots, including American traditional folk, bluegrass, gospel and blues. Study of origins, musical elements, development and influences through listening, analysis, and singing its melodies.

**156. AMERICAN SONG: THE BROADWAY STAGE 1 cr.** Explores the history and musical contributions of the American musical theatre. Study of vocal repertoire from the Broadway stage through weekly class discussion, analysis, and in-class performance.

**157. AMERICAN MUSIC: ROCK & ROLL 1 cr.** Explores the roots of American Rock & Roll; study of various periods of rock, diverse musical styles, and the music of its most influential artists through discussion, analysis, and in-class performance.

**158. World Music: An Introduction.** Explores world music and the art of analytical, perceptive, and critical listening to music of diverse cultures. Elements and styles of music of diverse and ethnic cultures are studied by exploring sources, mediums, instruments, forms, styles, concepts, and characteristics of musical sound and cultural music traditions.

**160. INTRODUCTION TO MUSIC THEORY 1-3 cr.** Develops a working knowledge of the basics of music theory through both a theoretical and practical approach. The subject matter explores theoretical and aural skills. The study of theoretical skills encompasses melodic and harmonic analysis, including the music fundamentals of scales, intervals, chords, chord progressions, and rhythms. The study of aural skills will develop the areas of sight-singing and ear training.

**198. SPECIAL TOPICS 1-3 cr.** Introductory topics in fine arts. Specific topic announced in schedule of classes or may be taken with permission as an individual project under supervision.

**298. SPECIAL TOPICS 1-3 cr.** Intermediate topics in fine arts. Specific topic announced in schedule of classes or may be taken with permission as an individual project under supervision.

**398. SPECIAL TOPICS 1-3 cr.** Advanced intermediate topics in fine arts. Specific topic announced in schedule of classes or may be taken with permission as an individual project under supervision.

**498. SPECIAL TOPICS 1-3 cr.** Advanced topics in fine arts. Specific topic announced in schedule of classes or may be taken with permission as an individual project under supervision.

# French and Francophone Studies (FR)

*Associate Professor: M. Pereszlenyi-Pinter*

The program in French and Francophone Studies is offered by the Department of Classical and Modern Languages and Cultures. The program comprises a rich curriculum in language, culture, literature, and film. An articulated sequence of courses in French leads from competence in basic French language skills to a thorough understanding of the language, as well as French and Francophone cultures and literatures. All courses are taught in French.

There are well over 200 million French speakers worldwide. It is the official diplomatic language for all treaties and official documents. It is a primary language of 32 countries on five continents. Studying French at JCU is especially important due to the University's close proximity to Canada, where French is an official language spoken by 9.6 million people.

Many students of French opt to complement or complete their studies in a variety of disciplines in a French-speaking country, where they can connect their future to cutting-edge fields in science and technology. French-speaking countries have been at the forefront of fields such as HIV research, medical genetics (the Human Genome Project), and reconstructive surgery. French-speaking countries are also on the cutting edge of scientific discoveries and technological innovations, including microchips, video gaming, commercial satellites, nanotechnology, nuclear energy, aerospace technology, voice compression, high-speed rail services, and fiber optics.

Since French is widely spoken in many industries—including food and fashion, finance, science, and technology, as well as the humanities and social sciences—a knowledge of French can be a highly useful asset for any student. For sports fans, French and English are the two official languages of the Olympic Games, irrespective of the host country.

For post-graduate education, many graduate schools require knowledge of at least one foreign language. French is the most commonly used language after English and the second most frequently taught language in the world after English. Knowing how to speak it enriches lives and opens up unlimited opportunities. All students are also strongly encouraged to study in France or in another French-speaking country. All courses are taught in French.

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## **Program Learning Goals in French and Francophone Studies.** Students will:

1. Communicate skillfully and effectively in French:
  - a. engage in effective interpersonal communication.
  - b. engage in effective interpretive listening.
  - c. engage in effective interpretive reading.
  - d. engage in effective presentational speaking.
  - e. engage in effective presentational writing.
2. Demonstrate foundational cultural and linguistic knowledge of the French-speaking world:
  - a. demonstrate knowledge of features of the culture of the French-speaking world, such as its art, literature, music, film, popular culture, tradition, and customs.
  - b. demonstrate knowledge of how aspects of the history, politics, religion, or geography of the French-speaking world relate to its culture.
  - c. read and analyze cultural texts.
3. Demonstrate emerging intercultural competence:
  - a. demonstrate an awareness of the interplay of personal identity and culture.
  - b. interpret an event, cultural product, or issue from the perspective of a worldview outside their own.

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Major and Minor Requirements
<b>Major in French and Francophone Studies:</b> 31 credit hours.

**French track:**

- Ten French courses at the 200- or 300-level, two of which may be replaced by related courses as defined below. FR 250, FR 301, and FR 302 are strongly recommended.
- Related courses are those outside French offerings which are closely related to French or Francophone culture, such as: Art History, History, Philosophy, Political Science, IC literature and/or culture courses in translation as well as other language and literature/culture courses. Courses other than French must be approved in advance by the major advisor.
- FR 410 fulfills the capstone requirement and should be completed during the student's junior or senior year.

**French Studies track:**

- Ten French courses at the 200- or 300- level, four of which may be replaced by related courses as defined above. FR 250, FR 301, and FR 302 are strongly recommended.
- FR 410 fulfills the capstone requirement and should be completed during the student's junior or senior year.

**Minor in French and Francophone Studies:** 15-18 credit hours.

- Students who begin the minor at FR 101 or FR 102: Six courses at the 100, 200 and 300 levels approved by the advisor.
- Students who begin the minor at the 200 level or higher: Five courses at the 200 and 300 levels approved by the advisor.

**101. BEGINNING FRENCH I 3 cr.** Introduction to French language and culture, with focus on speaking, listening, reading, and writing. Film; lecture; individual, pair, and group work; computer-assisted instruction. Students learn to ask and answer questions and share information about themselves, their families, and their daily activities. For students with little or no previous exposure to French or by placement test. FR 101 counts for the minor but not for the major.

**102. BEGINNING FRENCH II 3 cr.** Prerequisite: FR 101 or equivalent or by placement test. Amplification of language skills in a cultural context. Added emphasis on reading and writing. FR 102 counts for the minor but not for the major.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of French at the beginning level. May be repeated with a different topic.

**201. FRENCH IN REVIEW 3 cr.** Prerequisite: FR 102 or equivalent or by placement test; Review of beginning French; study of authentic materials dealing with French and Francophone cultures. Builds on all four skills (speaking, listening, reading, and writing), including vocabulary expansion, improved pronunciation, reading strategies, short compositions, and other writing assignments. Classroom, multimedia, computer-assisted instruction.

**250. SAMPLER OF CAREER OPPORTUNITIES IN FRENCH 3 cr.** A 6-module sampler to explore opportunities for using French beyond the core language requirement. Modules: 1) translator, interpreter, bilingual editor; 2) teacher in elementary, high school, college, or private industry; 3) travel, tourism, the hospitality industry including French cuisine specialist; 4) government, law, foreign service, and international organizations; 5) French for business, including job application letters and resume writing; 6) Science and medicine. Role play, simulations, and hands-on experiential learning with authentic materials. Continued development of competence in listening and speaking, reading and writing, and cultural competency.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of French at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301. FRENCH CONVERSATION 3 cr.** Prerequisite: FR 201 or equivalent or by placement test. Review of French with a focus on building oral skills through exposure to various media, including music, television, film, Internet, and print. Development of communicative competence through oral practice and use of conversational strategies and techniques.

**302. WRITING AND CREATIVITY 3 cr.** Prerequisite: FR 201 or equivalent or by placement test. Development of writing ability in French through exercises that expand the imagination, using creative writing games and exercises that rely on play, memory, and a sense of adventure. Emphasis on reading as well as writing, talking, thinking, and offering feedback on the written word.

**305. LA CHANSON FRANÇAISE 3 cr.** Examination of the French song, from the poetry of the *troubadours* to present day: *la chanson traditionnelle et folklorique, le musette, l'opéra, le rock, le pop, le soul, le rap, le punk, le funk, le blues, la musique électronique (« la French touch »), le reggae, le dancehall, le jazz, le raï, and others.* Exploration of how songs enrich the French lexicon, including slang; linguistic analysis of words.

**306. FRENCH FOR BUSINESS 3 cr.** No previous study of business expected. Multimedia introduction to the French and Francophone business world and ethics; focus on contextualized activities that use business terms in French. Role-plays, simulations of business interactions and analysis of authentic business documents help students prepare for potential employment in a French-speaking country. Students have the option to sit for the exam for the « *Diplôme* » offered by the Chambre de Commerce et d'Industrie de Paris.

**308. FRENCH/FRANCOPHONE CULTURE THROUGH FOOD 3 cr.** Exploration of different cuisines throughout the French and Francophone world and their cultural history and significance.

**310. FRENCH/FRANCOPHONE CINEMA 3 cr.** Emphasis on selected films either as genre or as an expression of culture, civilization, language, or a combination of these, depending on the instructor's field of specialization and student interest. Lecture and discussion in French; films in French with either French or English subtitles, depending on student ability and interest, and as mutually agreed upon by instructor and students.

**311. FRENCH CIVILIZATION 3 cr.** Examination through texts, films, and other media of major historical, intellectual, and artistic influences that have shaped French civilization. Identification of values and myths that have contributed to the formation of modern France and continue to influence contemporary French culture.

**314. A'S TO Z'S: FRENCH WRITERS OVERSEAS 3 cr.** Introduction to literature and artistic production in recent decades of French-speaking countries and post-colonial cultures, which forms a body of work quite distinct from literature written in France itself. Selection of key authors of the francophone world (Maghreb, Sub-Saharan Africa, Oceania, Asia, the Americas, and French-speaking Europe).

**315. THE ART OF INTERPRETATION 3 cr.** Introduction to French literature and culture through close critical readings of the principal literary forms, as well as oral interpretations: poetry, drama, and prose. Texts chosen chronologically from French and Francophone literatures. The "art of interpretation," or as the French call it, "*explication de texte*."

**320. FRENCH WOMEN 3 cr.** Female authors and their literary legacy through the centuries. Excerpts from works by Marie de France, Christine de Pisan, Catherine Des Roches, Madame de Sévigné, George Sand, Colette, Marguerite Yourcenar, Simone de Beauvoir, Andrée Chédid, Anne Hébert, Mariama Bâ, Maryse Condé, Assia Djebar, Hélène Cixous, and Julia Kristeva.

**325. PANORAMA DE LA LITTÉRATURE FRANÇAISE 3 cr.** Reading of selections and complete works of outstanding French authors from major genres and periods, from the beginnings to modern day. Students will read

works in French, discuss their significance, and listen to short lectures to situate the readings in a historical and cultural context.

**331. ADVANCED FRENCH CONVERSATION 3 cr.** Subtleties of French phonology, morphology, and syntax, along with the development of advanced vocabulary and conversational techniques. Activities include in-depth discussion and debate of current events and real-life problems as well as oral analysis of readings.

**334. TRANSLATION IN FRENCH 3 cr.** Methods and mechanics of translation; selection of proper tools. Comparison and evaluation of translated texts.

**340. SAGES IN THE MIDDLE AGES 3 cr.** Survey of medieval French literary genres and their socio-cultural background during the 10th-15th centuries, ranging from lyrical and didactic poetry, prose, and drama, to contemporary cinematic adaptations of medieval texts. Special attention to female authors and characters, the boundaries they cross, as well as the reactions of their historical and fictional counterparts.

**345. FRENCH FAIRY TALES, FABLES, AND SHORT FICTION 3 cr.** Fairy tales as a major trend in French literature and a continuing influence on modern fiction and film. Particular attention given to the numerous French women writers of fairy tales at the time of Charles Perrault (seventeenth century) and after. Some attention to the tradition of the "*fabliau*."

**365. GRANDS ROMANS-GRAND ÉCRAN: FRENCH FICTION AND FILM 3 cr.** Literary texts and their film adaptations. Focus on changes in narration, structure, and development of the subject. Introduction to the "7th art" and comparative study of literary and cinematic devices to convey ideas and attitudes

**370. FROM VERSAILLES TO THE FRENCH REVOLUTION IN LITERATURE AND FILM 3 cr.** Important elements, trends, and developments (political, social, economic, cultural, and religious) from the early 17<sup>th</sup> century through the French Revolution. Films chosen to reflect student interest. Readings of epoch-making works by Racine, Pascal, Molière, Mme. de Lafayette, Madame de Sévigné, Rousseau, Voltaire, and others.

**396. EXPERIENTIAL LEARNING IN FRENCH AND FRANCOPHONE STUDIES 1-3 cr.** Prerequisite: instructor permission. Supervised experiential learning opportunity through an independent project or internship, with accompanying assignments designed to deepen student awareness of and/or preparedness for career options in French and Francophone Studies. Pass/Fail. May be repeated twice.

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**410. SENIOR CAPSTONE IN FRENCH AND FRANCOPHONE STUDIES 1 cr.** Independent research project chosen in consultation with a capstone advisor. The capstone project should reflect both the student's interest in French and the courses s/he has taken to fulfill the major. Student will produce a written thesis in French and also give an oral presentation in French.

# Gender, Sexuality, and Women's Studies (GEND)

*Program Director:* M. W. Barnes (Sociology and Criminology); *Advisory Board:* M. K. Doud (Chemistry), D. Durmus (Philosophy), J. M. McAndrew (History), A. Wainwright (Library),

Gender, Sexuality, and Women's Studies is an interdisciplinary major that helps prepare students for living in a diverse and global society by examining how the social construction of gender/sexuality can shape personal identities, beliefs, and opportunities. In a range of courses, students will systematically analyze the intersections of gender, sexuality, race, and social class.

As an interdisciplinary program, Gender, Sexuality, and Women's Studies focuses on students' integrating the skills taught across the liberal arts, and expects its majors to engage in both critical and creative thinking. The curriculum examines a range of issues across both national and international contexts. These include gendered violence, sexual harassment, queer theory, inequality, power dynamics, human interaction, and social justice. The analytical skills students acquire in the study of gender and society can be applied beyond the campus to other activities and eventually to their professional careers.

The program offers both a major and minor. The requirements are intentionally flexible enough to allow students to focus on their particular areas of interest and to allow it to fit well with other (second) majors and minors on campus. Every GEND major completes an internship at a site that suits their interests and goals. As a social justice-focused program, many students participate in events and/or volunteer throughout their years at John Carroll. To declare a major, students must complete GEND 101 and meet with the program director to submit a formal application.

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**Program Learning Goals in Gender, Sexuality, and Women's Studies.** Students who complete a major or minor will be able to:

1. Articulate a critical understanding of the impact of gender and sexuality within their own lives.
2. Describe how constructions of gender/sexuality have socially, historically, and globally shaped the experiences of both women and men.
3. Describe the importance within people's lives of the intersections of gender and sexuality with other social hierarchies such as race, ethnicity, class, religion, and disability.
4. Analyze gender and sexuality using interdisciplinary and feminist theories, methodologies, and paradigms.
5. Identify ethical and social justice dimensions and implications within the study of gender/sexuality.
6. Demonstrate the development of knowledge and skills to deal positively with gender and sexuality-based inequality within their communities.

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Major and Minor Requirements
<p><b>Major in GEND:</b> 36 credit hours. GEND 101, 400, and 410 are required. Complete one course from Group 1, Group 2, and Group 3 below (9 cr.). Complete any other six additional courses (18 cr.) from the approved list. Of the 36 total credit hours, at least 9 credit hours should be from humanities and at least 9 credit hours from the social or natural sciences.</p> <p><b>Minor in GEND:</b> 18 credit hours. GEND 101 is required. Complete one course from Group 1, Group 2, Group 3 below (9 cr.). Complete any other two additional courses (6 cr.) from the approved list. Of the 18 total credit hours, at least 6 should be from the humanities and at least 6 from the social or natural sciences.</p>

Choose one course (3 cr.) from each group for major or minor:

**Group 1: Core Gender courses:** EN 491, HS 242/259\* \*, PL 330\*, SC 115, SC 320.

**Group 2: Core Sexuality courses:** HS 262, PL 388, SC 315, TRS 364, GEND 310.

**Group 3: Global/Diversity courses:** HS 242/259\* \*, HS 310, HS 372, IC 163, PL 330\*, PL 390, PS 342, SC 255, SC 353, SP399

*Note: GEND Special Topics classes may possibly be used to fulfil any of the above groups depending on the specific topic being offered. Check with the Director in advance. Study abroad may be used to fulfil Group 3, by petition.*

*\*These courses may be used for either group, but not both.*

**List of courses offered in other departments approved for the GEND major/minor:**

BL 116 Biology, Race and Gender  
CL 290 Women in Ancient Greece and Rome  
EN 284 Writing Women: Introduction to Women's Literature  
EN 445 British Women Writers  
EN 491 Feminist Literary Criticism  
FR 320 Women in French Literature and Culture  
HS 150 Women in U.S. History  
HS 262 Sexuality in America  
HS 205 Women in Ancient Greece and Rome  
HS 242 or 259 Women in the Contemporary World

HS 310 Women in Europe since 1500  
HS 372 Race & Gender in Latin America  
IC 163 Women in Italian Society through Literature and Film  
IC 205 Food in Film and Culture: The Global Gendered Table  
IC 370 Hispanic Women Writers  
PL 290 Major Women Philosophers  
PL 306 Philosophy and Literature  
PL 330 Feminist Philosophies  
PL 385 Philosophy of the Body  
PL 388 Philosophy of Love and Sex  
PL 390 Philosophy of Race and Racism  
PL398C Philosophy of Medicine  
PO 299 Special Topics: Feminist Political Theory  
PO 316 Social Movements

PS 289 Psychology of Trauma  
PS 342 Psychology of Prejudice  
PS 262 Adolescent Development  
PS 381 Eating Disorders  
SC 115 Masculinities  
SC 225 Sociology of the Family  
SC 255 Prejudice and Discrimination  
SC-273 Public Health in US Society  
SC 275 Family Violence  
SC 315 Sexuality and Sexual Behavior  
SC 320 Sex and Gender

SC 353 Latina/o Transnational Experiences  
SC 303/SPS 303 Women, Gender Relations, and Sports  
SP 399 Hispanic Women's Film  
TRS 316 The Rabbis on Sex and Gender  
TRS 364 Christian Sexuality  
TRS 437 Readings in Feminist Theology

Please see the program webpage, <http://sites.jcu.edu/womensstudies/> for updates to this list and special topics courses being offered. Scheduling needs across the University may determine when these courses are offered.

**101. INTRODUCTION TO GENDER STUDIES 3 cr.** Introduction to the interdisciplinary field of gender and sexuality. Addresses issues such as sexism, homophobia, racism, bodies and sexuality, poverty, families, violence, and resistance. Students will gain the critical tools to analyze many gendered experiences in the U.S., such as political equity, violence, reproductive health, and representations in the media.

**220. GENDER AND VIOLENCE 3 cr.** Provides an interdisciplinary perspective on gender and violence as it is defined, experienced, resisted, and challenged. Examines how gendered violence functions within socially constructed systems of power and privilege, including but not limited to age, race, class, sexuality, and nationality. Includes an analysis of the dynamics of violence within specific institutional sites of power such as the state, religion, family, and especially university settings.

**299. SPECIAL TOPICS 1-3 cr.** Selected topic in Gender, Sexuality, and Women's Studies announced in advance. May be repeated with a different topic.

**310. INTRODUCTION TO QUEER STUDIES 3 cr.** Prerequisite: At least sophomore standing. Interdisciplinary introduction to queer studies, which explores the history of human sexuality, identity construction, and issues of power, inequality, and resistance. Central theories studied within a Queer Theory framework include deconstruction of categories, and the performance of multiple and non-stable constructions of gender and sexuality. Historical and evolving views on gendered, intersexed, and transgender experiences will be examined.

**400. CRITICAL FEMINIST INQUIRY 3 cr.** Prerequisites: GEND 101, junior or senior standing. Explores research techniques commonly used to study issues related to gender and sexuality, and the politics of knowledge production. Topics include historical research, literature reviews, critical analysis, interviewing, using survey data, ethics and reducing power differences in research. Students will choose an occupational field of interest and propose research on a related topic. \*If double majoring, another course that focuses on the production of knowledge may be substituted, including courses such as: CO360, HS300, PO300/L, PS301/301L, SC350,

**410. INTERNSHIP AND SEMINAR 3 cr.** Prerequisites: GEND 400, junior or senior standing, and permission of program director. Capstone experience involving an internship in a setting which aligns with the student's interests, skills, or career goals. This may include internships in non-profit, social justice, legal, health, human service, or research settings. A weekly seminar will include ongoing reports, reflections, and analysis about their field experiences. The course fulfills the Capstone (C) and Oral Presentation (OP) designations in the Integrated Core.

**498. ADVANCED SUPERVISED STUDY 3 cr.** Prerequisites: GEND 101, junior or senior standing, and permission of the program director. Supervised independent study on advanced topics.

# German (GR)

*Professor: J. Karolle-Berg*

The program in German is offered by the Department of Classical and Modern Languages and Cultures. The German curriculum in language and culture at John Carroll prepares students to communicate effectively in German; to understand the cultural perspectives, products, and practices of the German-speaking world; to make connections between developments in German culture and trends in history, politics, and society; and to act with intercultural competence. At all course levels, students engage in active learning through proficiency-based instruction.

The German minor complements a number of courses of study and allows students to work with faculty to design a program suited to their specific academic goals. The experiential learning component similarly links students' course work in German to their other professional and personal interests through an independent project, internship, or thesis.

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**Program Learning Goals in German.** Students will:

1. Communicate skillfully and effectively in German:
  - a. engage in effective interpersonal communication.
  - b. engage in effective interpretive listening.
  - c. engage in effective interpretive reading.
  - d. engage in effective presentational speaking.
  - e. engage in effective presentational writing.
2. Demonstrate foundational cultural and linguistic knowledge of German-speaking culture:
  - a. demonstrate knowledge of features of German-speaking culture, such as its art, literature, music, film, popular culture, tradition, and customs.
  - b. demonstrate knowledge of how aspects of the history, politics, religion, or geography of German-speaking areas relate to their culture.
  - c. analyze cultural texts.
3. Demonstrate emerging intercultural competence:
  - a. demonstrate an awareness of the interplay of personal identity and culture.
  - b. interpret an event, cultural product, or issue from the perspective of a worldview outside their own.

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Minor Requirements
<b>Minor in German:</b> 18 credit hours, beginning at any level. One approved course in a cognate area (e.g., history, political science, philosophy) or up to 3 credit hours of experiential learning may be applied to the minor.

**101. INTRODUCTION TO GERMAN LANGUAGE AND CULTURE I 3 cr.** Develops learners' speaking, listening, reading, and writing to the novice-high level. Learners build vocabulary and explore cultural differences between the U.S. and German-speaking countries in areas such as family, daily activities, and housing. Includes reflection on one's own and others' cultural norms, values, and beliefs. Open only to students with little or no previous study of German or by placement test. (Fall)

**102. INTRODUCTION TO GERMAN LANGUAGE AND CULTURE II 3 cr.** Prerequisite: GR 101, equivalent, or by placement test. Expands learners' speaking, listening, reading, and writing to the intermediate-low level. Learners build vocabulary and explore differences between the U.S. and German-speaking countries in areas

such as food and entertainment culture, regional identity, and city life. Includes reflection on one's own and others' cultural norms, values, and beliefs. (Spring)

**198. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the introductory level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**201. INTERMEDIATE GERMAN LANGUAGE AND CULTURE 3 cr.** Prerequisite: GR 102, equivalent, or by placement test. Strengthens learners' communication skills at the intermediate level. Particular emphasis on analysis of authentic materials, small-group discussions, short compositions. Learners build vocabulary and explore facets of contemporary German culture. Includes reflection on one's own and others' cultural norms, values, and beliefs.

**209. GERMAN CINEMA 3 cr.** Prerequisite: GR 201, equivalent, or demonstrable intermediate-mid proficiency. Taught in German. Explores themes, techniques, and stories of key German-language films from the silent era to the twenty-first century. Focus on improving grammatical accuracy, expanding learners' communication skills to the intermediate-high/advanced-low level.

**210. FROM FOLKLORE TO POPULAR CULTURE 3 cr.** Prerequisite: GR 201, equivalent, or demonstrable intermediate-mid proficiency. Taught in German. Explores topics such as national identity construction, intergenerational conflict, love and friendship, conformity versus individualism in popular-cultural forms (fairy tales, music, film, art, comics, light fiction) from the last two centuries. Focus on improving grammatical accuracy, expanding learners' communication skills to the intermediate-high/advanced-low level.

**211. FROM WEIMAR REPUBLIC TO THIRD REICH 3 cr.** Prerequisite: GR 201, equivalent, or demonstrable intermediate-mid proficiency. Taught in German. Explores the history and culture of German-speaking countries 1919-1933, such as cultural trends (e.g., Expressionism, film, Bauhaus, cabaret) as responses to and products of political, economic, and social flux. Focus on improving grammatical accuracy, expanding learners' communication skills to the intermediate-high/advanced-low level.

**212. GERMANY DIVIDED AND REUNIFIED 3 cr.** Prerequisite: GR 201, equivalent, or demonstrable intermediate-mid proficiency. Taught in German. Explores the history and culture of German-speaking countries 1945-2000 through popular-cultural products such as film, music, visual arts, and texts. Themes include post-WWII reconstruction and cultural processing, GDR life and culture, student movements, the German Autumn, and Reunification. Focus on improving grammatical accuracy, expanding learners' communication skills to the intermediate-high/advanced-low level.

**213. THE GERMAN-SPEAKING WORLD TODAY 3 cr.** Prerequisite: GR 201, equivalent, or demonstrable intermediate-mid proficiency. Taught in German. Explores the contemporary culture and society of German-speaking countries. Focus on improving grammatical accuracy, expanding learners' communication skills to the intermediate-high/advanced level.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised study at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**396. EXPERIENTIAL LEARNING IN GERMAN STUDIES 1-3 cr.** Prerequisites: permission of instructor. Supervised, independent learning opportunity or internship with accompanying assignments designed to deepen students' awareness of and/or preparedness for career options using German, such as in education, government, etc. May be repeated for a total of 3 credits.

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of German language, literature, or culture. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Rotating focus on a specific theme, genre, or era of German literature or culture. Topic announced in advance. May be repeated with a different topic.

**496. ADVANCED RESEARCH IN GERMAN 3 cr.** Prerequisites: permission of instructor and chair. Individual research project developed and written in consultation with appropriate faculty member.

# Greek (GK)

*Professor:* G. Compton-Engle (Chair); *Associate Professor:* K. A. Ehrhardt

The program in Greek is offered by the Department of Classical and Modern Languages and Cultures.

Major and Minor Requirements
For complete information on the major and minor in Classical Languages and Classical Studies, see the Classical Languages and Classical Studies section of this Bulletin. For courses in Latin, see the Latin section in this Bulletin.

**101. BEGINNING ANCIENT GREEK I 3 cr.** For students with no previous study of Greek or by placement evaluation by the coordinator of Classical Languages. Introduction to ancient Greek, the language of Socrates, Homer, and the New Testament, through study of the fundamentals of grammar and vocabulary. Emphasis on development of reading skills. (Fall)

**102. BEGINNING ANCIENT GREEK II 3 cr.** Prerequisite: GK 101 or by placement evaluation by the coordinator of Classical Languages. Continued study of ancient Greek language and culture through further acquisition of fundamental vocabulary, grammar, and syntax. Continued reading and discussion of passages. (Spring)

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**240. HOMER 3 cr.** Readings in Greek from the *Iliad* or *Odyssey*. Special attention paid to Homeric vocabulary and syntax, the composition of the epics, the Epic Cycle, and Homer's influence. May be repeated with the other Homeric poem. (Fall)

**280. READINGS IN THE NEW TESTAMENT 3 cr.** Readings from the Gospels, Pauline epistles, or other early Christian texts in Koine Greek. May be repeated with a different text. Focus on New Testament vocabulary and syntax. (Fall)

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**310. GREEK PROSE AUTHORS 3 cr.** Readings in Greek from the works of selected Greek historians or philosophers, such as Herodotus, Thucydides, Xenophon, or Plato. (Spring)

**320. GREEK POETRY 3 cr.** Readings in Greek from epic and lyric poetry, such as Hesiod, the Homeric hymns, Sappho, or Apollonius. Includes a research paper. (Spring)

**330. GREEK DRAMA 3 cr.** Readings in Greek from the plays of one of the following: Aeschylus, Sophocles, Euripides, Aristophanes, or Menander. (Spring)

**340. TOPICS IN GREEK LITERATURE 3 cr.** Readings in Greek on a selected theme from Greek literature, such as the symposium, the figure of Socrates, or landscape in literature. Includes a research paper. (Spring)

**398. ADVANCED INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the advanced level. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Supervised study on special topics. For advanced students. May be repeated with a different topic.

**499. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# History (HS)

*Professors:* M. P. Berg (Chair), A. Kugler, P. V. Murphy, J. H. Krukones (Associate Academic Vice President), D. Kilbride, R. Hessinger, M. Marsilli; *Associate Professors:* R. W. Purdy, J. M. McAndrew; *Assistant Professor:* M. Gallo

College-level history is not the memorization of dry facts and dates. It is much more than chronology—putting past events in chronological order to tell a story. Rather, it is a creative process that involves the critical interpretation of the past to answer important questions that deepen our understanding of the past and inform our activities in the present. Questions you might encounter in the classroom include: Why did the North win the U.S. Civil War? How have women contributed to political and cultural life in Japan? How do ordinary people become complicit in genocide? How have colonialism and imperialism shaped modern Latin America? At JCU, history involves discovering, researching, and learning more about your passion, but it also means discovering new interests and refining skills that will enable you to excel in any path you take after graduation.

Besides the specific learning outcomes listed below, JCU history majors will acquire an appreciation for the diversity of human experience. They will engage in serious reflection on questions of social justice and cultivate a competence in a particular area of study. Finally, they will develop an appreciation for the interdisciplinary nature of historical research and writing.

## Major and Minor Requirements

**Major in History:** 39 credit hours, at least 24 of which must be at the 300 and 400 level. At least 20 hours must be taken in residence.

- History core: 18 credit hours (HS 201, 202, 211, 212, 300, and HS 490/91).
- Regional electives: 9 credit hours, all at the 300/400 level – one course each in the following three areas: United States; Europe; Asia, Africa, Latin America.
- General electives: 12 credit hours, at least 9 of which must be at the 300/400 level; at least one course besides HS 490/491 **must** be at the 400 level.

Elective courses in the major should focus on a region or theme to be pursued in Senior Seminar or Senior Thesis.

Students seeking licensure in secondary education should consult in timely fashion with the Department of Education and their academic advisor. These programs may entail work beyond the normal four years. Students in the Integrated Social Studies teaching licensure program must complete the following courses as part of their curriculum content requirements: HS 201, 202, 211, 212, 271, 300, 490. Global Studies [one course] (these courses are global in scope and not limited to a single geographic region); Studies of Asia, Africa, and Latin America [two courses focusing on those areas]. Upper-division courses: three 300- or 400-level electives that support a regional or thematic focus.

**Minor in History:** 18 credit hours. Six courses with a minimum of *two* at the 100 or 200 level and at least *three* 300-400 level courses, one of which **must** be at the 400 level. At least one course in two of the following areas: American; European; and Asian, African, or Latin American.

Through its Core curriculum course offerings, its major program, and other activities, the History Department fosters the skills, knowledge, and habits of mind that enable students to achieve success at John Carroll and in their later lives and careers.

**Program Learning Goals in History.** Students will:

1. Think critically:
  - a. assess the strengths and weaknesses of historical arguments.
  - b. critically interrogate primary and secondary sources.
  - b. employ these sources properly in fashioning their own historical arguments.
1. Research: become competent researchers who can discover pertinent primary and secondary sources.
2. Write: become effective writers who can clearly and elegantly express a complex, thesis-driven historical argument.
3. Speak: develop skills in public speaking and oral presentation.

Any single course within the program may emphasize one or more of these goals. Students should start with one or more 200-level courses, which introduce students to the study of significant historical topics or themes through the use and interpretation of primary-source materials and historical arguments. Students should then proceed to advanced courses at the 300 or 400 level. Majors should take HS 300 in the sophomore year, in preparation for HS 490 or 491 in the senior year. A grade of at least “C” must be earned in HS 300 before a student may enroll in HS 490 or 491.

In consultation with their advisor, students majoring in history develop a thematic, regional, or chronologically-based concentration suiting their interests within the framework of a balanced program. Majors are urged to seek experiential learning opportunities that may involve internships through the department at a local historical society or course- or service-related travel components. Pertinent courses from other departments may be included in the major program with the written approval of the student’s major advisor. Foreign language study beyond University Core requirements and/or statistics are recommended for students who plan to do graduate work in history.

Students who combine a history major with a second major or a minor or concentration complementing their interest—and with an experiential learning component or internship—put themselves in excellent positions to enter careers in law, business, secondary education, social service professions, nonprofit organizations, or graduate study in history. The department participates in the following interdisciplinary programs: ; Catholic Studies; East Asian Studies; Peace, Justice, and Human Rights; and Gender, Sexuality, and Women’s Studies (see pages ??).

The History Department participates in the College of Arts and Sciences Professional Development Program.

**Introduction to History Courses**

**195-197. SPECIAL TOPICS 1-3 cr.** Topics: **195:** American; **196:** European; **197:** Asian, African, or Latin American. Specific title and number of credits announced in the semester course schedule. Directed readings or individual research by permission of chair.

**201, 202. WORLD CIVILIZATION 3 cr. each.** **201:** earliest times to the sixteenth century; **202:** sixteenth century to the present.

**205. WOMEN IN ANCIENT GREECE AND ROME. 3 cr.** Continuities and changes in the status and experiences of women in ancient Greece and Rome; examination of the relationship between democracy and gender and the lasting definitions of femininity that were developed out of these two particular cultural and historical contexts.

**211, 212. HISTORY OF THE UNITED STATES 3 cr. each.** Survey of U.S. political, economic, social, and cultural history. Emphasizes diversity of the nation’s people and how subjective categories—particularly race and ethnicity, class, and gender—have influenced historical behavior and historical analysis. **211:** through the post-Civil War era; **212:** from the end of Reconstruction to the present.

**214. TWENTIETH CENTURY U.S. HISTORY 3 cr.** Traces political, social, and cultural developments in the U.S. over the course of the twentieth century. Topics examined include: urbanization; immigration and industrialization; the growth of the American state; the Great Depression and the New Deal; World Wars I & II; the Cold War and McCarthyism; the Black Freedom Movement; Women's Rights; Gay Rights; and the Conservative turn in American politics and society at the end of the century.

**215. TRIALS OF THE CENTURIES 3 cr.** Examines 10 to 12 notable trials from the 15<sup>th</sup> to the 20<sup>th</sup> centuries. Analyzes individual cases, but also larger issues that attracted attention to each trial. Issues considered include not only what makes a trial "fair" but also freedom of thought, freedom of religion, slavery, "revolutionary justice," and genocide.

**216. THE SPANISH ARMADA 3 cr.** Early modern European political and cultural world as seen through the lens of the clash between Spain and England in the later sixteenth century.

**217. PROPHECY AND ORDER 3 cr.** Introduction to the history of Christian religious communities through an examination of the contributions of ascetic and apostolic figures who have acted as prophetic critics and strong supporters of the Church and the social/political structures of the world in which they lived. Study of the "desert fathers" and "desert mothers," Western monasticism, the mendicant movement of the high Middle Ages, apostolic groups in the modern world, religious communities of women, and contemporary examples of non-traditional intentional communities.

**218. SAINTS AND SCOUNDRELS: THE JESUITS FROM RENAISSANCE TO REVOLUTION 3 cr.** Spirituality, intellectual life, ministry, and political involvements of the Jesuits from their origins in the Renaissance to the present day as seen in a global and historical context.

**220. REVOLUTIONARY EUROPE 3 cr.** Transformation in European government, economy, society, and culture in the period of the French and Industrial Revolutions.

**221. 15<sup>th</sup> CENTURY ENGLAND 3 cr.** Considers the causes and consequences of the period of political instability known as the Wars of the Roses, years marked by political murders, the overthrow of monarchs, and civil war. These events were dramatized in Shakespeare's historically-minded plays.

**225. WORLD WAR I & MODERNITY 3 cr.** Origins of World War I, with particular emphasis on social, political, economic, and strategic factors; the experience of modern industrial warfare in the trenches and in civilian society; the impact of technology on perceptions of warfare; radicalization of political sentiments among revolutionaries and supporters of continued conflict; the peace settlement and its legacy.

**227. TWENTIETH-CENTURY GLOBAL HISTORY 3 cr.** Introduction to the major themes of twentieth-century history that have shaped our contemporary world.

**228. CRIME & VICE IN VICTORIAN LONDON 3 cr.** The Industrial Revolution profoundly disrupted European society during the nineteenth century. This course concentrates on the changes in attitudes toward sex, substance abuse and poverty as reflected in London, Europe's largest city for much of the period. The course also examines the rise of police forces and the most famous series of crimes during the era, the murders carried out by Jack the Ripper.

**229. THE COLD WAR 3 cr.** Developments between 1917 and 1991 in US-European and broader international perspective. Circumstances at the end of World War II; alliance formation; the Korean War; censorship in East and West; Cold War influence on domestic developments in NATO countries; official and dissident culture in Eastern Europe; the "Soviet" model in China, Cuba, and Vietnam; the role of the Middle East; arms race/arms control; collapse of Communist regimes and ramifications.

**230. INTRODUCTION TO HUMAN RIGHTS 3 cr.** Survey of thinking on human rights from antiquity to the present, with special attention to the Universal Declaration of Human Rights and other post-1945 developments. Case studies may vary, but will generally include such key human rights concerns as slavery, humanitarian

intervention, refugees and displaced persons, post-conflict reconstruction, human trafficking, torture, and the death penalty.

**231. PEACE BUILDING AFTER EMPIRE 3 cr.** Employs approaches from the fields of history and literature to examine the impact empire-building and, subsequently, decolonization have had on societies that experienced (and, in some cases, continue to experience) sectarian conflict related to imperialism. Case studies might include, but are not limited to, South Africa, Northern Ireland, India, and Israel/Palestine.

**235. AFRICAN AMERICAN HISTORY 3 cr.** Overview of the black experience from its West African roots, through slavery, and finally to freedom in modern America. Focus on leaders, movements, community, and race relations.

**236. NATIVE AMERICAN HISTORY 3 cr.** History of the indigenous peoples of North America from their initial contact with European invaders in the 17th century until their last major battles against the Euro-Americans on the western Plains in the late 19th century. Focuses on the impact of cultural and biological exchange between Europeans and Indians, assessing the dynamics of disease, trade, and military conflict.

**237. HISTORY OF MEDICINE IN AMERICA 3 cr.** Surveys the art and science of healing from the colonial period through the present. Focuses on the conception of the healing arts, the evolution of the hospital system, the shift to private insurance, the growth of scientific research, and the social implications of disease and treatment.

**239. THE UNITED STATES AND THE WORLD 3 cr.** Examines U.S. cultural and diplomatic relationships with the wider world from the colonial period through the present day. Topics include major traditions of U.S. foreign policy, the era through the contemporary period, and debates over the past and future status of the United States as an empire.

**240. SPIRITUAL AWAKENINGS IN EARLY AMERICA 3 cr.** Exploration of early American religious history, focusing on a time frame encompassing the two major religious revivals historians have referred to as the Great Awakening and the Second Great Awakening. Looks at spiritual birth and rebirth within various communities, including white evangelicals, Native Americans, enslaved African-Americans, and the Mormons.

**242. INTRODUCTION TO WOMEN IN THE CONTEMPORARY WORLD 3 cr.** Introduces students to the historical roots of contemporary social problems as they relate to gender and women's issues. Topics may vary, but will generally include issues such as maternal mortality, rape as a weapon of war, the ethics of prostitution, human trafficking, female genital mutilation, honor killings, and other forms of gendered violence. Attention will also be given to the history of social movements that have improved the lives of women and girls worldwide.

**245. UNITED STATES FOREIGN RELATIONS 3 cr.** Examines America's diplomatic, economic, military, and cultural relationships with other nations, with emphasis placed on the period from 1895 through the present.

**251. ATLANTIC WORLD TO 1700 3 cr.** Examines the early history of European exploration of the Atlantic World. Shaped by new diseases, new plants and animals, new technologies, and new political configurations, the New World gave rise to new sets of identities, as people from Europe, Africa, and the Americas adapted to circumstances out of necessity.

**253. THE OLD SOUTH 3 cr.** Development of the slaveholding regions of the U.S. from the beginning of European contact through the end of the Civil War. Transplantation of European cultures in the New World, the evolution of a biracial society based on slavery, Southern distinctiveness, and the origins of the Civil War.

**257. U.S. MILITARY HISTORY 3 cr.** Overview of the development of the American armed forces and their role in society. The place of war in U.S. history; professionalization of the military; analysis of battlefield experience.

**258. SPORTS IN AMERICAN SOCIETY 3 cr.** History of sports in America seen both as product and shaper of the surrounding society and culture. Topics examined include relationships between sports and urbanization, economic development, race, and gender.

**259. WOMEN IN THE CONTEMPORARY WORLD 3 cr.** Twentieth-century women's history from a global perspective focusing on women's political activism and involvement in movements for social change. Explores significance of gender, the body, and sexuality in the lives of women worldwide.

**260. CHILDHOOD IN AMERICAN HISTORY 3 cr.** Explores the history of childhood in America, highlighting its variability across time and cultural groups. Considers conceptualizations of childhood such as Puritan notions of "miniature adulthood," Lockean concepts of "tabula rasa," and modern concerns about "adulthood." Also, how and why the length and stages of childhood have shortened and lengthened in the American past.

**262. SEXUALITY IN AMERICA 3 cr.** Surveys the history of American sexuality and gender from the colonial era to the present. Cross-cultural encounters, male-female sexual politics, and changing conceptions of homosexual and heterosexual identities. Expectations for sexual and gender comportment have varied across time and region.

**264. WORLD WAR TWO 3 cr.** Examines the causes, conduct, and consequences of the Second World War from a global perspective. In addition to the general study of land and naval operations and tactics, special attention will be given to the war's impact on civilian populations, the lot of the common soldier, generalship, unrestricted submarine warfare, and strategic bombing offensives.

**265. VIETNAM WAR 3 cr.** Examines the origins, conduct, and consequences of the American phase of the Vietnam War. The period 1945-1975 will be viewed from the perspective of the U.S., the North Vietnamese, and the South Vietnamese. The course poses a question that still puzzles and even haunts many people today. "How did the United States win every major battle in and over Vietnam and yet lose the war?"

**267. HISTORY OF THE CARIBBEAN.** Examines the evolving contest for power in the Caribbean Basin. Conquest of the Caribbean basin by the colonial European powers, hierarchies of race and class, resistance to colonial masters, dismantling of major European New World empires by piracy, slave rebellion, and other insurgencies.

**270. INTRODUCTION TO LATIN AMERICAN HISTORY AND CULTURE 3 cr.** Surveys the main topics of Latin American history down to the present, emphasizing native peoples, gender roles, military dictatorships, and human rights.

**271. WORLD GEOGRAPHY 3 cr.** Thorough review of place geography; relationships between humans and the physical environment, including climate, soils, resources, and landforms. Analysis of regional areas. Does not offer Division II core credit.

**272. INTRODUCTION TO LATIN AMERICAN HISTORY AND CULTURE 3 cr.** Surveys the main topics of Latin American history down to the present, emphasizing native peoples, gender roles, military dictatorships, and human rights.

**273. COLONIAL LATIN AMERICAN HISTORY 3 cr.** Colonial period in Latin America (to 1810). Focuses on the impact of the European conquest over the native groups, the effects of conversion to Catholicism, and subsequent changes in gender roles.

**274. MODERN LATIN AMERICAN HISTORY 3 cr.** Main issues involved in the making of modern Latin America (1810 to present). Identity formation processes, military history, gender problems, and human rights topics.

**275. LATIN AMERICAN DICTATORSHIPS: GLOBALIZATION, U.S. FOREIGN POLICY, AND HUMAN RIGHTS 3 cr.** Introduction to military-run regimes in Latin America as a way to understand the global influences at work in the area. The impact of dictatorships on human rights, as well as of the multi-layered responses by civil societies to cope with state-run terrorism. Impact of U.S. foreign policy in Latin America.

**277. THE EMPIRE OF PAPER: THE SPANISH COLONIAL EXPERIENCE THROUGH LITERARY SOURCES. 3 cr.** Explores Spanish colonialism (1500-1800) in Latin America and Asia using literary texts as

primary sources. Discusses issues of (self) representation, dominance, hegemony, and identity/ethnicity construction.

**278. CUBA: PAST AND PRESENT 3 cr.** Exploration of Cuba's history from pre-Columbian times to the present; with an emphasis on connections to global systems. Particular focus on the reciprocal influences that international actors and domestic politics have had on Cuban society and economy; close investigation of Cuba's influence on US politics and imagination since the Spanish-American War and especially since the revolution of the late 1950s.

**279. PRE-MODERN EAST ASIAN HISTORY 3 cr.** China, Japan, and Korea from their pre-historic origins to the mid-nineteenth century. The contribution of their cultural foundations and traditions to modernization and the impact of their historical development on contemporary events.

**280. MODERN EAST ASIAN HISTORY 3 cr.** Impact of imperialism, revolution, and war from the mid-nineteenth century to the present on East Asian modernization and globalization; focus on China, Japan, and Korea.

**281. CONTEMPORARY EAST ASIAN HISTORY 3 cr.** The political, social, economic, cultural, and foreign relations of China, Japan, and Korea since 1945.

**283. JAPANESE POPULAR CULTURE 3 cr.** Focuses on the culture of ordinary Japanese—their interests, lifestyles, consumption, activities—rather than those of the elites. Covers the period from the 17<sup>th</sup>-century Tokugawa Era to present day.

**285. AFRICAN HISTORY THROUGH AUTOBIOGRAPHY 3 cr.** Introduction to the study of modern African history through the lives of both ordinary people and national figures. Examines autobiographical writing as a means for understanding the political, cultural, social, and economic contours of life in several post-colonial African nations.

**295-297. SPECIAL TOPICS 1-3 cr.** Topics: **295:** American; **296:** European; **297:** Asian, African, or Latin American. Specific title and number of credits announced in the semester course schedule. Directed readings or individual research by permission of chair.

### **Advanced Courses**

**300. HISTORICAL METHODS 3 cr.** Exploration of history as a way of knowing and communicating the past; historiography, research, and writing methodology; developing a historical perspective.

**301. TOPICS IN ANCIENT GREEK HISTORY 3 cr.** Introduction to Greek history through consideration of primary sources (e.g., historical documents, material culture, or literary texts). Topics may focus on a period or theme in Greek history between the Bronze Age and the incorporation into the Roman empire.

**302. TOPICS IN ROMAN HISTORY 3 cr.** Introduction to Roman history through consideration of primary sources (e.g., historical documents, material culture, or literary texts). Topics may focus on a period or theme from the Roman Republic and/or Empire.

**305. ROME: CITY OF EMPERORS, POPES, AND SAINTS 3 cr.** History and culture of the city of Rome from the classical and imperial age to the sixteenth century. Focus on the institutions and historical figures that have been prominent in the shaping of the city and its history. Highlighted by a one-week, on-site learning tour of Rome during spring break.

**307. HISTORY OF THE POPES 3 cr.** Examines the history of the popes, and the papacy as an institution, from the origins of Christianity in Rome in the first century to the present. Major topics include the growth of papal power both theological and administrative in Late Antiquity and the Middle Ages, the impact of the Reformation on papal power, and the challenge of political and scientific modernity to the papacy.

**310. WOMEN IN EUROPE SINCE 1500 3 cr.** Examination of the legal, economic, domestic, and ideological status of women in the early modern period and the impact of the Reformation, Enlightenment, French and Industrial Revolutions, and world wars on women, as well as women's contributions to these events.

**318. HISTORY AND MEMORY 3 cr.** Examines historical memory among those who experienced an event or era, and how the past is commemorated to communicate memory to future generations who do not share lived experience. Investigates theories of memory developed by historians, social scientists, and cultural critics to explore case studies that include memory of the First and Second World Wars, and the Cold War, particularly in Germany; may also include U.S.-specific examples, such as memory of the Confederate past.

**326. TWENTIETH-CENTURY EUROPE 3 cr.** Political, social, and economic developments from approximately 1900 to the post-9/11 era. Emphasis on the impact of the world wars, right and left radical regimes, the Cold War, and European attempts at unity and self-determination.

**330. IMPERIALISM AND DECOLONIZATION 3 cr.** Examines motivations and justifications for European expansion into Asia and Africa during 19<sup>th</sup> and 20<sup>th</sup> centuries, and strategies for accommodation and resistance—and ultimately revolution—developed by newly colonized people. Focuses primarily on Britain and France as imperial powers, and China, India, and parts of Africa as sites where local people ultimately asserted their independence.

**332. BERLIN: FROM REICH TO REPUBLIC 3 cr.** German history and politics from 1918 to the present, employing Berlin as the focal point for significant developments. The interwar republic and the rise of the Nazis; the Third Reich; postwar occupation and Cold War division; political systems and society in East and West Germany; Berlin as capital of a reunified Germany in an increasingly integrated Europe. Culminates in a week-long study tour in Berlin during spring break.

**333. HISTORY ON FILM 3 cr.** Cinematic recreations of the past and ways of assessing them, especially as compared with written history; dramatic features and documentaries as historical sources that reflect their eras of origin.

**336. THE HOLOCAUST 3 cr.** Racism and antisemitism in modern Europe; Nazi propaganda and legal measures against German Jews in 1930s; transition from discrimination to Europe-wide genocide during World War II; victims, perpetrators and bystanders; legacy.

**340. ABRAHAM LINCOLN 3cr.** Examines the history of the United States from the early nineteenth century through 1865 by studying the life and times of the 16<sup>th</sup> president of the United States. Special attention to the roots of the Civil War, presidential leadership, and the dilemma of slavery in a society pledged to the support of liberty.

**343. SLAVERY AND ABOLITION 3 cr.** Development of African slavery in the Western hemisphere in the early modern period. Themes include the African background, the European origins of chattel slavery, the development of racism, labor, resistance, community life, religion, and the abolition movement.

**371. OUR UNRULY DAUGHTERS: WOMEN AND THE CATHOLIC CHURCH IN EARLY MODERN SPAIN AND LATIN AMERICA 3 cr.** Focuses on the relationship between women and the Catholic Church in colonial Latin America. Includes women who found an intellectual shelter in the Church, as well as those in trouble with the Inquisition because of religious deviance.

**373. WOMEN IN THE CATHOLIC CHURCH IN THE AMERICAS 3 cr.** Explores the role that Catholicism and the Catholic Church played in shaping women's roles in colonial Latin America (1500-1800). Examines lives of famous female saints and sinners, as well as women intellectuals who found an ambiguous role in nunneries. Demonstrates the influence of Catholicism in constructing gender norms that defined orthodoxy and deviance for women in their social and spiritual experiences.

**381. JAPANESE HISTORY 3 cr.** Development of Japanese culture, society, politics, and economics from prehistory to modern times.

**382. CHINESE HISTORY 3 cr.** Social, political, economic, and cultural development of China from earliest to modern times.

**395-397. SPECIAL TOPICS 1-3 cr.** Topics: **395:** American; **396:** European; **397:** Asian, African, or Latin American. Specific title and number of credits announced in the semester course schedule. Directed readings or individual research by permission of chair.

**406. MEDIEVAL EUROPE 3 cr.** Explores the various forces at work in the development of the political, religious, and cultural institutions of the Middle Ages from 500 to 1500.

**411. RENAISSANCE EUROPE 3 cr.** Political, intellectual, and cultural developments in Renaissance Italy. The movement of Renaissance culture into Northern Europe, emphasizing the continuity and differences with the Italian Renaissance.

**412. REFORMATION EUROPE 3 cr.** Breakup of the unity of Christendom. Emphasis on the major Protestant reform movements (Lutheranism, Calvinism, Anglicanism) and the Catholic Reformation.

**414. THE CATHOLIC EXPERIENCE 3 cr.** The capstone course for the minor in Catholic Studies. Requires students to examine major issues in the Catholic intellectual traditions in a historically critical way. An issue underlying all other issues in the course is the development of doctrine. Open to students enrolled in the Catholic Studies minor.

**416. EARLY MODERN ENGLAND 3 cr.** Political, social, economic, religious, and cultural development of England from the War of the Roses through the Glorious Revolution.

**417. FRENCH REVOLUTION AND NAPOLEON 3 cr.** Eighteenth-century society and culture; liberal and radical revolutions; impact on Europe and the world.

**432. AMERICAN REVOLUTIONARY ERA 3 cr.** The Revolution as a colonial war for independence and as a struggle for reform within America. Examines achievement of these goals as a new nation created.

**438. THE CIVIL WAR AND RECONSTRUCTION 3 cr.** Social and political origins of the Civil War in the Old North and Old South, the secession crisis, military strategy, soldiers' lives, leadership, the home front, women's experiences, emancipation, and political and social reconstruction.

**440. UNITED STATES SINCE 1945 3 cr.** Significant events and trends of the post-World War II period. Origins of the Cold War, McCarthyism, the civil rights and women's movements, the Vietnam War, and recent developments in foreign and domestic policies.

**441. AMERICA IN THE 1960s 3 cr.** Attempts to make sense of the most polarizing and turbulent decade of the twentieth century, including its major issues and events—the Civil Rights Movement, the Vietnam War, the New Left, the resurgence of conservatism, and urban unrest.

**444. UNITED STATES CONSTITUTIONAL HISTORY 3 cr.** Development of the American constitutional system and interaction with other strands of the nation's history, including political, social, economic, and religious. Focuses on decisions of the Supreme Court.

**452. MODERN JAPANESE HISTORY 3 cr.** Japan's rise as a world power, from the late Tokugawa Era (nineteenth century) to its postwar comeback. (HS 280 or 381 suggested as preparation, but not required.)

**464. GENOCIDE AND WAR CRIMES 3 cr.** Examines the period from the First World War to the present. Close study of the evolution of international understanding of genocide, crimes against humanity, and human rights violations through selected case studies. Focus on social, political, economic, and cultural factors in the perpetration of atrocities. Investigates the development of human rights protection and adjudication, as well as potential for reconciliation.

**473. NAZI GERMANY: ORIGINS, STRUCTURES, CONSEQUENCES 3 cr.** Turbulent German circumstances resulting from the Revolutions of 1918-19, the rise of the Nazi Party, establishment of the Nazi state, and the politics of race and genocide. Examines ways that postwar historians have approached the rise of National Socialism and the controversy over the singularity of Nazi crimes against humanity.

**474. GERMANY SINCE 1945: RECONSTRUCTION TO REUNIFICATION 3 cr.** History of East and West Germany since the collapse of Nazism. Post WW II occupation, denazification, and reconstruction; integration into rival Cold War alliances. Society, politics, economy and culture in the two Germanys. Protest and collapse of state socialism in East Germany in 1989; German reunification and European response. Reflections on the Nazi and communist pasts.

**476. IN THE NAME OF THE INCAS: FROM IMPERIAL SPLENDOR TO COLONIAL COLLAPSE AND MESSIANIC RETURNS 3 cr.** Incas' imperial splendor and subsequent collapse as a result of the Spanish conquest. The role of the Incas as a utopian model of social organization among the native peoples of the Andean region.

**477. CHE GUEVARA: THE MAN, THE ICON, HIS TIMES 3 cr.** The life and accomplishments of Ernesto "Che" Guevara in the context of Cold War U.S. and Latin American foreign relations, colonialism, and social justice ideals.

**488. RUSSIA IN REVOLUTION, 1900 TO THE PRESENT 3 cr.** Russia's turbulent history since 1900. Fall of tsarism, Bolshevik seizure of power and creation of the Soviet Union, Leninism and Stalinism, Second World War and Cold War, Gorbachev's reforms, collapse of the USSR, and post-Soviet developments.

**490. SENIOR SEMINAR 3 cr.** Prerequisites: Minimum grade of C in HS 300 and five additional courses in the major. The culminating experience of the history major, requiring students to demonstrate historical skills through common readings, class discussion, and written assignments. Fulfills the additional writing requirement in the major (AW) mandated by the University's Integrative Core Curriculum.

**491. SENIOR THESIS 3 cr.** Prerequisites: Minimum grade of C in HS 300, five additional courses in the major, and permission of chair. Individual research project developed and written in consultation with appropriate department member. Typically restricted to students with a 3.5 GPA overall. Especially recommended for students pursuing graduate study in history. Fulfills the additional writing requirement in the major (AW) mandated by the University's Integrated Core Curriculum.

**495-497. SPECIAL TOPICS 1-3 cr.** Topics: **495:** American; **496:** European; **497:** Asian, African, or Latin American. Specific title and number of credits announced in the semester course schedule.

**498. INTERNSHIP 1-6 cr.** Prerequisites: 3.0 average in history courses and permission of chair; open to majors only. No more than 3 credits may be applied to the major. Supervised work, typically in museums, archives, public history sites or agencies, relevant to major sequence of study. Journal and reflective paper required in addition to work responsibilities. Internships must be planned in advance with supervising faculty member. Can be taken up to two times for credit towards the History major.

**499. INDEPENDENT STUDY 1-3 cr.** Prerequisites: permission of project advisor and department chair. Directed reading or individual research.

# Humanities

*Professors:* L. A. Koch, L. S. Curtis, G. B. Guest; *Associate Professor:* B. Liu

Working in concert with an advisor, students can design their own Humanities major curriculum to match their interests in past or present human cultures. This major is administered by the Department of Art History and Humanities. Course work is derived from the disciplines of art history, literature, history, theology and religious studies, and/or philosophy. This major and minor is also designed so that students may use linked and other Core courses from the new Integrative Core Curriculum to develop an integrated major or minor. Inquiries may be directed to the chair of the Department of Art History and Humanities.

## Humanities Major

The Humanities major focuses on the artistic, historical, religious, philosophical, and literary aspects of world cultures. This rigorous and flexible major provides a solid undergraduate education in the liberal arts that is designed to meet the needs and interests of the individual at any level of experience. The Humanities major allows the student to explore specific periods, cultures, themes, or subjects, and to integrate the knowledge of various disciplines in a unique fashion. Areas of focus may include medieval and Renaissance studies, 19<sup>th</sup>-century studies, 20<sup>th</sup>-century studies, global studies, American studies, Asian studies, French studies, classical studies, studies in art and religion, or other themes designed by the student. Courses are selected with the approval of a major advisor in the Department of Art History and Humanities.

The major is not only excellent preparation for graduate and professional study in a variety of fields, but also a solid foundation for careers in law, medicine, international business, management, journalism, publishing, public radio and television, literature, and criticism. In addition, it has proven especially exciting for those interested in foreign-language studies, as well as those returning to college to pursue their degree after a successful career.

## Humanities Minor

The Humanities minor can complement or augment any major field of study and is especially useful for those interested in the sciences, business, and professional studies. Selection of courses should be made in consultation with the chair or a designated advisor in the Department of Art History and Humanities.

For information about graduate work in Humanities, consult the *Graduate Studies Bulletin*.

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**Program Learning Goals in Humanities.** Students will:

1. Recognize and understand major artists and monuments of world art, and be able to identify the characteristics and distinguishing features of works of art and architecture in their historical and cultural settings. They will learn to make comparisons across cultures and time periods, leading to an understanding of art and culture within a global context.
2. Demonstrate a knowledge of vocabulary specific to the visual arts and develop a proficiency in visual literacy that will prepare them for graduate study and/or careers in the visual arts, architecture, the media, and related fields.
3. Integrate the knowledge of various Humanities disciplines in a unique fashion by creating, with the supervision of a faculty advisor, a self-designed major that integrates course work from the following areas: art history, literature, history, theology and religious studies, and/or philosophy.
4. Engage with the curatorial and institutional dimensions of art collections and exhibitions by studying at local cultural institutions, including the Cleveland Museum of Art and the Cleveland Museum of Contemporary Art.
5. Be able to locate, interpret, and analyze primary and secondary sources relevant to solving research problems in the visual arts.
6. Recognize, understand, and apply critical, theoretical, and methodological approaches to the history of representation understood within broader socio-cultural and interdisciplinary perspectives.

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### Major and Minor Requirements

**Major in Humanities:** 34 credit hours, at least 21 of which must be at the 300 or 400 level. The 34 hours are divided into three academic areas, as follows:

- 12 credit hours in Art History.
- 1 credit hour Capstone Course (AH 497).
- 12 credit hours in Literature (in original language, if possible).
- 9 credit hours in History, Theology and Religious Studies, and/or Philosophy.

To insure interaction of the various disciplines listed above, at least 18 of the 33 hours will be focused in an area of scholarly interest such as medieval and Renaissance studies, 19<sup>th</sup>-century studies, 20<sup>th</sup>-century studies, American studies, Asian studies, French studies, classical studies, studies in art and religion, international studies, or other themes designed by the student. The remaining courses chosen to complete the major depend on the individual student's interests. Students may count Art History courses from the EGC and/or linked section of the Integrative Core as elective courses within the major. The additional hours of free electives beyond the Integrative Core and the Humanities major requirements allow the student to: 1) strengthen the area focus; 2) prepare for graduate study in one of the above fields; 3) pursue a related or different major or minor. Students must assemble a capstone portfolio to complete the Humanities major.

**Language:** While there is no additional language requirement beyond the Core for the Humanities major, a reading knowledge of one or more foreign languages relevant to the student's area of focus is *strongly recommended*. This knowledge will enable the student to do research in depth and to pursue graduate study.

**Minor in Humanities:** 18 credit hours, at least 12 of which must be at the 300 or 400 level. The minor requirements are divided as follows:

- 6 credit hours in Art History.
- 6 credit hours in History, Theology and Religious Studies, and/or Philosophy.
- 6 credit hours in Literature (in original language, if possible).

These courses must be related to an area focus such as medieval and Renaissance studies, 19<sup>th</sup>-century studies, 20<sup>th</sup>-century studies, American studies, French studies, Asian studies, classical studies, or some other theme designed by the student. The area of focus should be defined by working with a faculty advisor from the Department of Art History and Humanities. Students may count Art History courses from the EGC and/or linked section of the Integrative Core as elective courses within the minor.

# International Business with Language and Culture (IB)

*Professors:* W. O. Simmons (Director, Associate Dean), G.L. Compton-Engle, G. Weinstein; *Associate Professors:* S. K. Kahai, L. G. Ferri, F. Zhan, Y. Wu, *Assistant Professors:* S. Brockhaus, F. Donou-Adonsou, S. Lim, M. Sheldon.

International business focuses on the challenge of solving business problems within international contexts. The International Business with Language and Culture (IBLC) major prepares students to meet this challenge. Through a combination of demanding courses and international and domestic experiential activities, the major attracts students seeking to develop the ability to lead and to serve in the global business environment.

Becoming men and women for others through global engagement is fundamental to the mission of John Carroll. Including language and culture studies with the study of international business is an excellent way to develop that sense of engagement.

In business, language fluency and cultural expertise are no longer simply attractive competencies. They are critical for leadership in organizations. In an increasingly competitive world economy, a proficiency in a second language and culture is crucial to excel in the commerce, politics, and society of today's global marketplace.

Through a combination of curricular and experiential activities, the IBLC major prepares students for a wide variety of exciting career opportunities. To pursue careers in international business, students may focus their course work and internship experiences on one of at least three general areas: international marketing (analysis, development, and promotion), international logistics and supply chain management, and international financial management.

Combining language and culture with business in both course work and experiential activities produces students who are well prepared for the unique challenges and problems encountered in international business. In addition to the language, culture, and international business knowledge gained, employers recognize and value the added skill sets acquired and demonstrated through this major, such as adaptability, flexibility, tenacity, and problem-solving. Graduates of this major successfully pursue careers across a wide variety of industries and locations.

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**Program Learning Goals in International Business with Language and Culture.** Students will acquire:

1. Proficiency in a second language and culture.
2. An understanding of, and appreciation for, cultural variations in behaviors and values.
3. The ability to analyze international business contexts (e.g., markets, financial arrangements, currencies, transactions).
4. The ability to analyze change, risk, and uncertainty, and how change will affect the performance of people, products, and organizations across cultures.
5. The ability to adapt to different cultures and the flexibility to tackle organizational challenges in a different cultural milieu.

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Major Requirements
<p><b>Major in International Business with Language and Culture:</b> In addition to completing the Integrative Core Curriculum, a total of 62 – 80 credit hours is required as described below.</p> <p><b>Language and Culture:</b> 0 – 24 credit hours. Proficiency in a second language, typically demonstrated by completing three courses (9 cr.) in the target language beyond the 201 level, is required. This may add up to 12</p>

additional hours of language courses depending on the student's language preparation prior to coming to John Carroll. Six credit hours of country-specific culture classes are also recommended. The country-specific classes may be counted toward University Integrative Core requirements, when feasible.

**Business Core:** 41 credit hours, including MHR 461.

**Major Courses:** 21 credit hours. Required courses: IB 301, MK 361, FN 439 or EC 342, IB 495, and three international business electives to be taken here or abroad. Acceptable electives at Boler include EC 342 or FN 439, EC 352, SCM 361, MHR 361, or EC 343. International elective classes from the College of Arts and Sciences must be approved by the IBLC director. Program electives taken abroad are transferred back as IB 304-309 or IB 404-409.

**Experiential Requirements:** This major requires a study-abroad experience in a country of the student's language of study, and an internship. Study abroad typically occurs during the spring semester of the junior year, students must apply through the Center for Global Education by the deadline prior to the semester of study abroad, and the location must be approved by the IBLC director. In addition, BPD 490 or BPD 492 (0 credit) must be completed for the internship (or coop) requirement of the program. Although the required internship can be taken while abroad or in the U. S., students are encouraged to find one while abroad. Note that many study-abroad programs require that students have a GPA of 2.5 or higher. Students should be sure to speak with the director of the program.

**301. CULTURE AND CHANGE 3 cr.** Prerequisites: EC 201-201. Uses a historical and behavioral lens to analyze how culture can affect economic, social, political, and organizational change, and how these changes can affect different cultures. Major historical changes and their consequences in shaping culture are explored and related to contemporary societies. Should be taken in the fall semester of junior year.

**304. ISSUES IN INTERNATIONAL ECONOMICS I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university, but will transfer back as this course. Covers fundamental issues in international economics.

**305. SPECIAL TOPICS IN INTERNATIONAL BUSINESS I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers fundamental issues in international finance.

**306. ISSUES IN INTERNATIONAL FINANCE I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers fundamental issues in international finance.

**307. ISSUES IN INTERNATIONAL MANAGEMENT I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers fundamental issues in international finance.

**308. ISSUES IN INTERNATIONAL MARKETING I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers fundamental issues in international marketing.

**309. ISSUES IN INTERNATIONAL BUSINESS ENVIRONMENTS I 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. Specific course will be titled by study-abroad university but transfer back as this course. Covers basic issues in international business environments.

**404. ISSUES IN INTERNATIONAL ECONOMICS II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international economics.

**405. SPECIAL TOPICS IN INTERNATIONAL BUSINESS II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international business.

**406. ISSUES IN INTERNATIONAL FINANCE II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international management.

**407. ISSUES IN INTERNATIONAL MANAGEMENT II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international management.

**408. ISSUES IN INTERNATIONAL MARKETING II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international marketing.

**409. ISSUES IN INTERNATIONAL BUSINESS ENVIRONMENTS II 3 cr.** Prerequisite: determined by study-abroad university. One of three pre-approved electives to be taken during the required study-abroad semester. The specific course will be titled by the study-abroad university but transfer back as this course. Covers advanced issues in international business environments.

**494. SEMINAR IN INTERNATIONAL BUSINESS 3 cr.** Prerequisite: IB 301 or as announced. Study of contemporary issues in international business not covered in depth in other courses. Specific topic, method of presentation, and requirements are designated by the seminar leader.

**495. BUSINESS PROBLEM SOLVING ACROSS CULTURES 3 cr.** Prerequisite: IB 301. The capstone course of the IBLC major. Students are confronted with a series of problems that they solve initially for a company in the U.S., and then for a company abroad. Emphasis is on how the solutions need to change as a function of culture. Should be taken in the spring semester of senior year.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: overall GPA of 3.0 or higher, and permission of program director and faculty member. Research project supervised by a faculty member of the Boler College of Business willing to act as advisor. The student selects an aspect of international business, establishes goals, and develops a plan of study. The plan must be approved by the program director and filed with the dean's office. Consult the program director for guidelines established for such study.

# International Cultures (IC)

International Cultures designates a body of courses offered by the Department of Classical and Modern Languages and Cultures. These courses are aimed at providing a cross-cultural approach to understanding today's multicultural world. They involve art, film, popular culture, historical perspectives, and literature. Most courses fulfill requirements in the Integrative Core Curriculum.

**All International Cultures courses are taught in English.**

The courses listed below are arranged according to cultural areas (e.g., courses on East Asia are numbered 120-129, 220-229, 320-329).

Generic: 100-109, 201-209, 301-309, 401-409

East Asian: 120-129, 220-229, 320-329

Eastern European: 130-139, 230-239, 330-339

Francophone: 140-149, 240-249, 340-349

Germanic: 150-159, 250-259, 350-359

Italian: 160-169, 260-269, 360-369

Spanish-speaking: 170-179, 270-279, 370-379

**109. THE GLOBAL COMMUNITY AND SOCIAL JUSTICE 3 cr.** Focuses on issues of “deculturalization,” colonization, diversity, oppression, and poverty that impact daily lives in communities around the world; special emphasis on developing nations. Parallel studies of same issues with regard to immigrants and other marginalized populations in the U.S. Students acquire communicative and cultural skills necessary to promote social justice in a global environment.

**120. JAPANESE CULTURE AND SOCIETY 3 cr.** Contemporary Japan viewed from diverse perspectives: religion, businessmen and women, educational system, food, urban and rural areas, traditional and new cultural phenomena, traditional and contemporary dramas, “serious” literature and “*manga*” (comic books and graphic novels), high culture and mass culture.

**122. JAPANESE CULTURAL ART FORMS 1 cr. each** **122A JAPANESE SWORDSMANSHIP: KENDO** Martial art combining mind, body, spirit training, and cultivation of one's character through controlled matches governed by strict rules of etiquette and conduct, non-lethal instruments, traditional clothing, and protective equipment. **122B JAPANESE CALLIGRAPHY** “The way of writing,” unlike its Western counterpart, an art form widely practiced by people of all ages and all walks of life in Japan. **122C JAPANESE IKEBANA** Traditional flower arranging based on ancient rules and spiritual practices that include harmony with nature and the use of organic materials. **122D INTERMEDIATE IKEBANA** Traditional flower arranging based on ancient rules and spiritual practices that include harmony with nature and the use of organic materials. Any combination of courses (A, B, C, or D) may be repeated for up to 4 credits.

**128. CHINESE CULTURE AND SOCIETY 3 cr.** Introduction to China, including its peoples, customs, cultures, history, geography, cities, demographics, economy, languages, and government. (Does not meet Core language requirement.)

**160. ITALY TODAY 3 cr.** Historical and cultural background of modern Italy. Emphasis on themes such as immigration, women in politics, and the reasons for Italy's zero birth rate.

**163. ITALIAN WOMEN AND SOCIETY 3 cr.** The shift in social, political, and economic roles of women in 20<sup>th</sup>-century Italy. Focus on major Italian women writers and films that depict these changes.

**164. ITALIAN LITERARY PARKS 3 cr.** The relationship between writing and the writer's homeland. Focuses on major Italian writers and their literary, physical, and emotional portrayal of their place of origin.

**165. MODERN ROME IN LITERATURE AND FILM 3 cr.** Representation of the city of Rome as capital city of Italy and center of Italian political and cultural life.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** One or several aspects of a culture or cultures—either in the country of origin or as American heritage—especially as found in its language, literature, ideas, or art forms. May be repeated with a different topic.

**205. GLOBAL FAIRY TALES, FABLES, FOLK TALES, AND SHORT FICTION 3 cr.** The international roots and literary merits of tales; tales as a reflection of time, place, and social norms. Class discussions and independent research. Students will write their own interpretation of a fairy tale focusing on the elements of the genre as presented in the course.

**208. FOOD FOR THE SOUL AND SOUL FOOD: THE ROLE OF FOOD, FAMILY, AND FEASTING ACROSS HUMAN EXPERIENCE 3 cr.** Analysis of fiction and non-fiction as well as dramatic and documentary films that deal with food as it relates to family structures and relationships, foreign and domestic ethnic identity, and religion/spirituality. Exploration of the ethics of the globalization of food production.

**209. FOOD IN FILM AND CULTURE: THE GLOBAL GENDERED TABLE 3 cr.** Viewing and discussion of feature films and documentaries that deal with some aspect of food, food and culture, or the globalization of food production. How food is biological and cultural, personal and political, national and international, and may even define social class/caste, race, ethnicity, and socially or culturally imposed gender roles. Films are supplemented with academic and scholarly readings.

**220. JAPANESE POPULAR CULTURE 3 cr.** Focuses on the culture of ordinary Japanese, their interests, lifestyles, and activities, rather than the aesthetics of the elites.

**221. A HALF-CENTURY OF POSTWAR WRITING IN JAPAN 3 cr.** The works of authors such as Mishima, Tanizaki, Abe, and the Nobel Prize winners Kawabata and Oe.

**227. JAPANESE FILM IN THE CONTEXT OF CULTURE AND SOCIETY 3 cr.** Study of Japanese movies in an expression of Japanese culture and thought. Topics include the Japanese sense of beauty, the way of the warrior, and silence in Japanese communication.

**230. SHORT FICTION OF THE NINETEENTH CENTURY: RUSSIAN, SLOVAK, CZECH 3 cr.** Survey of translated short stories and/or novellas from these Slavic peoples depicting their 19<sup>th</sup>-century society, history, and culture. Students discuss and reflect on the human experience in a non-American context that affects their own understanding of a global and diverse viewpoint.

**231. SHORT FICTION SINCE 1900: RUSSIAN, SLOVAK, CZECH 3 cr.** Survey of translated short stories and/or novellas from these Slavic peoples since 1900, depicting their recent society, history, and culture. Students discuss and reflect on the human experience in a non-American context that affects their own understanding of a global and diverse viewpoint.

**261. NARRATING ITALIAN FOOD AND WINE 3 cr.** Study of the history of the metaphor of food and wine and their presence in literary, cultural, and artistic representations.

**263. ROME AND THE WORD OF WONDER: IGNATIUS'S *SPIRITUAL EXERCISES* IN BAROQUE LITERATURE, ART, AND MUSIC 3 cr.** Study of the imagination in Ignatius's *Spiritual Exercises* and its reception in Baroque literature, art, and music. Includes an intensive, on-site learning tour. Travel fee required.

**264. ITALIAN IDENTITY WITHOUT BOUNDARIES: VIEWS FROM LITERATURE 3 cr.** Exploration of the interrelationship of literary theory with ethnicity and diversity through its socio-cultural context.

**265. GAZING WOMEN FROM PARIS TO FLORENCE 3 cr.** Images of women through literary texts and artistic representations.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-4 cr.** One or several aspects of a culture or cultures—either in the country of origin or as American heritage—especially as found in its language, literature, ideas, or art forms. May be repeated with a different topic.

**299. INTERPLAY IMAGE/TEXT: COMIX 3 cr.** What can we learn from comix? Explores the genre as an enterprise rooted in American culture and society, as a literary art form that integrates word as image, and as the subject of a discourse revolving around establishment versus underground art, entertainment versus social commentary fiction versus non-fiction. The texts include seminal works in the evolution of commix in the US (with a foray into the international realm) and key theoretical texts on the genre.

**360. DANTE'S DIVINE COMEDY 3 cr.** Study in modern English translation of Hell, Purgatory, and Paradise focusing on theological issues and literary content. Dante is examined as both a supreme poetic craftsman and a Church reformer.

**361. ITALIAN HUMANISM AND RENAISSANCE 3 cr.** Study of Italian Humanism and the Renaissance through the writings of Petrarch, Alberti, Machiavelli, Michelangelo, Colonna, and Leonardo. Includes an intensive, on-site learning tour. Travel fee required.

**370. HISPANIC WOMEN WRITERS 3 cr.** Reading and analysis of works of contemporary U.S. Latina and Latin American women, such as Julia Alvarez, Cristina Garcia, Esmeralda Santiago, Isabel Allende, Zoe Valdes, Luisa Valenzuela, and Laura Esquivel. A literary, cultural, and comparative approach that emphasizes critical thinking and writing.

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** One or several aspects of a culture or cultures—either in the country of origin or as American heritage—especially as found in its language, literature, ideas, or art forms. May be repeated with a different topic.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study for advanced students. May be repeated with a different topic.

**499. SPECIAL TOPICS 1-3 cr.** For advanced students. Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# Italian Studies (IT)

*Professor: S. Casciani; Associate Professor: L. Ferri*

Courses in Italian Studies are offered by the Department of Classical and Modern Languages and Cultures. A combination sequence of courses in Italian Studies leads from competence in basic Italian language skills to a thorough understanding of the language, as well as an interdisciplinary approach to Italian culture and literature.

The Italian language is spoken throughout the world, in Europe, North and South America, Africa, and Australia. Italy is an industrially and economically advanced nation that exports to the U.S. as well as other countries. Italians and the Italian language have made a distinctive contribution to art, architecture, cuisine, music, science, literature, film, and theatre. The study of Italian enhances students' enjoyment and appreciation of these areas.

Studying Italian at JCU is beneficial for students of all majors, thanks to the presence of many Italian companies in the U.S., and Ohio. For example, Luxottica in Cincinnati is a leader in premium fashion, luxury, and sports eyewear.

Many graduate schools require the knowledge of at least one foreign language, and knowing how to speak Italian opens opportunities for students across the globe. All students are strongly encouraged to study in Italy through one of the many short-or long-term JCU-sponsored programs such as JCU in Rome (a semester-long program in fall), the Summer Institute in Italy, or the spring break field trip in Italy (offered as part of an on-campus course).

All courses are taught in Italian.

Students who are interested in a self-designed major or minor in Italian Studies should consult with the coordinator of the Italian Studies program and/or the department chair. (Permission of the associate dean of the College of Arts and Sciences is also required.)

**101. BEGINNING ITALIAN I 3 cr.** Introduction to Italian language and culture; focus on speaking, listening, reading, and writing. Film; lecture; individual, pair, and group work; computer-assisted instruction. Students learn to ask and answer questions and share information. For students with little or no previous study of Italian or by placement test.

**102. BEGINNING ITALIAN II 3 cr.** Prerequisite: IT 101 or equivalent or by placement test. Amplification of language skills in a cultural context. Added emphasis on reading and writing.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Italian at the beginning level.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**201-202. ITALIAN IN REVIEW I, II 3 cr. each.** Prerequisite: IT 102 or equivalent, or by placement test; IT 201 or equivalent prerequisite for IT 202. Review of beginning Italian; study of authentic materials dealing with Italian culture. Builds on all four skills (speaking, listening, reading, and writing), including vocabulary expansion, improved pronunciation, reading strategies, short compositions, and other writing assignments. Classroom, multimedia, computer-assisted instruction.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Italian at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301. ITALIAN CONVERSATION 3 cr.** Review of Italian with a focus on building oral skills through exposure to various media, including music, television, film, Internet, and print. Development of communicative competence through oral practice and use of conversational strategies and techniques.

**302. WRITING AND CREATIVITY 3 cr.** Prerequisite: IT 201 or IT 202 or IT 301. Development of writing ability in Italian through exercises that expand the imagination, using creative writing games and exercises. Students and instructor rely on reading as well as writing, talking, thinking, and offering feedback on the written word. Computer technology is frequently utilized in the development of different styles of writing.

**304. ITALIAN CULTURE THROUGH THE ARTS AND MUSIC 3 cr.** Prerequisite: IT 202 or equivalent. Study of Italian literature and visual and other arts (architecture, painting, sculpture, music, and film); representative sampling of works from various literary periods.

**307. THE MEDIA AND POPULAR CULTURE IN ITALY 3 cr.** Prerequisite: IT 202 or 301, or 302, or equivalent. Representative sampling and comparative analysis of television, radio, music, cinema, and the press, as reflected in popular culture.

**315. ITALIAN LITERATURE AND CULTURE: THE ART OF INTERPRETATION 3 cr.** Prerequisite: IT 202, or 301, or 302, or equivalent. Introduction to Italian literature and culture through close critical readings of the principal literary forms, as well as oral interpretations: poetry, drama, and prose.

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**402. ADVANCED ITALIAN GRAMMAR, SYNTAX, AND COMPOSITION 3 cr.** Subtleties of Italian phonology, morphology, and syntax, along with the development of advanced vocabulary and conversational techniques. Activities include in-depth discussion and debate of current events and real-life problems as well as oral analysis of readings.

**410. SENIOR CAPSTONE IN ITALIAN (SENIOR THESIS) 3 cr.** Independent research project chosen in consultation with a capstone advisor. The project should reflect both the student's interest in Italian and the courses s/he has taken to fulfill the major. Student will produce a written thesis and also give an oral presentation to the Italian faculty.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study for advanced students on special topics in Italian language, literature, or culture. Taught in Italian. May be repeated with a different topic.

**499. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. Focuses on a specific theme, genre, or time period in Italian language, literature, or culture. Taught in Italian. May be repeated with a different topic.

# Japanese (JP)

*Assistant Professor: K. Nakano*

The program in Japanese is offered by the Department of Classical and Modern Languages and Cultures. In this program students learn the language of Japan, a country known for its rich history, economic power, and ever-changing popular culture. Courses are offered at beginning, intermediate, and advanced levels. Independent study courses are available to students who have completed advanced-level courses. Students are also encouraged to participate in study-abroad programs and should consult with the coordinator of the Japanese language program and the Center for Global Education early on.

Graduates with proficiency in Japanese are well positioned for jobs in fields such as government, international relations, finance, tourism, translation, and teaching. Moreover, learning Japanese is simpler than it might at first appear. Beginning students quickly master the phonetic alphabet and Japanese characters.

Students are strongly encouraged to explore the East Asian Studies interdisciplinary major-minor program described on [p. ??](#).

**101. BEGINNING JAPANESE I 3 cr.** Intensive functional approach to the four language skills in a cultural context. Classroom, multimedia, computer-assisted instruction. For students with little or no previous study of Japanese or by placement test. (Fall)

**102. BEGINNING JAPANESE II 3 cr.** Prerequisite: JP 101 or equivalent or by placement test. Amplification of language skills in a cultural context. (Spring)

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Japanese at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**201-202. INTERMEDIATE JAPANESE I, II 3 cr.** Prerequisite: JP 102 or equivalent or by placement test. Further development of the four language skills for communication in a cultural context; expansion of vocabulary, idiomatic usage, and grammar. JP 201 or equivalent prerequisite for JP 202. (Fall: 201; Spring: 202)

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Japanese at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301-302. ADVANCED JAPANESE I, II 3 cr.** Prerequisite: JP 202 or equivalent. Advanced study of the four language skills; expansion of vocabulary, idiomatic usage, and grammar. JP 301 or equivalent prerequisite for JP 302. (Fall: 301; Spring: 302)

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Japanese at the high-intermediate/advanced level. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Prerequisites: JP 302 or 398 or equivalent, and permission of instructor. May be repeated with a different topic.

**499. SPECIAL TOPICS 1-3 cr.** Prerequisites: JP 302 or 398 or equivalent, JP 498 or equivalent. Contemporary Japanese used in various areas of specialization. May be repeated with a different topic.

# Latin (LT)

*Professor:* G. Compton-Engle (Chair); *Associate Professor:* K. A. Ehrhardt

The program in Latin is offered by the Department of Classical and Modern Languages and Cultures.

## Major and Minor Requirements

For complete information on the major and minor in Classical Languages and Classical Studies, see the Classical Languages and Classical Studies section in this Bulletin. For courses in Greek, see the Greek section in this Bulletin.

**101. BEGINNING LATIN I 3 cr.** For students with little or no previous exposure to Latin or by placement test. Introduction to the language of the Romans through study of the fundamentals of Latin grammar, syntax, and vocabulary. Attention paid to Latin roots of English vocabulary. Acquisition of reading skills through the novice-mid level.

**102. BEGINNING LATIN II 3 cr.** Prerequisite: LT 101 or equivalent or by placement test. Continued study of Latin grammar and syntax, including the fourth and fifth declensions, passive voice, and participles. Acquisition of reading skills through the intermediate-low level.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Supervised independent study of Latin at a beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on selected topics announced in advance. May be repeated with a different topic.

**201. INTERMEDIATE LATIN 3 cr.** Prerequisite: LT 102 or equivalent or by placement test. Continued study of Latin grammar and syntax, including the uses of the subjunctive. Acquisition of reading skills through the intermediate-mid level.

**232. INTRODUCTION TO LATIN LITERATURE 3 cr.** Reading from a selected author, such as Caesar or Vergil.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Supervised independent study of Latin at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**350. LATIN PROSE OF THE ROMAN REPUBLIC 3 cr.** Readings in Latin from selected prose authors of the Roman Republic, such as Cicero, Caesar, or Sallust. Includes a Latin composition component. May be repeated with another author. (Fall)

**355. LATIN POETRY OF THE ROMAN REPUBLIC 3 cr.** Readings in Latin from selected poets of the Roman Republic, such as Plautus, Terence, Lucretius, or Catullus. May be repeated with another author. (Spring)

**360. LATIN PROSE OF THE ROMAN EMPIRE 3 cr.** Readings in Latin from selected prose authors of the Roman empire, such as Livy, Petronius, Tacitus, or Pliny. Includes a Latin composition component. May be repeated with another author. (Fall)

**365. LATIN POETRY OF THE ROMAN EMPIRE 3 cr.** Readings in Latin from selected poets of the Roman Empire, such as Vergil, Horace, Ovid, or Juvenal. May be repeated with another author. (Spring)

**370. LATIN LITERATURE OF LATE ANTIQUITY 3 cr.** Readings in Latin from writers of the later Roman Empire onward, such as Augustine or medieval authors. May be repeated with another author.

**375. TOPICS IN LATIN LITERATURE 3 cr.** Readings in Latin from a selected theme in Latin literature, such as love poetry, invective, or letters. May be repeated with another topic or author.

**398. INDEPENDENT STUDY 1-3 cr.** Supervised independent study of Latin. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Supervised study on special topics. For advanced students. May be repeated with a different subject matter.

**499. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# Leadership Development (LP)

*Director:* K. O'Dell

The leadership development minor exposes students to leadership theory and practice, guides them in their leadership development, and offers them opportunities to gain leadership experiences. The minor is a representation of what it means to build leadership capacity in others; it helps John Carroll students live our mission of inspiring “individuals to excel in learning, leadership, and service in the region and in the world.”

Like leadership itself, the minor is interdisciplinary in nature; it has the flexibility to align with the needs and interests of individual students with different major fields of study. Engaging in the study of theoretical, contextual, and practical perspectives of leadership allows students to develop the toolbox of skills necessary to make an impact both on and off campus. The Leadership Development Minor provides students with opportunities to stretch their leadership capacities through a series of courses that will force them to discern about and recognize their individual approaches to leadership, teach them about the effects that leaders can have on followers and justice issues, and develop their abilities to recognize opportunities to create change.

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**Program Learning Goals in Leadership Development.** Students will:

1. Possess a conceptual understanding of leadership theory and practices.
2. Understand how leadership is exhibited in various contexts.
3. Be aware of justice issues at the local and global levels and how leaders have impacted those issues.
4. Execute and reflect on a significant capstone experience.

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## Minor Requirements

**Leadership Development Minor:** Total of 18 credit hours.

**Leadership Theory courses** (9 credit hours) Required: LP 101, 102, 135, 250, 304

**Leadership Competence Course – Ethics** (3 credit hours) One from: COM 305; EPA 435; PL 280, 302, 305, 310, 311, 312, 315, 316, 368; PS 471; SC 435; TRS 260, 261, 362, 363, 366, 367, 406

**Leadership Competence Course – Communication** (3 credit hours) One from: COM 208, 209, 210, 303, 306, 308

**Leadership Capstone Project** (3 credit hours) Required: LP 401, 402, 403

**101. INTRODUCTION TO LEADERSHIP 1 cr.** Introduction to the concept of leadership and the traits, values, characteristics, and behaviors that create effective leadership. MS 101 may be substituted for LP 101.

**102. APPROACHES TO LEADERSHIP 1 cr.** How different traits, values, characteristics, and behaviors are effective in different contexts such as public office, business, community organizations, and religious institutions. MS 102 may be substituted for LP 102.

**135. LEADERSHIP AND SOCIAL JUSTICE 3 cr.** Establishes a framework for understanding social justice issues and the roles leaders have in either alleviating or furthering injustices. Explores justice-related events and trends throughout history and in more recent years in relation to diverse populations.

**199. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised study on special topics. Must be approved prior to registration.

**250. GLOBAL LEADERSHIP 3 cr.** Establishes a framework for understanding the various ways that leadership is viewed and expressed in cultures around the world. Explores globalization and justice issues that impact multiple countries as well as how leaders in government and business address these issues.

**304. STRATEGIC DECISIONS 1 cr.** How to clearly define a problem or issue, separate strategy from tactics, and propose a reasonable strategic intent.

**401. LEADERSHIP PROJECT PLANNING 1 cr.** Prerequisites or corequisites: LP 250 or LP 304. Part of the three-credit capstone experience requiring students to plan, implement, and evaluate a substantive project that will have a lasting impact on John Carroll or the larger community. In LP 401 students plan their project under instructor supervision. Strongly recommended as a senior experience.

**402. LEADERSHIP PROJECT IMPLEMENTATION 1 cr.** Prerequisite: LP 401. Part of the three-credit capstone experience requiring students to plan, implement, and evaluate a substantive project that will have a lasting impact on John Carroll or the larger community. In LP 402 students implement their project under instructor supervision. Strongly recommended as a senior experience.

**403. LEADERSHIP EVALUATION 1 cr.** Corequisite: LP 402. Part of the three-credit capstone experience requiring students to plan, implement, and evaluate a substantive project that will have a lasting impact on John Carroll or the larger community. Provides students the opportunity to learn about their leadership capabilities through reflection on their capstone experience. Strongly recommended as a senior experience.

# Management and Human Resources (MHR)

*Professors:* R. A. Giacalone; C. A. Watts (Chair)  
*Associate Professors:* S. J. Allen, R. T. Greci, M. P. Lynn, R. F. Miguel, B. M. Saxton; *Assistant Professors:* S. L. Astrove, A. M. Dachner, D. Winkel; *Visiting Assistant Professor:* C. J. Palmeri

Talent management is a primary concern of today's employers. Through project-based learning and experiential exercises, students majoring in Management and Human Resources (MHR) gain an intensive understanding of the concepts and techniques needed to effectively manage employee talent, such as how to strategically acquire, cultivate, and utilize an organization's human resources. MHR students obtain knowledge related to the recruitment, selection, training and development, and retention of organizational human capital, along with employee performance management, workforce planning, compensation administration, the facilitation of organizational change, and the application of employment law. Moreover, the MHR major prepares students for managerial and leadership positions by developing student skills related to relationship management, leadership, career management, creative problem-solving, critical thinking, and verbal and written communication. The major is best suited for those who have a strong interest in the human element of organizations and how it can contribute to organizational success.

The competencies developed and reinforced throughout the MHR curriculum enhance career readiness among students. Students will graduate with the management and leadership abilities necessary for achieving excellence in their chosen profession regardless of the industry. This major prepares graduates for positions in any business, government, or non-profit enterprise. Past students have pursued successful careers as human resource specialists or generalists, talent management coordinators, bank managers, recruiters, salespeople, management trainees, benefits administrators, healthcare administrators, and compensation analysts, among others. MHR-related careers involve a shared emphasis on leading employees and coworkers toward common goals, worker empowerment and productivity, and organizational excellence.

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## **Program Learning Goals in Management and Human Resources.**

The mission of the Management and Human Resources (MHR) major is to develop confident, well-rounded, lifelong learners, who use ethical reasoning, human resource management expertise, and evidence-based resources to make decisions that positively contribute to their organizations and society.

The MHR major learning goals are aligned with the competency model of the Society for Human Resource Management (SHRM). SHRM is the leading professional Human Resource organization; thus, achieving the MHR learning goals ensures that our students are attaining the knowledge and skills that employers are looking for in job candidates. The MHR major learning goals are:

- Knowledge of critical management and human resource functions, including strategy, recruitment, staffing, employment law, training and development, leadership, and employee and labor relations.
- Ability to build trusting relationships with project stakeholders.
- Ability to apply creative problem-solving to address MHR needs.
- Ability to demonstrate behaviors consistent with organizational or group objectives.
- Ability to plan for and manage one's career by assessing and reflecting on one's personal characteristics.
- Skills required to analyze MHR challenges in order to offer solutions based on best practices and research.

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Major Requirements
<b>Major in Management and Human Resources:</b> 65 credit hours, as described below.

**Business Core:** 41 credit hours, including MHR 461.

**Major Courses:** 24 credit hours. MHR 325, 376, 395, 453, 470, 473, 483, and 495.

**Professional Experience:** Majors must have relevant professional work or volunteer experience prior to graduation. This requirement must be satisfied by completing Boler Professional Development (BPD) 490.

**325. ORGANIZATIONAL BEHAVIOR AND MANAGEMENT 3 cr.** Prerequisite: EC 210 or MT 122 or MT 228. Introduction to organizational behavior and to the role of the manager. Basic concepts in the behavioral sciences, behavioral principles of management, and their application to organizational life. Topics may include ideas of the classic theorists, management functions, motivation, leadership, group dynamics, global management behavior, and organizational change.

**352. HUMAN RESOURCE MANAGEMENT 3 cr.** Introduction to the theories and practices of corporate personnel management. Topics include planning, staffing, training and development, reward systems, labor relations, personnel law, and international human resource management.

**376. COMPENSATION 3 cr.** Prerequisite: MHR 352 or PS 359, or permission of chair. Study of issues and practices related to corporate reward practices. Topics include job analysis, job evaluation, and performance appraisal theory and techniques, incentive and fringe benefit systems, and the legal issues related to compensation management.

**395. LEADERSHIP SKILLS DEVELOPMENT 3 cr.** Prerequisite or co-requisite: MHR 325. An experiential, competency-based course designed to help students become more aware of a wide range of managerial and leadership concepts. Also focuses on measuring skill around topics such as ethical decision-making, problem-solving, negotiation, conflict management, and presentation skills.

**405. SEMINAR IN MANAGEMENT 3 cr.** Prerequisites: MHR 325 and/or as announced. Study of current issues in management, leadership, or entrepreneurship not covered in depth in other department courses. Specific topic, method of presentation, and student requirements designated by the seminar leader.

**453. EMPLOYEE AND LABOR RELATIONS 3 cr.** Prerequisite or co-requisite: MHR 352 or PS 359, or permission of chair. Study of key employment relationships in union and non-unionized environments. Topics include work place conflict resolution, performance management, and employee recognition; institutional aspects of collective bargaining and contract administration; theoretical and experiential perspectives on negotiation; and fair employment practices.

**461. LEGAL ENVIRONMENT OF BUSINESS 3 cr.** Prerequisite: junior or senior standing. Study of the American legal environment within its social, political, economic, and ethical contexts. Topics include legal ethics, antitrust law, administrative law, labor law, product liability, the civil and criminal process, torts, business and the Constitutions, sources of law (political and institutional), consumer law, and law in international business.

**463. BUSINESS LAW 3 cr.** Prerequisite: junior or senior standing. Focuses on the nature, purpose, and functions of law; emphasis on its relation to business. Contract law, agency, business structures (partnerships, corporations), bankruptcy, debtors' and creditors' rights, secured transactions, and securities regulation.

**470. STAFFING 3 cr.** Prerequisite: MHR 352 or PS 359 or permission of chair. Issues and practices related to corporate acquisition of human resources, including HR planning, job analysis, recruitment, selection strategies and practices. Emphasis on designing and analyzing practices that maximize utility, return on investment, and government regulation compliance.

**473. TRAINING AND MANAGEMENT DEVELOPMENT 3 cr.** Prerequisite or co-requisite: MHR 352 or PS 359, or permission of chair. Study of the issues and practices related to the development of skills and knowledge needed for job performance and improved productivity. Topics include needs assessments, learning styles, implementation and evaluation of training, training techniques, techniques for managerial skill development, improved job performance and productivity. Students create and conduct a training program.

**483. PROJECT MANAGEMENT 3 cr.** Prerequisite or co-requisite: SCM 301. Study of principles and methods useful for planning and controlling a project, including development of a project plan, budgeting, resource planning and scheduling, and project monitoring and control. Study of selected computerized packages, including Microsoft Project, with examples of different types of projects from manufacturing and service industries.

**495. ADVANCED MANAGEMENT AND HUMAN RESOURCES 3 cr.** Prerequisites or co-requisites: MHR 379, 453, 470 and senior standing, or permission of chair. Advanced topics in MHR management, such as MHR strategy, organizational development, leadership, ethics, sustainability, and trends in MHR. Strategies for self-management, team building, leadership, and delegation.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: overall GPA of 3.0 or higher, and permission of chair and faculty member. Research project supervised by a member of the department willing to act as advisor. The student selects an aspect of management and human resources, establishes goals, and develops a plan of study that must be approved by the chair and filed with the dean's office. Consult the chair for department guidelines established for such study.

**499. STRATEGIC MANAGEMENT 3 cr.** Prerequisites: FN 312, MK 301, MHR 352 (or MHR 325 or MN 325), SCM 301 (or BI 326), BPD 300, and senior standing. Presentation of strategic management theory and practice. Strategic and operating problems are assessed and competitive solutions recommended. Requires general management perspective, global business views, knowledge of functional business disciplines, computer-based analysis, and management presentations.

# Marketing (MK)

*Professors:* M. D. Johnson (President); A. R. Miciak (Dean); *Associate Professor:* T. M. Facca-Miess; Y. Wu;  
*Assistant Professors:* R. A. Arias; B. Yin

The marketing program focuses on global, analytical, and innovative marketing leadership. Following the Jesuit tradition of the University, we emphasize throughout our program how to engage in marketing activities that a) respect the dignity of the human person and b) are directed by a sense of justice for the greater good. The marketing faculty is committed to the development of each student as a knowledgeable, ethical, and confident graduate, prepared for leadership through excellence in his or her educational experience.

Marketers create value for consumers. They do this by working collaboratively with consumers to determine their needs, creatively designing products and services that can satisfy those needs, identifying the most effective channel for delivering the products and services to buyers, pricing those offerings to provide a value-driven experience, and communicating with buyers about the value of those products and services. Marketers design and manage this process in a way that returns value to the organization. In our program, the activities of marketers are taught throughout the four required marketing courses (Applied Consumer Insights, Customer Engagement Strategies & Tactics, Market Analysis and Strategic Value Co-Creation), and students can learn in-depth about specific marketing activities in their four electives.

Increasingly, buyers are located all over the world, which means that a global perspective in marketing is an absolute must. In addition, this global perspective represents myriad opportunities for our students to use their marketing skills for addressing social challenges for the greater good on a global stage. Students learn the fundamentals of a global perspective in each of the required courses. Students interested in a career that includes global aspects of marketing should take Multinational Marketing and Microenterprise Development in Honduras as two of their electives. A study abroad experience is strongly recommended for students interested in an emphasis on global marketing. Students interested in these exciting career opportunities may also want to minor in a language or a global study area of international culture.

Innovation will drive new business creation and economic development in the future. Marketing is at the forefront of innovation, and our students can learn about innovation in order to acquire the skill sets necessary for taking a leading role in fostering innovation in an organization or starting their own new venture. Fundamentals of innovation are taught in each of the four required classes in the marketing major. Students interested in careers that include innovation processes should take the Innovation class, the Advanced Data-Driven Decision Making class, and the Microenterprise Development class as three of their electives. Students interested in these career opportunities may also want to minor in entrepreneurship.

One of the biggest changes in the field of marketing is the availability of massive amounts of data that can be used to drive marketing decisions. Expertise in marketing analytics is highly valued and sought after by employers. All marketing students take the Market Analysis class that stresses the analysis of market research data for developing marketing strategy. Students interested in a career that emphasizes analytics should also take Digital Marketing Analytics, Advanced Data-Driven Decision-Making, and the Digital Marketing Competition course as three of their electives. Students pursuing this career path may also want to minor in statistics or data science.

Marketing has evolved to emphasize the engagement of customers through the use of digital marketing tools. All students in our program take courses on Applied Consumer Insights, Customer Engagement and Strategic Value Co-Creation, all of which emphasize customer engagement in a digital world. Students interested in a career in digital marketing can also take Digital Marketing Analytics, Visual Communication in Digital Marketing, and the Digital Marketing Competition course as three of their electives.

A wide range of exciting careers are included in the field of marketing:

- For students interested in the global side of marketing, careers may include international market development, digital content management, sales in business markets, product and brand management, international marketing research, non-profit and social marketing, and international market analysis.

- For students interested in the innovation side of marketing, careers may include new product/innovation management, social innovation, social entrepreneurship, traditional entrepreneurship, product and brand management, digital marketing, marketing research, marketing analytics, customer engagement, and promotion management.
- For students interested in the analytics side of marketing, careers may include digital analytics, marketing analytics, business analytics, marketing research, and account management (sales) for agencies.
- For students interested in the digital side of marketing, there are countless opportunities to work in content management, digital analytics, website design and management, non-profit and social marketing, customer engagement, and promotion management.

These career areas represent abundant opportunities in marketing that are rapidly growing in numbers. Most of them are paths to executive levels of management in organizations.

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**Program Learning Goals in Marketing.** Students will have:

1. A command of the primary marketing content areas, including the marketing environment, segmentation, targeting, positioning, the marketing mix, and socially responsible marketing.
2. The skills necessary to identify and solve problems in marketing.
3. The ability to navigate the complexities of marketing problems in the dynamic market environments of for-profit and non-profit organizations.
4. The ability to apply data-driven decisions to address marketing problems and develop effective marketing strategies to sustain the success of an organization. This includes the following:
  - a. The ability to identify and analyze marketplace needs.
  - b. The ability to recognize organizational resources that can fulfill marketplace needs.
  - c. The ability to develop marketing strategy to effectively connect organizational resources to marketplace needs.

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Major Requirements
<p><b>Major in Marketing:</b> 65 credit hours as described below.</p> <p><b>Business Core:</b> 41 credit hours, including MHR 461.</p> <p><b>Major Courses:</b> 24 credit hours. MK 302, MK 309, MK 402, MK 495; and four courses chosen from the following: SCM 328, SCM 440, MK 341, MK 361, MK 362, MK 370, MK 381, MK 382, MK 405, MK 410, MK 481, MK 482, and MK 498. MK 402 and MK 495 are to be taken in the senior year.</p> <p><b>Professional Experience:</b> A relevant professional work or volunteer experience is required prior to graduation. This requirement must be satisfied by completing BPD 490.</p>

**301. MARKETING PRINCIPLES 3 cr.** Prerequisite: Sophomore standing with a minimum of 25 credit hours. Introduces students to the field of marketing. Provides an overview of marketing concepts and strategies critical to value-driven marketing. Emphasis on how to develop, promote, distribute, and price an organization's offerings in a dynamic economic, social, political, and international environment. Ethical issues are also examined.

**302. APPLIED CONSUMER INSIGHTS 3 cr.** Prerequisite: MK 301, PS 101. Provides coverage of consumer behavior theories, frameworks, concepts, and tools to understand consumers and uncover insights relevant for

business and policy. Students learn to generate original consumer insights to create real-world marketing recommendations. Topics drawn from psychology, social psychology, sociology, cultural anthropology, and behavioral economics. Offered spring semester only; should be taken in junior year.

**309. CUSTOMER ENGAGEMENT STRATEGIES AND TACTICS 3 cr.** Prerequisite: MK 301. Explores the many opportunities for, and challenges of, engaging with customers through the ever changing technological and economic environment. Emphasis on examining and using a variety of social media platforms and tools in developing and implementing strategic “inbound” marketing initiatives that are designed for engaging and collaborating with users.

**341. ADVERTISING AND INTEGRATED BRAND PROMOTION 3 cr.** Prerequisite: MK 301. Presents an integrated brand promotion (IBP) approach to advertising. IBP involves coordinating all promotional activities, including direct marketing, advertising, sales promotion, personal selling, public relations, publicity, and branded entertainment to create widespread brand exposure. Message development, placement, and timing are examined within the context of the role each type of promotion plays in marketing strategy development. Offered fall semester only.

**361. MULTINATIONAL MARKETING 3 cr.** Prerequisite: MK 301. Provides a fundamental understanding of international marketing. Analyzes the scope, opportunities, and challenges associated with marketing across international borders, with a particular emphasis on non-western countries.

**362. MICROENTERPRISE DEVELOPMENT IN AN IMPOVERISHED COUNTRY 3 cr.** Frames the Boler Honduras Project, which focuses on developing entrepreneurial and life skills among the teenage children of the Casa Noble Transition Home in Honduras. Students learn about international entrepreneurship in poverty conditions, how to apply a microenterprise business model framework in international settings, and how to analyze the economic, social and cultural milieu of an impoverished country. Includes a trip to Honduras during spring break. Offered spring semester only.

**370. VISUAL COMMUNICATION IN DIGITAL MARKETING 3 cr.** Prerequisite: MK 301. A project-oriented course that focuses on applied knowledge in the production of meaning using visual communications to solve marketing problems. Students learn to develop, refine, and execute visual communication strategies, including creative concept generation, integrated multimedia, typography, informational graphics, copywriting, layout design and brand semiotics.

**381. DIGITAL MARKETING ANALYTICS 3 cr.** Prerequisite: MK 301. Focuses on the analytics behind planning and evaluating digital marketing efforts, now heavily emphasized in the inbound marketing process. Topics include SEO, building dashboards, website analytics, social media analytics, search analytics, audience analytics, content analytics, engagement analytics, mobile analytics, ROI, data visualization, KPIs, and translating analytical insights into action. Offered fall semester only.

**382. ADVANCED DATA-DRIVEN DECISION-MAKING IN MARKETING 3 cr.** Prerequisites: BI 200; EC 210 or other comparable statistics class. Develops skills to translate a variety of data types into conceptual insights that will facilitate the business decision making process. Exposes students to types of data sets, including “big data”, and the analytical process and tools to manage and exploit the data. Topics include data types and sources, constructing queries using SQL for databases, data analysis using Excel, Cognos and Power BI as example tools predictive analytics, and the reporting and presentation of analyses that provide insights to management.

**402. MARKET ANALYSIS 3 cr.** Prerequisites: MK 301; AC 202; EC 210 or MT 223 or equivalent level of statistics; senior standing. Examination of the quantitative tools marketers use to develop, monitor, and evaluate marketing strategies. Topics include the use of online survey tools, statistical analysis using SPSS, market share metrics, financial analysis, and analysis of promotion effectiveness.

**405. SEMINAR IN MARKETING 3 cr.** Prerequisite: MK 301 or as announced. Study of contemporary issues in marketing not covered in depth in other department courses. Specific topic, method of presentation, and requirements designated by the seminar leader.

**410. INNOVATION 3 cr.** Prerequisites: MK 301; some familiarity with Excel spreadsheets. Project-based exploration of tools used to create and plan market innovations. Topics include idea generation, strategy development and the value proposition, planning and implementation of an innovation, and quantitative models for forecasting future performance of an innovation. Offered fall semester every other year.

**481. DIGITAL MARKETING COMPETITION 3 cr.** Prerequisites: MK 301 and either MK 309 or MK 381 or MK 382. An opportunity to learn and apply marketing concepts by participating in the Google Online Marketing Challenge. Students create online marketing campaigns using Google AdWords and form teams to develop and run an online advertising campaign for a real business or non-profit organization. Students can also earn AdWords Certification. Offered spring semester only.

**482. MARKETING RESEARCH 3 cr.** Prerequisites: MK 301; EC 210 or MT 223 or equivalent second semester of statistics. Explores the design and practice of qualitative and quantitative methods of survey, experimental, and field research. Emphasizes the choice of research method, the design of research studies, and the collection, analysis, and presentation of data from original and secondary sources as related to providing information for marketing problem solving. Offered every other fall semester.

**495. STRATEGIC VALUE CO-CREATION 3 cr.** Prerequisites or co-requisites: MK 302, MK 309, and MK 402. Capstone marketing course in which students work with outside organizations to learn value co-creation strategies with stakeholders as a means for managing and growing an organization. A normative framework for justice in marketing provides a holistic perspective for developing leadership skills as marketers. Offered spring semester only; should be taken in senior year.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: marketing major, overall GPA of 3.0 or higher, and permission of chair and faculty member. Research project supervised by a member of the department willing to act as advisor. The student selects an aspect of marketing, establishes goals, and develops a plan of study. The plan must be approved by the chair and filed with the dean's office. Consult the chair for department guidelines established for such study.

# Mathematics (MT)

*Professors:* R. J. Kolesar, P. L. Shick, B. K. D'Ambrosia (Chair); *Associate Professor:* P. B. Chen; *Assistant Professor:* R. Fang; *Visiting Assistant Professors:* D. P. Bossaller, R. S. Short; K. A. Trapp

## Major Programs

The Department of Mathematics and Computer Science offers two major programs in Mathematics. The department also offers Computer Science and Data Science programs described in separate sections on Computer Science (CS) and Data Science (DATA).

The **major in Mathematics** leading to the bachelor of science degree prepares students for immediate employment after completion of the degree or for graduate study. It is designed to give students a broad background in all the major areas of mathematics, while remaining flexible enough to allow students to tailor the program to meet their career objectives. Graduates have entered graduate programs in mathematics, statistics, and operations research/supply chain management at many leading universities, while others have entered into a variety of employment situations—as actuaries, statisticians, analysts, computer programmers, systems analysts and teachers, for example. Other graduates have entered professional schools in law, medicine, and business.

The **major in Teaching Mathematics** leading to the bachelor of arts degree combines mathematics and education courses for licensure to teach Adolescent to Young Adult (AYA) mathematics.

## Minor Programs

The **minor in Mathematics** provides students with a variety of experiences that are fundamental to the further study of mathematics.

The **minor in Statistics & Analytics** provides students with a variety of experiences in data analytics and statistics. As part of the minor, students are required to take several courses that apply statistics and analytics in a specific context.

The **minor in Actuarial Science** helps to prepare students to take the Society of Actuaries Exams P and FM.

## Teaching Licensure

The mathematics courses necessary for licensure to teach **Adolescent to Young Adult (AYA)** mathematics are the same as those required for the bachelor of arts major in teaching mathematics.

For **Middle Childhood (MC)** licensure in mathematics, the required mathematics content courses are MT 135 or 133-134, 175, 224, 241, and 251, DATA 122 or equivalent, and three additional credits of MT, CS or DATA courses.

For **Early Childhood (EC)** licensure, the required mathematics content courses are MT 175 and 176.

In all cases, the content-area courses for licensure must be completed with a minimum average of 2.7 and a minimum grade of C in each course.

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## Program Learning Goals in Mathematics. Students will:

1. Develop an in-depth integrated knowledge in algebra, geometry, and analysis.
2. Be able to communicate mathematical ideas and present mathematical arguments both in writing and orally with proper use of mathematical notation and terminology.
3. Be able to distinguish coherent mathematical arguments from fallacious ones, and to construct complete formal arguments of previously seen or closely-related results.
4. Be able to give complete solutions to previously seen or closely-related problems.

5. Be able to use definitions, theorems, and techniques learned to solve problems they have not seen before.
6. Be able to synthesize material from multiple perspectives and make connections with other areas.
7. Be able to use technology appropriate to each topic.

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Major and Minor Requirements
<p><b>Major in Mathematics:</b> 46+ credit hours.</p> <p>Calculus: MT 135 or MT 133-134; MT 136; MT 233.  Foundations for Applied Mathematics: DATA 122 or equivalent; MT 224; MT 234; MT 242; CS 128-128L or DATA 150.  Fundamentals of Pure Mathematics: MT 301; MT 431; MT 441.  Mathematics Capstone: MT 469 or MT 491.  Electives: Three courses (minimum of 9 credits) numbered MT 400-480.  <i>Note:</i> MT 469 may be used as an elective or as a capstone, but not both.</p> <p>A comprehensive examination is required.</p> <p><b>Major in Teaching Mathematics:</b> 37+ credit hours (plus Education courses).</p> <p>Calculus stream: MT 135 or MT 133-134; MT 136; MT 233.  Foundations for Applied Mathematics: DATA 122 or equivalent; MT 224; MT 242; CS 128-128L or DATA 150.  Fundamentals of Pure Mathematics: MT 301; MT 431; MT 441.  Euclidean &amp; Non-Euclidean Geometry: MT 450  Mathematics Capstone: MT 469</p> <p><i>Required Support Sequence:</i> All of the Education (ED) courses required for the Education major with AYA concentration.</p> <p>A comprehensive examination is required.</p> <p><b>Minor in Mathematics:</b> 23+ hours. MT 135, 136, 233 or 234, 242, 301, and two elective courses (6 credits) numbered 300-480.</p> <p><b>Minor in Statistics &amp; Analytics:</b> 21+ credit hours. DATA 100, 122 or equivalent, 260 or 261, 422 or approved internship, 424; two of the following application area elective courses: BI 371; BL 224; BL 240; BL 444; CH 261/263; CH 441/443; CS 322; CS 350; EC 409; EC 410; ED 201; EPA 229; EPA 407; EPA 430; MK 402; MT 242; MT 421; PO 300; PS 301/301L; PS 401; PS 435; SC 350; SC 351. <i>Note:</i> Application area courses may not be used to simultaneously satisfy the minor in Statistics &amp; Analytics and the minor in Data Science. DATA 422 and 424 may not be used to simultaneously satisfy requirements for the minor in Statistics &amp; Analytics and the Data Science major or minor. DATA 260/261 may not be used to simultaneously satisfy requirements for the minor in Statistics &amp; Analytics and the Data Science minor.</p> <p><b>Minor in Actuarial Science:</b> 31 credit hours. MT 135, 136, 224, 225, 233, 421; DATA 122 or equivalent, DATA 260 or 261; EC 201-202.</p>

**119. QUANTITATIVE ANALYSIS 3 cr.** Introduction to the study of numbers and subsequent analysis of quantified data using mathematical techniques in studying problems in the context of various disciplines.

Mathematical techniques include displaying and describing data, making statistical inferences from data, and building models by fitting functions to data.

**122. ELEMENTARY STATISTICS (DATA 122) 3 cr.** Describing data by graphs and measures, sampling distributions, confidence intervals and tests of hypotheses for one and two means and proportions, Chi-square tests, correlation and regression. Methods are illustrated in the context of quantitative research, with applications in disciplines such as sports, psychology, and social and natural sciences. Use of appropriate statistical software.

**130. APPLIED CALCULUS 3 cr.** Prerequisite: placement by the Math Department. Limits, derivatives, definite and indefinite integrals of polynomial, exponential, and logarithmic functions. Focus on concepts and applications, particularly those pertaining to business fields. Use of a computer algebra system to facilitate computation.

**133-134. CALCULUS AND ANALYTIC GEOMETRY IA-IB 3 cr. each.** Prerequisite: placement by the Math Department. Sequence covers the same calculus topics as MT 135 with algebra review integrated into the course as needed. The MT 133-134 sequence will count as one course in Division IV of the Core, but neither MT 133 nor MT 134 will count as a Core course individually. *Note:* MT 133-134 will satisfy the MT 135 or equivalent prerequisites and requirements listed throughout the *Bulletin*. Students may not earn credit for both MT 134 and MT 135. Students who already have credit for MT 134 or MT 135 may not earn credit for MT 130.

**135. CALCULUS AND ANALYTIC GEOMETRY I 4 cr.** Prerequisite: placement by the Math Department. Functions, limits, continuity, differentiation, differentiation rules, optimization, antiderivatives, definite integrals. Fundamental Theorem of Calculus, improper integrals, applications of integrals, including probability. (See “Note” in MT 133-134.) Students who already have credit for MT 130 must receive permission from the department chair before registering for MT 135.

**136. CALCULUS AND ANALYTIC GEOMETRY II 4 cr.** Prerequisite: MT 135 or MT 133-134. Second course in a three-semester calculus sequence. Parametric curves, differentials, related rates, techniques of integration, additional applications of integrals, introduction to differential equations, polar coordinates, sequences, and series.

**142. INTRODUCTION TO DISCRETE MATHEMATICS 3 cr.** Mathematical foundations of computer science. Number representation and computation; fundamental topics in set theory, functions, relations, graph theory, and propositional logic. Applications to computer science may include encryption, hashing, spanning trees, and traversals.

**160. MATHEMATICS AND CREATIVITY 3 cr.** Mathematics as a creative discipline. Examples of what pure mathematics is and what mathematicians do. The nature of mathematical reasoning and proof and their essential role in human thought.

**175. FOUNDATIONS OF ELEMENTARY MATHEMATICS 3 cr.** For students seeking licensure in Early Childhood Education or Middle Childhood Education with Mathematics concentration. Explores elements of mathematical thinking—reasoning and proof, problem-solving, pattern-finding—and their impact on elementary quantitative concepts and structure. Focus on the development of the real number system and its structure as utilized in Elementary Mathematics.

**176. TOPICS IN EARLY CHILDHOOD MATH 4 cr.** Prerequisite: MT 175 or chair permission. For students seeking licensure in Early Childhood Education. Continued exploration of mathematics taught in elementary school from an advanced standpoint. Topics include number theory, measurement, geometry, symmetry, statistics. Demonstrations of how various models—visual, verbal, physical, writing—are used to convey mathematical instruction in an elementary school setting.

**224. BASIC PROBABILITY 1 cr.** Prerequisite: MT 135. Counting techniques; discrete and continuous probability distributions; applications.

**225. ACTUARIAL MATHEMATICS 3 cr.** Prerequisite: MT 135 or 130. Theory of interest: time value of money, annuities, and cash flow. Mathematical models of loans, bonds, general cash flows, and portfolios.

Quantitative analysis of financial economics: derivatives, options, forwards, futures, swaps. Prepares students to take Society of Actuaries Exam FM.

**233. CALCULUS AND ANALYTIC GEOMETRY III 4 cr.** Prerequisite: MT 136. Calculus of vector-valued functions; partial differentiation; multiple, line, surface integrals, and higher order differentiation.

**234. INTRODUCTION TO DIFFERENTIAL EQUATIONS 3 cr.** Prerequisite: MT 136. A first course in ordinary differential equations. First order equations and applications, linear equations with constant coefficients, linear systems, Laplace transforms, numerical methods of solution.

**241. NUMERICAL AND ALGEBRAIC CONCEPTS FOR MIDDLE SCHOOL MATHEMATICS TEACHERS 3 cr.** Prerequisite or corequisite: MT 175. For students seeking licensure to teach mathematics in grades 4-9. Topics include properties of the integers, rational and irrational numbers, algebra and algebraic thinking, sequences, functions, and sets. How to communicate in the precise language of mathematics, make connections among mathematical systems, and construct valid mathematical arguments and proofs.

**242. INTRODUCTION TO LINEAR ALGEBRA 3 cr.** Prerequisite: MT 130 or 135. Matrix operations, systems of linear equations, vector spaces, subspaces, bases and linear independence, eigenvalues and eigenvectors, diagonalization of matrices, linear transformations, determinants and applications.

**251. GEOMETRY FOR MIDDLE SCHOOL MATHEMATICS TEACHERS 3 cr.** Prerequisite: MT 135. For students seeking licensure to teach mathematics in grades 4-9. Examination of geometric concepts related to the middle-school curriculum. Axiomatic foundations and transformational geometry. The use of teaching manipulatives and dynamic geometry software to promote understanding. Emphasis on various types of mathematical reasoning needed to establish geometric credibility.

**299. INDEPENDENT STUDY IN MATHEMATICS 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated.

**301. METHODS IN PURE MATHEMATICS 3 cr.** Prerequisite: MT 136; or corequisite: MT 136 with junior standing. Introduction to basic mathematical terminology and the techniques of abstract mathematics. Topics include proof and logic, inductive and deductive reasoning, mathematical induction, sets, functions and relations, and properties of the Integers.

**421. MATHEMATICAL STATISTICS 3 cr.** Prerequisites: DATA 229, or DATA 122 (or equivalent) and MT 224; MT 233. Moment generating functions, transformations, properties of estimators, foundations of hypothesis tests, one- and two-factor analysis of variance, and nonparametric analyses.

**431. INTRODUCTION TO REAL ANALYSIS 3 cr.** Prerequisite: MT 136, 301. Rigorous mathematical treatment of the fundamental ideas of calculus: sequences, limits, continuity, differentiation, and integration.

**432. ADVANCED CALCULUS OF SEVERAL VARIABLES 3 cr.** Prerequisite: MT 233. Development of and motivation for vector-valued functions, calculus of functions of several variables, implicit functions and Jacobians, multiple integrals, and line integrals.

**436. INTRODUCTION TO COMPLEX ANALYSIS 3 cr.** Prerequisite: MT 233, 301. Complex number plane, analytic functions, integration of complex functions, sequences and series, residue theorem, and evaluation of real integrals.

**441. INTRODUCTION TO ABSTRACT ALGEBRA 3 cr.** Prerequisite: MT 301. Groups, homomorphisms, permutations, quotient groups, rings, ideals, integral domains, fields, polynomial rings, and factorization.

**450. EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY 3 cr.** Prerequisite: MT 301. Alternative ways of investigating the Euclidean plane, including transformational geometry; examination of the parallel postulate and how it can be changed to create new geometries; hyperbolic geometry.

**452. ELEMENTARY TOPOLOGY 3 cr.** Prerequisite: MT 301. Topological spaces, homeomorphisms, connected spaces, compact spaces, regular and normal spaces, metric spaces, and topology of surfaces.

**453. DIFFERENTIAL EQUATIONS AND DYNAMICAL SYSTEMS 3 cr.** Prerequisite: MT 233; MT 234 or EP 217. Introduction to the qualitative study of differential equations and related dynamical systems. Topics include first-order differential equations, planar systems and their dynamical classification, general nonlinear systems and their equilibria, closed orbits, limit sets, discrete systems, and applications to mechanics.

**467. MODERN CRYPTOGRAPHY 3cr.** Prerequisite: MT 200 or 301; or MT 142 and CS 242. Elements of modern cryptography, emphasizing mathematical underpinnings of public key systems and elliptic methods. Modern factorization methods, including Pollard's algorithm and Lenstra's elliptic curve approach. Background topics in number theory, abstract algebra, and projective geometry as needed.

**468. THEORY OF NUMBERS 3 cr.** Prerequisite: MT 301. Divisibility theorems, number-theoretic functions, primitive roots, quadratic congruences and reciprocity, partitions.

**469. HISTORY OF MATHEMATICS 3 cr.** Prerequisite: MT 301. Study of mathematics from its origins to its present state. Topics include the development and impact of geometry, algebra, number theory, irrational numbers, analytic geometry, calculus, non-Euclidean geometry, and infinite sets.

**479. COMBINATORICS AND GRAPH THEORY 3 cr.** Prerequisite: MT 301. Pigeonhole principle, inclusion and exclusion, recurrence relations and generating functions, combinatorial designs, the theory of graphs, graphical optimization problems.

**480. SPECIAL TOPICS 0-3 cr.** Selected topics in an area of Mathematics that is not covered in established courses. May be repeated with a different topic.

**491. SENIOR SEMINAR IN MATHEMATICS 3 cr.** Prerequisites: MT 301 and senior standing in the Mathematics major. Culminating experience of the mathematics major, requiring students to demonstrate mathematical skills through common readings, class discussions, presentations, and written assignments.

**498. UNDERGRADUATE RESEARCH IN MATHEMATICS 0-3 cr.** Independent research in mathematics under the direction of a faculty member. May be repeated for credit, but at most three credits of MT 498 or MT 499 may be used to satisfy an upper-division elective for the major or minor in Mathematics. Satisfactory presentation of the results at a scientific meeting, department seminar, or University forum is ordinarily expected.

**499. INDEPENDENT STUDY IN MATHEMATICS 0-3 cr.** Independent study under the supervision of a faculty member. May be repeated for credit, but at most three credits of MT 498 or MT 499 may be used to satisfy an upper-division elective for the major or minor in Mathematics

# **Military Science (MS) (ARMY ROTC)**

*Professor: B. Ferguson (Chair); Assistant Professor: J. McCluskey*

The Department of Military Science is also known as the Reserve Officers Training Corps (ROTC) department. Military science basic courses at the 100 and 200 levels are open to all students as electives. Credits toward a baccalaureate degree are awarded for all military science courses.

The department was established in April 1950 at the request of John Carroll University and with the approval of the U.S. Department of the Army. This department is both an academic entity of the University and an Instructor Group of the U.S. Army. It is staffed by the Army with the approval of the University president. The instructors are professional Army Commissioned and Non-Commissioned officers whose academic backgrounds meet University standards.

The goal of the department is to help prepare young men and women for service as Army officers—the future leadership of the Army. Through its courses, the department develops leadership and management skill in the cadets so they may be successful leaders in the U.S. Army. The department also provides instruction to the student body in general on the role of the military in America, focusing on military skills, leadership, adventure training, and the role of the military in our society.

## **Basic Program (MS I, MS II)**

Students normally take the basic courses during their first and sophomore years. Students taking any or all of the basic courses incur no military obligation and are not members of the armed forces. Completion of the basic courses is one means of meeting the prerequisite for acceptance into the advanced courses. Prior active military service, prior or current Reserve or National Guard service, or attendance at the summer ROTC Cadet Initial Entry Training may also fulfill the basic course requirements. In the case of prior active military service or prior/current Reserve or Guard status where the service member received an honorable discharge or continues to serve honorably, basic course requirements are waived and academic credit may be granted for these particular substitutes. A total of 6 credit hours may be awarded for equivalency credit for MS 101, 102, 201, and 202 with the approval of the department chair and the dean. These credits may be awarded to any veteran student, even if they are not a participating or contracted ROTC cadet.

## **Advanced Program (MS III, MS IV)**

Students normally take the advanced courses during their junior and senior years. These heavily involve tactics, leadership, and management instruction to prepare students for the leadership role of an Army officer at the rank of Second Lieutenant. Students must be accepted by the chair of the military science department before they can enroll in the advanced courses.

The Boler College of Business will also grant management credit by petition to ROTC Advanced Program students who are majoring in management.

Once accepted, each student enters into a contract with the Army to complete the courses and to accept a commission as an Army officer. While taking the advanced courses, each student is paid a subsistence allowance of \$450-\$500 a month during the school year.

All students enrolled in the advanced courses are required to attend a Cadet Leadership Course of four weeks' duration. Students are paid at one-half the pay of a Second Lieutenant and normally attend this camp during the summer between their junior and senior years.

Upon satisfactory completion of the advanced courses and conferral of the baccalaureate degree, students are commissioned Second Lieutenants and serve out a military obligation, depending on their active duty or reserve

force assignment. Students may request either Active Duty or Reserve Force Duty (Army Reserve/National Guard). Under certain conditions, students who have completed the baccalaureate program and their military science studies may request delayed entry into the active Army in order to pursue graduate study in a variety of areas, including medical and law school. Other options available to students in military science are opportunities to attend Airborne, Air Assault, Northern Warfare, and Mountain Warfare training courses, and Troop Leadership Time, spending a few weeks working with a Lieutenant in an active Army unit.

### **Scholarships**

The Department of the Army annually awards three-year and four-year Advanced Designee scholarships on a competitive basis to high school applicants nationwide. Winners are announced throughout the spring semester. College students can also apply for a campus-based Army scholarship throughout the year for either undergraduate or graduate studies. These scholarships may be awarded throughout the academic year. In order to apply for any of these scholarships, applicants must have a GPA of 2.5 or higher, as well as a minimum SAT score of 920 or ACT score of 19; pass the Army medical physical; meet the physical fitness requirements; and interview with the department chair. Two-year scholarships are also available to graduating seniors who will be attending graduate school.

All scholarships cover full tuition at the University. John Carroll currently waives standard room and board fees for scholarship cadets. Scholarships also include all required lab fees, the graduation fee, a book allowance of \$1,200 per year, and a **\$420** per month subsistence during the school year.

### **Partnership Institutions**

John Carroll University maintains partnership agreements with most Cleveland-area colleges. Students from these institutions may enroll in John Carroll's military science classes with the approval of the academic registrar from their own college. Satisfactory completion of the military science curriculum and the baccalaureate degree from their own college leads to a commission as a Second Lieutenant in the same manner as for John Carroll students.

### **Eligibility**

All University students are eligible for enrollment in the basic courses (MS I, MS II). Students who are 18 years of age, who are American citizens or intend to become naturalized, and who are physically qualified are eligible for enrollment in the advanced courses of the military science department. Any student may audit basic courses in the department with the approval of the chair and appropriate institutional authorities.

### **Professional Military Educational (PME) Requirements**

The professional military education component consist of two essential parts – a baccalaureate degree, and at least one undergraduate course from each of the following designated fields of study: 1) written and oral communication skills; 2) U.S. military history. Students are encouraged to take a course in national security affairs and management. Students may determine suitable courses to meet these requirements by securing approval in advance of registration from the military science department chair. The Core Curriculum requirements may also apply to the PME requirements. The military science department maintains a list of University courses that may be accepted for the PME requirements.

### **Basic Program**

**Note:** These courses may not be used to satisfy Core or major requirements.

**101. LEADERSHIP AND PERSONAL DEVELOPMENT 1 cr.** Establishes a framework for understanding officership, leadership, and Army values. Also addresses personal development skills, including physical fitness and time management.

**102. INTRODUCTION TO TACTICAL LEADERSHIP 1 cr.** Focuses on communications, leadership, and problem-solving. Introduces students to the duties and responsibilities of an Army lieutenant as well as examining current pay and benefits.

**130. INTRODUCTION TO BASIC PHYSICAL CONDITIONING 1 cr.** Focuses on the basics of physical conditioning and its benefits. Modeled on the U.S. Army method of increasingly challenging exercises in order to build aerobic skills and endurance leading to enhanced physical fitness. Principal aspects of stretching, conditioning, and recovery.

**131. ADVANCED PHYSICAL CONDITIONING 1 cr.** Builds on the student's knowledge of physical conditioning to increase physical fitness by increasingly challenging exercises building aerobic skills and endurance leading to enhanced physical fitness, including cardiovascular and respiratory fitness, weight control, and stress control.

**132. LEADERSHIP IN PHYSICAL TRAINING 1 cr.** Develops the ability to plan, organize, and lead a physical conditioning program and evaluate others conducting physical training. Uses the U.S. Army Physical Readiness and Training method.

**133. ADVANCED LEADERSHIP IN PHYSICAL TRAINING 1 cr.** Develops the ability to plan, organize, and lead a physical conditioning program and evaluate others conducting physical training. Uses the U.S. Army Physical Readiness and Training method.

**198. BASIC COURSE INDEPENDENT STUDY 1-3 cr.** Prerequisites: permission of chair; freshman or sophomore standing. Focuses on current topics affecting the U.S. Army, how junior leaders put into effect policy decisions made by elected political leaders, and how the Army operates in regard to national defense. Requires a briefing or paper.

**199. MILITARY SCIENCE LEADERSHIP SKILLS LAB 0 cr.** Provides a practical application of the topics covered in class and is mandatory for all contracted students. Topics include land navigation, marksmanship, map reading, drill and ceremony, physical training, water survival, health and fitness, combat orders, and preparation for summer training. ROTC cadre supervise the labs, which are planned and managed by the MS III students with command and control administered by MS IV students.

**201. INNOVATIVE TEAM LEADERSHIP 2 cr.** Corequisite: MS 299. Uses of ethics-based leadership skills to develop individual abilities and contribute to effective team-building. Focus on skill in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Provides the fundamentals of ROTC's Leadership Development Program. Participation in a weekend field training exercise is optional but encouraged.

**202. FOUNDATIONS OF TACTICAL LEADERSHIP 2 cr.** Corequisite: MS 299. Introduces both the individual and team aspects of military tactics in small-unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security, and methods of pre-execution checks. Practical exercises with upper-division ROTC students. Techniques for training others as an aspect of continued leadership development. Participation in a weekend exercise is optional but encouraged.

**213. ORIENTEERING 1 cr.** Prerequisite: permission of chair. Develops students' ability to determine location on a map, plot a course over familiar and unfamiliar terrain, and end at a known/desired location. Uses U.S. Army standard maps and equipment. Detailed introduction to the principles of land navigation and orienteering, including map reading, compass use, terrain association, pace count, plotting techniques, route planning, and safety and survival in various environments.

**298. INDEPENDENT STUDY 1-3 cr.** Prerequisites: permission of chair and instructor. In-depth study on a tutorial basis of a particular problem, approved by the chair and directed by a member of the department or the Veterans' Affairs office with faculty credentials. Requires a paper.

**299. MILITARY SCIENCE LEADERSHIP SKILLS LAB 0 cr.** See the course description for MS 199.

## **Advanced Program**

**Note:** The following courses are open only to contracted ROTC students. Credits earned may apply toward graduation (see note under Basic Courses).

**301. ADAPTIVE TACTICAL LEADERSHIP 3 cr.** Prerequisite: permission of the department; corequisite: MS 399. Challenges students to study, practice, and evaluate adaptive leadership traits and skills as they are presented with scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions. Requires participation in semiweekly one-hour sessions for physical fitness and in a weekend field training exercise; one or two weekend exercises are offered for optional participation.

**302. LEADERSHIP IN CHANGING ENVIRONMENTS 3 cr.** Prerequisite: MS 301; corequisite: MS 399. Uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading tactical operations up to platoon level. Cadets review aspects of combat, stability, and support operations, conduct military briefings, and develop proficiency operations orders and plans and focus on exploring, evaluating, and developing skills in decision making, persuading, and motivating team members. Cadets are evaluated on what they know and do as leaders in training. Requires participation in semiweekly physical fitness and a weekend field training exercise, with weekend exercises offered for optional participation.

**387. INTERNATIONAL PROGRAM (CULP) 1-3 cr.** Prerequisite: consent of the department chairperson. In-depth application and study on a tutorial basis of military leadership, doctrine, and training directed by a member of the department or faculty with appropriate credentials. Students/cadets deploy as part of a team to a foreign area of operation in support of Cadet Command and U.S. State Department Office of Security Cooperation objectives. Cadets are immersed in an ideal environment within which to identify experience and practice Language, Regional Expertise and Culture (LREC) based on leadership skills necessary for 21<sup>st</sup>-century army officers. A paper is required.

**389. INTERNSHIP 1-3 cr.** Prerequisite: consent of the department chairperson. In-depth application and study on a tutorial basis of military leadership, doctrine, and training directed by a member of the department or appropriate faculty, and conducted with any U.S. Army unit worldwide. Cadets are attached to a regular Army unit for the duration of internship and deploy to their host units for integration at the company level with battalion-level leadership who serve as mentors. Credit is offered for attending military training schools.

**398. CADET LEADERS INDEPENDENT STUDY 1-3 cr.** Prerequisite: consent of the department chairperson. In-depth application and study on a tutorial basis of military leadership, doctrine, and training directed by a member of the department or other credentialed faculty. Independent study at Ft. Knox, Kentucky, where students/cadets will receive comprehensive application and evaluation of material taught in MS 301/302. A paper is required.

**399. MILITARY SCIENCE LEADERSHIP SKILLS LAB 0 cr.** Provides a practical application of the topics covered in class and is mandatory for all contracted students. Topics consist of land navigation, marksmanship, map reading, drill and ceremony, physical training, water survival; health and fitness, combat orders, formation, inspections, and preparation for the Cadet Advance Camp. Cadet leadership train and execute the lab, while MS IV cadets teach and coach all cadets. Faculty supervise and ensure currency and topical relevancy.

**401. DEVELOPING ADAPTIVE LEADERS 3 cr.** Prerequisite: MS 302; corequisite: MS 499. Develops students' critical, creative, and systemic thinking skills through problem-solving and building their proficiency in assessing, planning, and executing complex operations, functioning as a member of a staff, and providing leadership performance feedback to subordinates. Cadets assess risk, make ethical decisions, and lead fellow ROTC cadets. Students analyze, evaluate, and instruct cadets at lower levels. Classroom and battalion leadership experiences are designed to prepare MS 401 cadets for their first unit of assignment. Requires participation in semiweekly physical fitness sessions and in one weekend exercise.

**402. LEADERSHIP IN A COMPLEX WORLD 3 cr.** Prerequisite: MS 401; corequisite: MS 499. Continues to build on the students' critical thinking skills through an in-depth exploration of the dynamics of leading in the complex situations of current military operations. They also explore aspects of interacting with non-government

organizations, civilians on the battlefield, and host nation support. Places significant emphasis on preparing cadets for their first unit of assignment. Uses case studies, scenarios, and “What now, Lieutenant?” exercises to prepare cadets to face the complex ethical and practical demands of leading as commissioned officers in the U.S. Army. Requires semiweekly fitness sessions and one weekend exercise.

**499. MILITARY SCIENCE LEADERSHIP SKILLS LAB 0 cr.** Provides a practical application of the topics covered in class and is mandatory for all participating students. Topics consist of land navigation, marksmanship, map reading, drill and ceremony, physical training, water survival, health and fitness, combat orders, formations, inspections, and preparation for the Cadet Advanced Camp. Cadet leadership train and execute the lab, while MS IV cadets teach and coach all cadets. Faculty supervise and ensure currency and topical relevancy.

# Peace, Justice, and Human Rights (PJHR)

*Program Director:* P. J. Metres, III (English); *Advisory Committee:* M. P. Berg (History), R. D. Clark (Sociology & Criminology), E. Johnson (Biology), P. J. Lauritzen (Honors), J. M. McAndrew (History), M. J. Peden (Political Science), Debra Rosenthal (English), W. O. Simmons (Economics), D. Taylor (Philosophy), Kristen Tobey (Theology & Religious Studies), W. A. Wiedenhoft-Murphy (Sociology & Criminology), J. Ziemke (Political Science)

The fundamental goal of the Peace, Justice, and Human Rights program is to equip students with the knowledge, skills, and creativity to seek justice and promote peace. It combines research and study with experiential and service learning to help students gain both a theoretical and empirical understanding of the challenges and possibilities of peacebuilding, conflict transformation, and social justice. PJHR is an interdisciplinary program and benefits from the diverse interests and rich experience of faculty members from several disciplines and departments. Consistent with Catholic social teaching that sees peace as inseparable from justice and the extension of human rights as a fundamental ethical obligation, PJHR also emphasizes the importance of political pluralism, cultural and religious diversity, ecological balance, and nonviolent conflict resolution and transformation.

The program prepares students to pursue careers in a wide number of fields, including law, mediation, advocacy, government service, non-profit work, ministry, and social work.

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**Program Learning Goals in Peace, Justice, and Human Rights.** Students will:

1. Describe, explain, and critically analyze the complex and systematic nature of peace building, justice, and human rights.
2. Identify global, national, or local situations affected by violence, injustice, and oppression; explain their causes and consequences; and explore possible solutions.
3. Articulate a worldview that demonstrates concern for victims of violence, injustice, and/or human rights violations.
4. Apply this worldview to peace building; social justice, and human rights both on and off campus.

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Major and Minor Requirements
<p><b>Major in PJHR:</b> 36 credit hours.</p> <p><b>Required courses:</b> EN 231/HS231 or EN 280 or EN 287 or PJHR 250; HS 230 or PJHR 101, PJHR 400, PJHR 410; SC 111 or any ISJ course.</p> <p><b>Additional courses:</b></p> <p><b>Seven additional course (3 credit hours)</b> To access the list, please go to <a href="http://sites.jcu.edu/pjhr/pages/courses/">http://sites.jcu.edu/pjhr/pages/courses/</a>.</p> <p>Normally, these courses will be chosen from three different disciplines or departments and may include a four-course concentration in peacebuilding and conflict resolution, poverty and social justice, environmental justice, or racial justice., .</p> <p><b>Minor in PJHR:</b> 18 credit hours.</p> <p><b>Two of the following three courses (6 credit hours):</b></p>

1. EN 231/HS231 or EN 280 or EN 287 or PJHR 250; HS 230 or PJHR 101, PJHR 400, PJHR 410; SC 111 or any ISJ course.
2. **At least four additional 3-credit courses (12 credit hours), normally from at least two different disciplines or departments** and may include a four-course concentration in peacebuilding and conflict resolution, poverty and social justice, environmental justice, or racial justice. Please see the list of approved courses at <http://sites.jcu.edu/pjhr/pages/courses/>.

## PEACE, JUSTICE, HUMAN RIGHTS COURSES (PJHR)

**100. POVERTY AND SOCIAL JUSTICE 3 cr.** Explores the nature, impact, and reality of poverty, attempting to a critical framework for understanding why poverty exists in our society and the impact it has on our communities. Topics include segregation, homelessness, evictions, health disparities, and education. Through reading, lectures, guest speakers, and service learning, we will enhance our understanding of this interlocking social problem, why it exists, and hear testimonies of people who live this reality every day. The class will seek to figure out what justice requires of us as individuals, and as a society community.

**101. INTRO TO HUMAN RIGHTS 3 cr.** Survey of thinking on human rights from antiquity to the present, with special attention to the Universal Declaration of Human Rights and other post-1945 developments. Case studies may vary, but will generally include such key human rights concerns as slavery, humanitarian intervention, refugees and displaced persons, post-conflict reconstruction, human trafficking, torture, and the death penalty.

**250. CONFLICT RESOLUTION 3 cr.** Introduction to positive conflict transformation tools like empathetic and active listening, non-violent communication, assertion, facilitation, negotiation, mediation, interactive conflict resolution, circle processes, and more. Students also explore the multiple ways in which conflict arises, the patterns it follows, how it is expressed, and the different ways in which people, communities, and groups approach conflict. Finally, students consider barriers to effective communication that are characteristic to conflict, the ways in which productive communication can be established, and different cultural approaches to communication in conflict.

**300. TRANSITIONAL JUSTICE 3 cr.** Covers the ways in which societies emerging from authoritarianism and intractable civil wars and transitioning to a peaceful post-conflict existence, address legacies of past crimes, injustices and human rights violations. How do we deal with past atrocities or conflicts and still build strong foundations communities to live together? Is justice or forgiveness the best option? Are these the only options possible? Does truth-telling provide a guarantee that communities will be able to live together again? Is justice required for painful memories of past acts to be put to rest? Is it possible to pursue both justice and reconciliation at the same time? These are just some of the questions we will ask and attempt to answer in this class. In this class we will examine the dilemma that many post-conflict societies face; whether to seek reconciliation with past enemies or exact revenge for their deeds. Problems related to apologies, forgiveness, reconciliation, truth commissions, amnesties, tribunals, purges and reparations will be examined. We will focus on many case studies, including South Africa, Rwanda, El Salvador, Cambodia, Sierra Leone, Germany, Iraq and how the US has handled issues such as Japanese internment.

**350 SOCIAL JUSTICE RESEARCH 3 cr.** Writing-intensive course for Arrupe scholars designed to provide the opportunity to research a specific social justice issue in depth. Students develop a reading list, demonstrate understanding of the academic literature on a chosen topic, and write a substantial research paper on an issue of the student's choice. Term papers will investigate the causes of the chosen social justice topic, as well as ways in which advocates have attempted to address this issue in the past. This course will provide an academic understanding of the topic each student plans to address through the capstone senior advocacy project.

**399 SHEPHERD SUMMER INTERNSHIP 0 cr .** Students participating in an internship with a community organization that addresses poverty complete preparatory readings, weekly journals, and a final presentation that integrates learning from internship experience, academic readings, and personal reflection.

**400. CRITICAL INQUIRY 3 cr.** Prerequisite: junior or senior standing. Explores research techniques commonly used to study issues related to PJHR, and the politics of knowledge production. Topics include historical research, literature reviews, critical analysis, interviewing, using survey data, ethics, and reducing power differences in research. Students choose a field of interest and research a related topic. Helps develop the skill set to complete an independent study on student-selected topics.

**410. INTERNSHIP AND SEMINAR 3 cr.** Prerequisites: permission of PJHR instructor; junior or senior standing. Capstone experience involving an internship or independent research project which aligns with the student's interests, skills, or career goals in peace, justice, and/or human rights. This may include internships in non-profit, social justice, legal, health, human service, or research settings. A weekly seminar will include ongoing reports, reflections, and analysis about students' field experiences.

**450. ADVOCACY & ACTION 3 cr.** Final course in the Arrupe Scholars sequence. Introduces students to an advocacy framework used to create more just policies, structures, and systems. Students work in groups to carry out an advocacy project aimed at changing an unjust structure through educational initiatives & leveraging networks.

**499. INDEPENDENT STUDY. 3 cr.** By permission of director, students may engage in independent study projects when available courses do not cover a student's research interest.

## **REQUIRED COURSES**

**EN 231/HS 231. BUILDING PEACE AFTER EMPIRE 3 cr.** Multidisciplinary study of the dynamics of conflict and peacemaking in South Africa, Northern Ireland, and other sites. Focus on the historical and cultural roots and persistence of conflict; the contestedness of history; peacebuilding, conflict transformation, reconciliation, and social restoration; artists' and writers' role in creating a just peace. Materials include histories, narratives, poems, and films.

**EN 280 ISRAELI AND PALESTINIAN LITERATURES 3 cr.** Israeli and Palestinian Literatures is an interdisciplinary course that explores the complex story of Israel/Palestine by examining histories (*Side By Side*) and narratives (novels, stories and poems, and films). The course requires students to wrestle with the complex ways in which writers, historians, politicians, and activists tell the story of the peoples and the lands that they co-inhabit. Despite the relative smallness of the place, because of its historical and religious importance, it is at the center of our global conversation of how we belong. We will examine these two national narratives through the eyes of the poets and writers with an eye to some of the following questions: How is narration itself—the ability to tell one's story—complicated by the problem of war, terrorism, military occupation, and borders? How do these individual narratives contribute to our understanding of the broader national narratives? What sorts of answers to the Israeli-Palestinian conflict does this literature provide?

**EN 287 IRISH LITERATURE AND FILM.** This course is designed to explore the dynamics of conflict and peacemaking at work in Northern Ireland, and also has a travel component. In the classroom, we examine the historical and cultural roots of the conflict in Ireland by analyzing literary narratives, history, poems, and films.

## **REQUIRED HISTORY COURSE (HS)**

**230. INTRODUCTION TO HUMAN RIGHTS 3 cr.** Survey of thinking on human rights from antiquity to the present, with special attention to the Universal Declaration of Human Rights and other post-1945 developments. Case studies may vary, but will generally include such key human rights concerns as slavery, humanitarian intervention, refugees and displaced persons, post-conflict reconstruction, human trafficking, torture, and the death penalty.

## **REQUIRED SOCIOLOGY AND CRIMINOLOGY COURSE (SC)**

**111. INTRODUCTION TO SOCIAL JUSTICE 3 cr.** Overview of the theories of social justice, including discussion and analyses of social inequalities both domestic and global, and issues related to civic engagement, social responsibility, and change. Service learning component required.

# Philosophy (PL)

*Professors:* E. W. Spurgin, S. M. Kaye, D. Taylor; *Associate Professors:* T. Nlandu, S. L. Fitzpatrick; *Assistant Professors:* D. Durmus, P. J. Mooney, W. S. Stepanenko (Visiting).

Philosophy encompasses the systematic study of some of the most fundamental questions regarding existence, nature, knowledge, reality, politics, and morality. It allows us to develop an outlook on life that is broad and reflective and to engage the world rationally and critically. A basic understanding of philosophy and philosophical methods serves as a framework for various other disciplines. At Jesuit schools, philosophy has always had a special place; indeed, the Jesuit order was founded by a group of philosophy students led by St. Ignatius of Loyola, who completed an M.A. in philosophy. A strong background in philosophy is a mark of those educated in Jesuit institutions.

The University Core requirement in philosophy consists of two courses: a Knowledge and Reality course, and a Values and Society course. Students may take any course offered in each category. Knowledge and Reality courses explore fundamental questions of nature, existence, and understanding. Values and Society courses explore fundamental questions of humans' relationships to one another and to the world. A philosophy major prepares students for graduate work leading to college teaching, or for professional schools in areas such as law, medicine, religion, and social service. A philosophy major also is a solid basis for any broad program of humanistic studies. A minor in philosophy can complement other areas of study that raise questions about values or methodology, including law, business, education, and the sciences.

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## **Program Learning Goals in Philosophy.** Students will:

1. Write and speak knowledgeably about central aspects of and problems within the history of philosophy, as well as about philosophy's major historical figures.
2. Critically evaluate arguments and evidence.
3. Understand the relationship between philosophy and other academic disciplines.
4. Develop the skills necessary to engage critically with contemporary social issues.

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Major and Minor Requirements
<p><b>Major in Philosophy.</b> 36 credit hours (30 beyond Core requirements): PL 300 (Methods in Philosophy), two seminars (PL 450), or one seminar and a senior thesis (PL 495); and nine additional courses. Students take at least four Knowledge and Reality courses and at least four Values and Society courses of their choice or follow one of the four "Recommended Options" below.</p> <p>The Department participates in the College of Arts and Sciences Professional Development Program.</p> <p><b>Borromeo Seminary Institute Major in Philosophy.</b> 36 credit hours: PL 205, 240, 246, 300, 304, 308, 368, 387, 395, 391, 395, 396; one course chosen from PL 210, 220, 260, 270, 275. Either one seminar (PL 450) or a senior thesis (PL 495).</p> <p><b>Minor in Philosophy.</b> 18 credit hours (12 beyond Core requirements): PL 300, PL 450, one Knowledge and Reality course, one Values and Society course, and two electives. Students electing to pursue a specialized minor</p>

should choose their courses from within one of the four curricular options described below.

### **Recommended Options within Philosophy**

The philosophy department affords its majors and minors the opportunity to design their own program of study by taking a range of courses or to focus their study within a particular area of specialization. Students electing focused study may choose from among the following curricular options:

**I. History of Philosophy.** Students in the History of Philosophy option study a broad selection of the discipline's landmark texts, fundamental theories, and prominent figures. Majors thus become familiar with answers to key philosophical questions that vary widely in their philosophical approaches, their means of expression, and their emergence historically. This option provides an excellent foundation for students interested either in enhancing their liberal arts education or in preparing for advanced study in the field.

- A. PL 210
- B. PL 220
- C. PL 240
- D. One of the following: PL 245, 250, or 255
- E. Either PL 270 or 275
- F. One of the following: PL 260, 285, 286, or 290
- G. PL 300
- H. PL 450
- I. Three electives, one of which may be from another department whose offerings complement this option.

**II. Critical Social Philosophy.** The Critical Social Philosophy option is recommended for students interested in the philosophical analysis of power and the social and political conditions that create and perpetuate oppression and injustice. It is ideal for students interested in pursuing careers in multicultural settings or planning to do graduate work in such areas as social or political theory, Continental philosophy, ethnic studies, women's and gender studies, or sociology.

- A. Two courses from subdivisions 1, 2, and 3 (18 credit hours total).
  - 1. Courses in Social and Political Theory: PL 245, 250, 255, 289
  - 2. Courses in Diverse Philosophical Traditions: PL 285, 290, 298, 330, 380
  - 3. Courses in Applied Topics in Social and Political Philosophy: PL 370, 385, 388, 390
  - 4. PL 300
  - 5. PL 450
- B. Three electives, one of which may be from another department whose offerings complement this option.

**III. Philosophy, Law, and Politics.** The Philosophy, Law, and Politics track is recommended for students who are interested in the philosophical study of law and its relation to morality, politics, and the state. This option provides excellent preparation for careers in the legal profession, politics, and government.

- A. PL 210 or 240
- B. PL 289
- C. PL 280 or 302
- D. PL 204 or 205
- E. PL 300
- F. PL 320
- G. PL 368
- H. PL 450
- I. Three electives, one of which may be from another department whose offerings complement this option.

**IV. Health, Ethics, and Science.** The Health, Ethics, and Science option is recommended for students interested in social, ethical, and foundational issues related to science and medicine. This option is ideal for students who wish to

pursue careers in healthcare or the sciences, as well as those who are planning to do graduate work in areas such as applied ethics, science and technology studies, cognitive science, and philosophy of science.

- A. PL 210, 220, or 240
- B. PL 280 or 302
- C. PL 300
- D. PL 316
- E. PL 375
- F. PL 396
- G. One of the following: PL 204, 205, 315, or 379
- H. PL 450
- I. Three electives, one of which may be from another department whose offerings complement this option.

Lists of approved electives from other departments for all options are available in the philosophy department. Alternative courses must be approved by the student's advisor and the department chair.

**KNOWLEDGE AND REALITY.** These courses explore fundamental questions of nature, existence, and understanding.

**204. INFORMAL LOGIC 3 cr.** Study of correct and incorrect reasoning involved in everyday life. Examines the fundamentals of language, fallacies, and deductive and inductive arguments, with an emphasis on the use and misuse of statistics.

**205. FORMAL LOGIC 3 cr.** Study of modern formal logic and its use in appraising the correctness of reasoning. Covers areas such as syllogisms, propositional logic, basic quantificational logic, basic modal logic, formal proofs, and informal fallacies.

**210. ANCIENT GREEK PHILOSOPHY 3 cr.** Ancient Greek philosophical thought, with major emphasis on the works of Plato and Aristotle.

**220. MEDIEVAL PHILOSOPHY 3 cr.** Medieval philosophy, including the thought of Augustine, Aquinas, and other major figures.

**225. MEDIEVAL PHILOSOPHY AND LOGIC 3 cr.** Medieval philosophy, including the thought of Augustine, Aquinas, and other major figures; also includes a component of logic. Offered at Borromeo Seminary.

**240. 17<sup>th</sup>- AND 18<sup>th</sup>-CENTURY EUROPEAN PHILOSOPHY 3 cr.** History of early modern philosophy with special attention given to the beginnings of modern science and its impact on Western ideas about nature, knowledge, mind, and God. Readings include selections from Descartes to Kant.

**245. 19<sup>th</sup>-CENTURY EUROPEAN PHILOSOPHY 3 cr.** Study of some of the major figures of the nineteenth century from Fichte through Nietzsche.

**246. 19<sup>th</sup>- AND 20<sup>th</sup>-CENTURY PHILOSOPHY 3 cr.** Study of some major movements and figures of the period, such as German Idealism, dialectical materialism, atheistic humanism, positivism, pragmatism, existentialism, and phenomenology. Offered at Borromeo Seminary.

**250. CONTINENTAL PHILOSOPHY 3 cr.** Key figures in the development of Continental thought from Husserl to Derrida.

**255. MARXISM AND CRITICAL THEORY 3 cr.** Main philosophical and political-economic ideas of Karl Marx, and their reinterpretation by members of the twentieth-century "Frankfurt School."

**256. NIETZSCHE 3 cr.** Critical analysis of important themes and problems in the work of 19th century philosopher Friedrich Nietzsche. Also considers the relevance of his thought for contemporary Western societies.

**260. AMERICAN PHILOSOPHY 3 cr.** History of American philosophy as it develops as an array of ethnophilosophies and through the works of key figures of such trends as Puritanism, Enlightenment, transcendentalism, and pragmatism.

**265. EXISTENTIALISM AND PHENOMENOLOGY 3 cr.** Main figures in the existential and phenomenological movements, such as Kierkegaard, Nietzsche, Husserl, Heidegger, Sartre, Merleau-Ponty, and Marcel.

**270. ANALYTIC PHILOSOPHY 3 cr.** Study of some of the leading figures in British and American analytic philosophy, including Moore, Russell, Wittgenstein, and Quine.

**285. AFRICAN PHILOSOPHY 3 cr.** Examination of the development, definition, and status of African philosophy, exploring both its unique cultural heritage and its relationship to themes of Western philosophy.

**286. ASIAN AND COMPARATIVE PHILOSOPHY 3 cr.** Exploration of Asian philosophical traditions such as Hinduism, Confucianism, Daoism, Buddhism, and Japanese philosophy. Also includes readings by contemporary comparative philosophers who study the similarities and differences among Asian philosophical traditions and between Asian and Western philosophies.

**290. MAJOR WOMEN PHILOSOPHERS 3 cr.** Study of the philosophical contributions of women philosophers from ancient times to the present.

**298. SPECIAL TOPICS IN THE HISTORY OF PHILOSOPHY 1-3 cr.** In-depth historical study of specific philosophical theories and problems or of a particular philosopher's work.

**298A. SPECIAL TOPICS IN KNOWLEDGE AND REALITY 1-3 cr.** In-depth historical study of specific philosophical perspectives on questions of nature, existence, and understanding.

**303. PHILOSOPHY OF LANGUAGE 3 cr.** Implications of linguistic experience beginning with a survey of the main historical approaches to the meaning of language. Consideration of special problems such as sense and reference; thought and language; sign, symbol, and metaphor; linguistics and logic.

**307. PHILOSOPHY OF RELIGION 3 cr.** Philosophical problems of religion, such as the nature and ground of religious beliefs, the nature of religious experience, the relation of religion and science, the existence of God, immortality, and evil.

**308. PHILOSOPHY OF GOD 3 cr.** Exploration of the existence and attributes of God as knowable by reason alone. Includes discussion of religious experience, the relationship of faith and reason, and the problem of evil. Offered at Borromeo Seminary.

**375. PHILOSOPHY OF SCIENCE 3 cr.** Major philosophical problems raised by science: the nature of scientific inference, the structure of scientific theories, causality, explanation, scientific change, and the role of values in science.

**379. PHILOSOPHY OF MIND 3 cr.** The nature of mind and its role in our understanding of persons and their actions. Topics include the mind-body problem, artificial intelligence, consciousness, animal minds, personal identity, and free will.

**391. WHAT DOES SCIENCE PROVE 3 cr.** Considers the alleged conflict between science and religion, including the origins of the universe, cognitive psychology of religious belief, human uniqueness and immortality, artificial intelligence, moral responsibility and neuroscience, and the historical Adam. Offered at Borromeo Seminary.

**395. METAPHYSICS (THEORIES OF REALITY) 3 cr.** Attempt to understand what kinds of things there are in the world through the question of Being and related concepts of existence, thing, property, event, matter, mind, space, time, and causality.

**396. EPISTEMOLOGY (THEORIES OF KNOWLEDGE) 3 cr.** Examination of the nature and sources of knowledge and the means for establishing knowledge claims. Readings from classic works and contemporary writers.

**398. SPECIAL TOPICS 1-3 cr.** In-depth study of specific philosophical theories and problems or of a particular philosopher's work.

**VALUES AND SOCIETY.** These courses explore fundamental questions of humans' relationships to one another and to the world.

**275. RECENT AND CONTEMPORARY PHILOSOPHY 3 cr.** Exploration of themes and problems in philosophy since 1950, including an investigation of the very nature and definition of the philosophical enterprise. May include readings from analytic, Continental, post-modern, and neo-pragmatist philosophers.

**280. MAJOR MORAL PHILOSOPHERS 3 cr.** Some of the most important contributions of philosophers to an understanding of the nature of morality and ethical reasoning. Readings of classic works in moral philosophy from the Greeks to the present.

**289. SOCIAL AND POLITICAL PHILOSOPHY 3 cr.** Nature and function of the state, the grounds of political obligation, and related concepts such as liberty, equality, and justice through an examination of major political thinkers in their historical context.

**299. VALUES AND SOCIETY: SPECIAL TOPICS 1-3 cr.** In-depth historical study of specific philosophical theories and problems or of a particular philosopher's work.

**302. INTRODUCTION TO ETHICS.** Investigation into the basic principles of morality and into the nature and methodology of moral judgments. Not open to students with credit in PL 280 or PL 368.

**304. PHILOSOPHY OF THE HUMAN PERSON 3 cr.** Philosophical reflection on some fundamental and enduring questions about humans and their relationship to the universe. Includes readings from classical and contemporary sources. Offered at Borromeo Seminary.

**305. PHILOSOPHY OF EDUCATION 3 cr.** Philosophical problems in education, such as the nature of knowledge, ways of learning, ethical issues in teaching, and the social-political dimensions of education.

**306. PHILOSOPHY AND LITERATURE 3 cr.** Consideration of the nature and meaning of philosophy and literature followed by the study of concepts and issues such as person, freedom and responsibility, good and evil, and intersubjectivity in specific works of literature.

**310. CONTEMPORARY ETHICAL PROBLEMS 3 cr.** Some of the most pressing moral problems of today, with special attention to the philosophical issues involved.

**311. BUSINESS ETHICS 3 cr.** Prerequisites: EC 201-202. Application of ethical concepts to significant problems of business practice.

**312. ETHICS IN SPORT 3 cr.** Study of key ethical issues that arise in sports, starting with the fundamental concepts in sport philosophy and concluding with specific problems such as sportsmanship, gamesmanship, the nature of competition, and race and gender equality.

**315. APPLIED ETHICS 3 cr.** The application of ethical concepts to specialized areas such as medicine, biology, the environment, and law. Course topic listed in semester schedule.

**316. BIOETHICS 3 cr.** Examination of current theoretical and practical implications of medical care and biotechnology. Specific topics include death and end-of-life care; organ transplantation; genetic mapping and

testing; aging and dementia; fertility and reproduction; access to healthcare; patient rights; and the role of the physician.

**320. PHILOSOPHY OF LAW 3 cr.** Exploration of theories on the nature of law. Special emphasis on the distinction between law and coercion and the relationship between law and morality. Elements of legal reasoning in case law, statutory interpretation, and constitutional adjudication will be discussed in addition to some fundamental aspects of legal liability.

**330. FEMINIST PHILOSOPHIES 3 cr.** Philosophical examination of the experiences and status of women, feminist movements in the world, the construction of gender, and the intersections between feminism, race, class, ability, age, and sexual orientation. Readings from feminist philosophers from a variety of regions in the world.

**350. PHILOSOPHY OF BEAUTY AND ART 3 cr.** Philosophical investigation of beauty and questions raised by art works, e.g., what is a work of art and what are aesthetic judgments?

**355. PHILOSOPHY AND FILM 3 cr.** Considers film's status as a mode of philosophical investigation and examines the implications of film for philosophical understandings of perception and identity (including race, class, and gender).

**368. ETHICAL THEORY 3 cr.** Detailed examination of some of the major philosophical theories about the nature and justification of moral principles of rightness, obligation, and value. Special emphasis is given to the contemporary developments of such theories.

**385. PHILOSOPHY AND THE BODY 3 cr.** Investigation of the different ways in which classic and contemporary philosophers and theorists have analyzed human embodiment.

**387. PHILOSOPHY OF NATURE 3 cr.** The philosophical principles of nature, including finality, change, time, and the nature of life. Includes discussion of the relationship of natural philosophy to natural science and theology. Offered at Borromeo Seminary.

**388. PHILOSOPHY OF LOVE AND SEX 3 cr.** Critical exploration of how we think, speak, and practice the concepts of "love" and "sex" in our daily lives. Course readings are informed by feminist theory, queer theory, postcolonial theory, and/or critical race theory. Topics include media portrayals of love and sex, masculinity and femininity, sexuality, domestic abuse, sexual assault, pornography, sex and oppression, and activism.

**390. PHILOSOPHY OF RACE AND RACISM 3 cr.** Study of classical and contemporary formulations of the concept of race, the nature of modern and contemporary racism, and contemporary constructions and experiences of racial identity in the U.S.

**399. VALUES AND SOCIETY: SPECIAL TOPICS 1-3 cr.** In-depth study of specific philosophical theories and problems of a particular philosopher's work.

**ADVANCED COURSES.** Designed for majors and minors.

**300. METHODS IN PHILOSOPHY 3cr.** Study and use of a variety of methods implemented in the conduct and scholarship of philosophy. Methods include: reading and writing of philosophy at the major and minor level, citation norms, research strategies, conference and presentation practices, and publication procedures. Pre-requisite for Seminar in Philosophy. Fulfills the AW (Additional Writing) and OP (Oral Presentation) requirements of the Core Curriculum.

**425. PHILOSOPHY OF THE HUMAN PERSON 3 cr.** Philosophical reflection on fundamental and enduring questions about human beings and their relationship to the universe. Readings from classical and contemporary sources. Offered at Borromeo Seminary.

**450. SEMINAR 3 cr.** Specific questions on important topics or philosophers. Course subject will be listed in the semester schedule. Fulfills the Capstone requirement of the Core Curriculum.

**495. SENIOR THESIS 3 cr.** Prerequisites: permission of instructor and chair. Individual research project developed and written in consultation with appropriate faculty member. Ordinarily, topic approval will be secured during the spring semester of the student's junior year, and the thesis will be written during the fall semester of senior year. Fulfills the Capstone requirement of the Core Curriculum. (The student may be required to complete additional preparatory work.)

**499. DIRECTED READINGS 1-3 cr.** Individual assignment and guidance in source materials relating to specific philosophical problems. A maximum of 3 credit hours can be used to satisfy major requirements.

# Physics (PH)

## Engineering Physics (EP)

*Professors:* J. S. Dyck (Chair), N. K. Piracha; *Assistant Professor:* D. C. Kara

The Department of Physics plays a central role in the University's mission of educating students to live in an increasingly technological, highly complex society. The department provides a range of physics and engineering physics programs for its majors, support courses for other science majors, and courses for non-science majors that fulfill requirements of the University Core Curriculum. The department has modern, well-equipped undergraduate laboratories, and many of the courses have a laboratory component that emphasizes the central role of experiments in science.

Research plays an essential role in the education of students majoring in physics. Students have the opportunity of working under the guidance of a faculty member on campus, and the department encourages all students to spend at least one summer participating in a research program at a major research university or national laboratory.

Four major programs are offered. Three lead to a bachelor of science degree in physics, and one leads to a bachelor of arts. The bachelor of science programs are physics, engineering physics, and interdisciplinary physics. The physics major is an excellent preparation for a diverse range of careers. Many graduates have gone directly into the workforce in physics, engineering, business, and teaching. Others have continued their academic careers with graduate study in a variety of fields, including physics, engineering, computer science, law, and medicine.

The Physics Department participates in the College of Arts and Sciences Professional Development Program.

### **B.A. Physics Major**

This major provides students with a comprehensive introduction to the discipline and the opportunity to explore some areas of physics in greater depth. It is appropriate for students preparing for secondary school teaching and fits well with an environmental studies concentration, preparation for law, or business school. It is also a good choice for students pursuing the Dual Degree 3-2 Engineering Program.

### **B.S. Physics Major**

This major requires an in-depth study of the core areas of physics and a selection of upper-division courses such as thermal physics, atomic and molecular physics, condensed matter physics, or other engineering electives. This program provides a solid preparation for graduate study in physics, materials science, or medical physics.

### **B.S. Engineering Physics Major**

This major requires an in-depth study of the core areas of physics and a selection of engineering physics courses. Typically, this program leads to employment in the fields of engineering development or applied physics, or to graduate study in related fields.

### **B.S. Interdisciplinary Physics Major**

This major requires an in-depth study of the core areas of physics and a selection of courses from the departments of biology, chemistry, psychology, and mathematics and computer science, or from the Boler College of Business. This is the best choice for students interested in pursuing medical school or the five-year M.B.A. program of the Boler College of Business. In addition, this program can be arranged to prepare for environmental science, technical sales, or patent law.

### **Grade Policies**

**Major Declaration:** Students must achieve a minimum GPA of 2.5 in PH 135, 136, and 246, and MT 135, 136, and 233 for unconditional acceptance into any of the majors of the physics department.

**For Majors:** A grade of C- or higher must be earned in courses required for each major. A grade lower than C- requires that the course be repeated. In the case of an elective course for a major in which a grade below C- was earned, the student may petition to take an alternative course.

### **Engineering Programs**

Students interested in engineering have the following options:

1. Participate in the Dual Degree 3-2 Program program with Case Western Reserve University (CWRU). Students attend John Carroll University for three years and then transfer to CWRU for two years; they receive both a bachelor's degree (B.S. or B.A.) from John Carroll University and a B.S. in Engineering from CWRU. The program is open to any student who completes the prerequisite courses (in calculus, physics, chemistry, and computer science) and maintains an overall 3.0 GPA and a 3.0 GPA in science and mathematics courses.
2. Complete a B.S. in engineering physics at John Carroll University and then enter the workforce or pursue graduate work in engineering. Students who choose this option may start taking engineering courses while at John Carroll through the Northeast Ohio Commission on Higher Education Cross-Registration Program.

For further details concerning engineering programs, see the section of this *Bulletin* entitled "Preparation for Graduate and Professional Study."

### **Teaching Licensure**

Students interested in majoring in physics in preparation for teaching physics at the secondary level should consult both the Department of Physics and the Department of Education and School Psychology at the earliest opportunity. The B.A. in physics provides a comprehensive background in physics while allowing some flexibility for completing the licensure requirements of the State of Ohio.

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### **Program Learning Goals for the Physics Major.**

The following is a consolidation of the four sets of learning goals for the major programs of the **B.S. in Physics (PH)**, **Engineering Physics (EP)**, **and Interdisciplinary Physics (IP)**, and the **B.A. in Physics (BA)**.

Students will:

1. Demonstrate a solid understanding of the core principles and concepts of physics (for the bachelor of arts and the 3 bachelor of science degrees),
  - a. and gain understanding in selected additional advanced topics in physics (PH).
  - b. and gain understanding in selected additional advanced topics in engineering (EP).
  - c. and gain additional knowledge from complementary areas of biology, chemistry, mathematics, computer science, psychology, or business (IP).
2. Apply mathematical, analytical, computational, and experimental skills to model the behavior of physical systems, solve a wide range of physics problems, design and conduct experiments to measure and interpret physical phenomena, and critically evaluate scientific results and arguments, both their own and those of others.
3. Effectively communicate scientific hypotheses, research methods, data and analysis both orally and in writing and in a variety of venues.
4. Demonstrate awareness of professional responsibilities and good citizenship as members of the scientific community.
5. Be prepared to enter graduate school or employment appropriate to their chosen career path.

### **Program Learning Goals for the Physics Minor.**

Students will:

1. Demonstrate a solid understanding of the core principles and concepts of physics at an introductory level.
2. Apply mathematical, analytical, computational, and experimental skills to model the behavior of physical systems, solve a wide range of physics problems, design and conduct experiments to measure and interpret physical phenomena, and critically evaluate scientific results and arguments.
3. Effectively communicate scientific hypotheses, research methods, data and analysis both orally and in writing and in a variety of venues.

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### Major and Minor Requirements

**B.A. in Physics Major.** 39 credit hours: PH 135, 135L, 136, 136L, 246, 247, 347, 348, 349, 407 or 408; EP 217, 260, 260L; plus 14 more PH or EP credits at the 300-400 level, of which 8 credits must be chosen from (PH 315, 315L), (PH 365, 365L), (PH 445, 445L), and (EP 451, 451L).

*Required Support Courses:* MT 135, 136, 233.

**B.S. in Physics Major.** 50 credit hours: PH 135, 135L, 136, 136L, 246, 247, 315, 315L, 347, 348, 349, 365, 365L, 407 or 408, 445, 445L; EP 217, 260, 260L, 451, 451L; plus 9 credit hours of upper-division technical electives approved by the physics department (normally PH, EP, MT, or CS courses), which must include at least 3 hours of PH lecture credit.

*Required Support Courses:* MT 135, 136, 233; plus one additional lecture/lab combination chosen among: (BL 155, 157), (CH 141, 143), (CH 151H, 153) or (CS 125, 128L).

**B.S. in Engineering Physics Major.** 55 credit hours: PH 135, 135L, 136, 136L, 246, 247, 315, 315L, 347, 348, 349, 365, 365L, 407 or 408, 445, 445L; EP 217, 260, 260L, 451, 451L; plus 14 credit hours of upper-division technical electives approved by the physics department (normally PH, EP, MT, or CS courses), which must include least 6 hours of EP lecture credit and 2 hours of EP lab credit.

*Required Support Courses:* MT 135, 136, 233; plus one additional lecture/lab combination chosen among: (BL 155, 157), (CH 141, 143), (CH 151H, 153) or (CS 125, 128L).

**B.S. in Interdisciplinary Physics Major.** 48-54 credit hours: PH 135, 135L, 136, 136L, 246, 247, 347, 348, 349, 407 or 408; EP 217, 260, 260L; plus 8 more PH or EP credits at the 300-400 level chosen from (PH 315, 315L), (PH 365, 365L), (PH 445, 445L), and (EP 451, 451L); plus interdisciplinary support courses from BL, CH, MT, CS, PS, or the Boler College of Business:

*Either*

An additional 21 credit hours of lower-division courses, which must include 4 credit hours of laboratory courses.

*Or*

An additional 15 credit hours, at least 8 of which must be upper-division courses.

*Required Support Courses:* MT 135, 136, 233.

*Note:* For all B.S. programs, up to 8 hours of electives (up to 2 hours of lab credit) may be satisfied by courses in science or engineering offered at other colleges and universities participating in the Northeast Ohio Council on Higher Education Cross Registration Program (subject to approval by the physics department).

**Minor in Physics.** 20 credit hours: PH 135, 135L, 136, 136L, 246, 247, plus six more PH or EP credits at the 200-400 level.

*Required Support Courses:* MT 135, 136.

## PHYSICS (PH)

**108. INTRODUCTORY PHYSICS BY INQUIRY 3 cr.** Corequisite: CH 108. Inquiry-based introduction to fundamental concepts of physics. Meets for 3 hours per week in a laboratory setting. Intended for non-science majors, especially students in education.

**111. FROM PLANETS TO THE COSMOS 3 cr.** Introductory astronomy course is designed primarily for students not majoring in the physical sciences. Topics covered include: the history of human investigations of the cosmos, constellations and observations of the night sky introduction to objects in our solar system, formation of stars and their evolution, galaxy formation and structure of the universe.

**115. ENVIRONMENTAL EARTH SCIENCE 3 cr.** Corequisite: PH 115L. Interdisciplinary approach to the study of our planet, from its origins to current challenges. Formation of the earth, matter and minerals, the rock cycle, plate tectonics, earthquakes, volcanism, and climate change.

**115L. ENVIRONMENTAL EARTH SCIENCE LABORATORY 1 cr.** Corequisite: PH 115. Experiments and field trips designed to complement PH 115. Two hours of laboratory per week.

**117. CLIMATE CHANGE SCIENCE & POLICY 3 cr.** Corequisite: COM 251. Composition of the atmosphere, energy balance of the earth, evidence of recent changes in the composition of the atmosphere and climate, natural and human-induced climate changes, future climate scenarios, impacts of climate change, and climate change mitigation and adaptation policies.

**125. GENERAL PHYSICS I 3 cr.** Corequisite: PH 125L. Suitable for biology, premedical, and pre dental majors. Topics from the areas of mechanics, oscillations, sound, wave motion, fluids, and thermodynamics. Students who have not had high school physics should consult with the department chair prior to registering.

**125L. GENERAL PHYSICS LABORATORY I 1 cr. each.** Prerequisite or corequisite: PH 125. Experiments designed to complement PH 125. Two hours of laboratory per week.

**126. GENERAL PHYSICS II 3 cr.** Prerequisite: PH 125; corequisite: 126L. Suitable for biology, premedical, and pre dental majors. Topics from the areas of electricity, magnetism, optics, and modern physics.

**126L. GENERAL PHYSICS LABORATORY II 1 cr. each.** Prerequisite or corequisite: PH 126. Experiments designed to complement PH 126. Two hours of laboratory per week.

**135-136. PHYSICS I, II 4 cr. each.** Prerequisites or corequisites: MT 135, 136; PH 135L-136L. For science, mathematics, and pre-engineering majors. 135: mechanics and thermal physics; 136: electricity, magnetism, vibrations, and waves. Emphasis on the foundations of physics and the applications to the physical sciences and engineering. Students who have not had high school physics should consult with the department chair prior to registering.

**135L-136L. PHYSICS WORKSHOPS I, II 1 cr. each.** Corequisites: PH 135-136. Experiments and simulations designed to aid assimilation of selected topics treated in PH 135-136. Two hours of laboratory per week.

**197. SPECIAL TOPICS IN PHYSICS 1-3 cr.** Corequisite: PH 197L. For non-science majors. Topics are published in the schedule of classes for the applicable term.

**197L. SPECIAL TOPICS IN PHYSICS LABORATORY 1 cr.** Corequisite: appropriate section of PH 197. Experiments designed to complement the material covered in PH 197. For non-science majors.

**246. MODERN PHYSICS 3 cr.** Prerequisites: MT 136; PH 136. Basic physical theories governing elementary particles, nuclei, atoms, molecules, and their interactions; relativity, quantum theory.

**247. MODERN PHYSICS LABORATORY 1 cr.** Prerequisite: PH 246. Experiments from modern physics. Measuring fundamental constants. Error propagation and analysis. Two hours of laboratory per week.

**315. CLASSICAL MECHANICS 3 cr.** Prerequisites: PH 136, EP 217, MT 233; corequisite: PH 315L. Newtonian and Lagrangian formulation of classical mechanics. Oscillations, coupled oscillators, central forces, rigid body dynamics, rotating reference frames. Mathematical concepts that arise in mechanics.

**315L. CLASSICAL MECHANICS WORKSHOP 1 cr.** Corequisite: PH 315. Two hours of workshop per week supporting PH 315. Includes mathematical, computer, and experimental exercises.

**325. THERMAL PHYSICS 3 cr.** Prerequisites: PH 136, EP 217. Laws of thermodynamics, entropy, phase transitions, classical and quantum statistical mechanics. Application to ideal and non-ideal systems.

**330. ATOMIC AND MOLECULAR PHYSICS 3 cr.** Prerequisites: PH 246, EP 217. Development of the theory of atomic and molecular structure. Applications of the theory to optical spectroscopy and laser physics.

**347. ADVANCED LABORATORY 2 cr.** Prerequisite: PH 247. Four hours of laboratory per week. Students perform a range of experiments in contemporary physics. The main focus is on advanced laboratory techniques using research-grade equipment and on data analysis and presentation.

**348. PHYSICS SEMINAR I 0 cr.** Meets weekly. Students must attend the monthly physics colloquium, where speakers from a variety of physics and engineering fields present their research, as well as additional presentations focused on career and graduate school preparation. Graded SA/FA.

**349. PHYSICS SEMINAR II 0 cr.** Students must attend the monthly physics colloquium as described in PH 348. Graded SA/FA.

**365. ELECTRICITY AND MAGNETISM 3 cr.** Prerequisites: PH 136, EP 217, MT 233; corequisite: PH 365L. Classical theory of electricity and magnetism. Electrostatics, dielectrics, magnetic fields, electromagnetic induction, Maxwell's equations, and radiation. Mathematical concepts that arise in E & M, including boundary value problems.

**365L. ELECTRICITY AND MAGNETISM WORKSHOP 1 cr.** Corequisite: PH 365. Two hours of workshop per week supporting PH 365. Includes mathematical, computer, and experimental exercises.

**395. INDEPENDENT STUDY 1-3 cr.** Prerequisites: junior standing and acceptance of the study topic by a member of the department who agrees to monitor the study.

**396. INDEPENDENT LABORATORY STUDY 1-3 cr.** Prerequisites: junior standing and acceptance of the study topic by a member of the department who agrees to monitor the study.

**397. SPECIAL TOPICS 1-3 cr.** Prerequisite: sophomore standing and Chair approval. Topics may be published in the schedule of classes for the applicable term.

**407, 408. SENIOR RESEARCH OR DESIGN PROJECT 2 cr. each.** Prerequisite: senior standing. Four hours of laboratory per week. Participation in an independent research or design project under the supervision of a faculty member.

**445. QUANTUM PHYSICS 3 cr.** Prerequisites: PH 246, EP 217, MT 233; corequisite: PH 445L. The foundations and fundamental principles of quantum physics. Hilbert space formalism, operators, eigenvalues and

eigenvectors. Landmark experiments in quantum physics. Application of quantum theory, including angular momentum, one-dimensional systems, atoms and molecules.

**445L. QUANTUM PHYSICS WORKSHOP 1 cr.** Corequisite: PH 445. Two hours of workshop per week supporting PH 445. Includes mathematical, computer, and problem-solving exercises.

**485. CONDENSED MATTER PHYSICS 3 cr.** Prerequisites: PH 246, EP 217, MT 233. Atomic structure of crystals, electronic structure of metals, insulators, and semiconductors; electron transport; optical properties.

**495. INDEPENDENT STUDY 1-3 cr.** Prerequisites: junior or senior standing and acceptance of the study topic by a member of the department who agrees to monitor the study.

**496. INDEPENDENT LABORATORY STUDY 1-3 cr.** Prerequisites: junior or senior standing, permission of the department chair, and acceptance of the study topic by a member of the department who agrees to monitor the project.

**497. SPECIAL TOPICS 1-3 cr.** Prerequisite: junior or senior standing. Topics may be published in the schedule of classes for the applicable term.

**497L. SPECIAL TOPICS LABORATORY 1 cr.** Prerequisite: junior or senior standing. Experiments designed to complement the material covered in PH 497.

## **ENGINEERING PHYSICS (EP)**

**201. HOW THINGS WORK 3 cr.** Corequisite: ER 201. Practical introduction to physics and science in everyday life. Designed for students who are not majoring in sciences.

**217. MATHEMATICAL METHODS OF PHYSICS AND ENGINEERING 3 cr.** Prerequisite: MT 136. A survey of mathematical methods in physics and engineering with an emphasis on techniques and applications of ordinary differential equations. Includes qualitative and numerical solutions, Laplace transforms, Fourier series, systems of linear equations, matrices and determinants.

**260. DC/AC CIRCUITS 3 cr.** Prerequisites: PH 136, MT 136; corequisite: EP 260L. Topics include DC/AC circuits and their analysis, and basic semiconductor devices.

**260L. DC/AC CIRCUITS LABORATORY 1 cr.** Corequisite: EP 260. Familiarization with oscilloscopes and other test instruments. DC and AC circuit measurements. Experiments with diode and transistor circuits. Two hours of laboratory per week.

**451. NUMERICAL PHYSICS 3 cr.** Prerequisite: EP 217; corequisite: EP 451L. Computational methods for physics and engineering using MATLAB®. Topics include interpolation and curve fitting, solution of systems of equations, solution of ordinary and partial differential equations.

**451L. NUMERICAL PHYSICS WORKSHOP 1 cr.** Corequisite: EP 451. Two hours of workshop per week supporting PH 451. Includes mathematical and computer exercises.

**454. OPTICS 3 cr.** Prerequisite: PH 136; EP 217; corequisite: EP 454L. Introduction of electromagnetic theory, geometric and physical optics, and selected topics of modern optics.

**454L. OPTICS LABORATORY 1 cr.** Corequisite: EP 454. Two hours of laboratory per week. Experiments in optics, including lenses and mirrors, polarization, interference, diffraction, and lasers.

**467. SIGNALS AND SYSTEMS 3 cr.** Prerequisites: EP 217; EP 260; corequisite: EP 467L. Basic concepts of signals and linear systems, including convolution, continuous and discrete time Fourier analysis, and applications such as sampling and communication systems.

**467L. SIGNALS AND SYSTEMS LABORATORY 1 cr.** Corequisite: EP 467. Experiments complementing EP 467. Practical experience with discrete-time and continuous-time signals. Simulation of discrete-time and continuous-time systems using MATLAB®. Two hours of laboratory per week.

**475. ANALOG ELECTRONICS 3 cr.** Prerequisite: EP 260; corequisite: EP 475L. Analysis and design of basic analog devices and their circuits: diodes, transistors, FETs, thyristors, power supply circuits, and optoelectronic devices.

**457L. ANALOG ELECTRONICS LABORATORY 1 cr.** Corequisite: EP 475. Experiments complementing EP 475. Practical experience in designing, breadboarding, and testing circuits using discrete solid-state devices. Two hours of laboratory per week.

**478. DIGITAL ELECTRONICS 3 cr.** Prerequisites: EP 260; corequisite: EP 478L. Digital devices and their applications: Boolean algebra, combinational and sequential logic design, arithmetic and logic circuits.

**478L. DIGITAL ELECTRONICS LABORATORY 1 cr.** Corequisite: EP 478. Experiments complementing EP 478. Practical experience in designing, implementing, and testing fairly complex digital circuits. Two hours of laboratory per week.

**495. INDEPENDENT STUDY 1-3 cr.** Prerequisites: junior or senior standing, permission of the department chair, and acceptance of the study topic by a member of the department who agrees to monitor the study.

**496. INDEPENDENT LABORATORY STUDY 1-3 cr.** Prerequisites: junior or senior standing, permission of the department chair, and acceptance of the study topic by a member of the department who agrees to monitor the project.

**497. SPECIAL TOPICS 1-3 cr.** Prerequisite: junior or senior standing. Topics may be published in the schedule of classes for the applicable term.

**497L. SPECIAL TOPICS LABORATORY 1 cr.** Prerequisite: junior or senior standing. Experiments designed to complement the material covered in EP 497.

# Political Science (PO)

*Professor:* M. E. Farrar; *Associate Professors:* A. Sobisch, P. A. Mason, E. A. Stiles, M. J. Peden (Chair), J. J. Ziemke, C. D. Swearingen; *Assistant Professors:* D. R. Hahn.

Firmly rooted in the tradition of the liberal arts and sciences, political science focuses its study on the political aspects of the social world. The Department of Political Science offers courses on political institutions, law, public policy, the political economy of development, global studies, and political theory. The goals of the department are: (1) to promote student learning about politics and political science; (2) to improve basic intellectual skills—analytical reasoning, critical thinking, writing, oral communication, and problem solving; (3) to promote awareness, interest, concern, and involvement in community affairs at all levels; and (4) to provide a foundation for graduate studies (in political science and related fields) and careers, particularly in government, politics, education, political journalism, law, and the private sector (domestic and international).

The major requires seven core courses and six elective courses. The seven core courses are: United States Politics (PO 101), Comparative Politics (PO 102), International Relations (PO 103), Political Thought (PO 104), Introduction to Methods (PO 200), Political Science Research Methods (PO 300), and Political Science Research Methods Lab (PO 300L). Students are strongly encouraged to take PO 300 and the corequisite PO 300L by their junior year. Students must take PO 200 before taking PO 300. The six elective courses may be concentrated in one area to complete a concentration, or distributed across several areas. At least three hours of these electives must be at the 400 level, and only nine hours of electives for the major may be chosen from lower-division courses. PO 105 is an elective for the major and satisfies the QA requirement for the University Core.

Political science majors are also required to take the Major Field Achievement Test during the second semester of their senior year. The test is administered by the political science department. Before taking an upper-level course in a given area, the department recommends (and in certain courses it is required) that students first take the 100-level foundational course corresponding to that area of study. The department sponsors the Mu Upsilon chapter of Pi Sigma Alpha, the national political science honor society. Membership is open to students whose academic record reflects outstanding achievement and demonstrated interest in the study of political science.

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**Program Learning Goals in Political Science.** Students will:

1. Demonstrate knowledge of the major fields of political science: American politics, comparative politics, international relations, political theory, and research methods.
2. Demonstrate academic and intellectual skills: critical analysis, academic writing, and oral communication.
3. Be engaged in and aware of local, national, and global politics.
4. Be prepared, according to interest, for graduate programs and/or careers related to political science (e.g., public policy, law, political journalism, international service).

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Major and Minor Requirements
<b>Major in Political Science:</b> 37 credit hours. The political science core: PO 101, 102, 103, 104, 200, 300, 300L; 18 hours of elective courses, selected from among PO 105 and all PO courses above PO 200 not specifically required for the major. These elective courses may be concentrated in one area or distributed across several areas. At least three hours of these electives must be at the 400 level, and only nine hours of electives for the major may be chosen from lower-division elective courses (200 level and PO 105).

**PO majors may elect one or more of the following concentrations:**

**Concentrations within the major of Political Science**

Students majoring in political science may also complete a concentration within the major as a way of developing expertise through focus in a particular area.

**Legal Studies:** 18 credit hours. PO 317; at least 3 credit hours elected from among case based courses 314A, 315, or COM 300; additional elective credits completed from among 213, 314B, 334, 340, 417, HS 215, HS 444, PL 320, SC 220, SC 435.

This concentration is for those majors interested in the study of law and its relationship to society. It is also useful for those students interested in pursuing a career in law.

**Global Studies:** 18 credit hours. PO 256, and 15 hours elected from among PO 205, 210, 215, 220, 241, 243, 254, 320, 321, 325, 328, 330, 331, 332, 333, 334, 336, 337, 351, 355, 356, 357, 396, 397, 430, 445, 458, 499 on a topic related to international relations or comparative politics (by petition).

This concentration is for those majors who wish to develop expertise in global politics. It is also useful preparation for advanced study in comparative politics or international relations, or for a government or private sector career dealing with foreign affairs.

**Applied Politics:** 18 credit hours. PO 303 and 390C (or equivalent course by petition); and 12 hours selected from among PO 203, 210, 213, 220, 301, 304, 318, 319, 412, and COM 311.

This concentration is for those majors who wish to transition into a job in practical politics. It is also useful for developing tangible skills, networking, and understanding how the political system actually works.

**Minor Requirements**

**(The minors in Political Science are available only to non-majors.)**

**Minor in United States Politics:** 18 credit hours. PO 101 or 201, and 15 hours elected from among PO 203, 213, 295, 301, 304, 311, 314A, 314B, 315, 316, 317, 318, 319, 340, 347, 395, 410, 412, 417, 499 (if relevant and by petition), with no more than 6 hours at the 200 level.

**Minor in Foreign Affairs:** 18 credit hours. PO 102 and 103, and 12 hours elected from among PO 205, 210, 215, 220, 241, 243, 254, 256, 296, 297, 311, 320, 321, 325, 328, 330, 331, 332, 333, 334, 336, 337, 351, 355, 356, 357, 396, 397, 430, 445, 458, 499 (if relevant and by petition) with no more than 6 hours at the 200 level.

**Minor in General Political Science:** 18 credit hours. Two courses at the 100 level and four additional courses, with no more than 6 hours at the 200 level.

**101. UNITED STATES POLITICS 3 cr.** The U.S. political system in theory and practice; political processes, institutions, individual and group behavior; the relationship of the political system to the organizational and economic environments.

**102. COMPARATIVE POLITICS 3 cr.** Introduction to the study of political behavior and the development of political institutions through a comparative perspective.

**103. INTERNATIONAL RELATIONS 3 cr.** Origin, nature, and development of the modern state system. International conflict and its management by political and legal means. Concepts include sovereignty, nationalism, national power and security, balance of power. Contemporary international issues.

**104. POLITICAL THOUGHT 3 cr.** Examination of the assumptions, methods, and substantive positions of selected political theorists as a basis of analyzing political life. Themes include sovereignty, power, equality, slavery, peace, representation, identity, force, and violence.

**105. POLITICAL ANALYSIS 3 cr.** Introduces students to foundational quantitative analysis in a political context, specifically describing and representing data, posing precise and testable questions, drawing inferences from data, analyzing data, and understanding appropriate statistical software.

**200. INTRODUCTION TO METHODS 3 cr.** Introduces various approaches used in the social sciences to understand the socio-political world and provide causal explanation for its discernible patterns and features. Includes the basics of forming a research hypothesis and a review of the literature relevant to a research project. Required of all political science majors and a prerequisite for PO 300 and PO 300L.

**201. U.S. POLITICAL INSTITUTIONS 3 cr.** Focuses on how American government works, with an emphasis on how our political institutions are intertwined. Specific topics include Congress, the presidency, media, interest groups, bureaucracy, and voting.

**203. POLITICS & MAPPING 3 cr.** Introduction to the spatial representation of political data through computer-based processing tools, specifically geographic information systems (GIS). Students study fundamentals of creating maps, including spatial analysis, thematic mapping, and data quality. Applications include political and electoral analyses, land use planning, public health mapping, environmental management, and demographic mapping.

**205. HEALTHCARE ACCESS IN LATIN AMERICA 2 cr.** Integrates immersion experience with the realities of healthcare access in Latin America. Topics include the cycle of poverty in Latin American countries, the link between healthcare access and poverty, and the specific case of the rural Honduran healthcare system.

**210. MODEL ARAB LEAGUE SIMULATION 3 cr.** Explores the functioning of international organizations through participation in Model Arab League Conferences; develops oral and written capabilities as well as critical thinking. Includes travel to participate in both regional and national conferences.

**213. WRONGFUL CONVICTIONS 3 cr.** Examines theories explaining why wrongful convictions occur, including discussion of witness identification, false confessions, perjured testimony from informants, ineffective counsel, and police and prosecutorial misconduct. Addresses consequences of wrongful conviction and proposed remedies.

**215. ISLAM AND POLITICS 3 cr.** Studies the history and development of Islam as a political movement; also, rise of political Islam and failure of the state in the Middle East.

**220. EUROPEAN UNION SIMULATION 3 cr.** Simulation course that models the lawmaking process within the European Union. Includes a three-day conference in November in Washington, D.C. Each student takes on the role of a political decision-maker from an EU member-state.

**241. HISTORY, CULTURE, AND POLITICS 3 cr.** Explores ways that relationships among history, culture, and politics are expressed within nations and across national borders. Incorporates comparative perspectives.

**242. ISSUES IN SOCIAL JUSTICE 3 cr.** Explores what counts as an issue of social justice. Includes a critical introduction to rights-based thinking, structural and ideological foundations of injustices, importance of narration and writing, and approaches to social change.

**243. GLOBAL DEBT AND JUSTICE 3 cr.** Examines debt from an interdisciplinary perspective, including how different religions and cultures understand debt, interest, profit, and obligation; the political economy of debt between nation-states and global institutions; and debt justice movements.

**254. LATIN AMERICAN POLITICS 3 cr.** Broad historical and regional overview of the political, economic, and social issues that have shaped today's Latin American politics. Focus on various countries suited to student interest and current events.

**256. GLOBALIZATION AND ECONOMIC DEVELOPMENT 3 cr.** Introduction to the major political and economic forces of historical development from the explosive encounter of Europe with the Americas at the start of the "Colombian exchange" to the collapse of time and distance with the introduction of digital technology and the Internet.

**295. SPECIAL TOPICS IN UNITED STATES POLITICS 3 cr.** Course title will be listed in the semester course schedule. Special-topics courses at the 200 level are designed for first- and second-year students or for prospective majors.

**296. SPECIAL TOPICS IN COMPARATIVE POLITICS 3 cr.** Course title will be listed in the semester course schedule. Special-topics courses at the 200 level are designed for first- and second-year students or for prospective majors.

**297. SPECIAL TOPICS IN INTERNATIONAL RELATIONS 3 cr.** Course title will be listed in the semester course schedule. Special-topics courses at the 200 level are designed for first- and second-year students or for prospective majors.

**298. SPECIAL TOPICS IN POLITICAL THOUGHT 3 cr.** Course title will be listed in the semester course schedule. Special-topics courses at the 200 level are designed for first- and second-year students or for prospective majors.

### **Advanced Courses**

**300. POLITICAL SCIENCE RESEARCH METHODS 3 cr.** Prerequisite: PO 200; corequisite: PO 300L. Examines the principles and tools of political (and social) science research, including variables, hypotheses, measurement, research designs, sampling, data collection, and data analysis. Emphasis on practical application by learning the use of professional analysis software. Should be taken by the end of the junior year.

**300L. POLITICAL SCIENCE RESEARCH METHODS LAB 1 cr.** Corequisite: PO 300.

**301. U.S. CONGRESS 3 cr.** Prerequisite: PO 101. Committees, leaders, party organizations, and floor proceedings in Congress; elections, legislative reform, lobbyists, and legislative behavior. Students participate in a lengthy simulation of the U.S. House of Representatives.

**303. APPLIED POLITICS 3 cr.** Seminar on applied politics; covers topics such as political campaign budgeting and strategy, predictive modeling, lobbying, legislative politics (including state/local), fundraising, communications, and more.

**304. INTRODUCTION TO POLICY ANALYSIS 3 cr.** Introduction to the public policy process; institutions that structure and implement policy response, models of decision-making, analytical and evaluative methodologies, epistemological approaches, normative concerns. Policy areas are investigated to illustrate both the actual and symbolic impact of the policy process within diverse political settings.

**311. U.S. FOREIGN POLICY 3 cr.** Prerequisites: PO 102 or PO 103. Sources, conduct, and effects of U.S. foreign policy from the standpoint of various analytical frameworks.

**314A. AMERICAN CONSTITUTION DEVELOPMENT PRE-1865 3 cr.** Analysis of the United States Constitution and the system of government which it established. Emphasis on historical context in which it was negotiated, ratified, and implemented.

**314B. AMERICAN CONSTITUTIONAL DEVELOPMENT 1865-1965 3 cr.** Development of the American Constitutional System from the Second Founding at the conclusion of the Civil War through the Civil Rights Movement of the 1960s. Emphasis on legal change over time between capital and labor, political regulations of the economy, and protection of the civil and political rights of minority populations.

**315. CIVIL RIGHTS AND LIBERTIES 3 cr.** Conflict in American society between majority rule and minority rights. Case-study approach to freedom of speech, press, religion, and association, the protections of due process, the rights of the accused, the equal protection of the laws, voting rights, and privacy.

**316. SOCIAL MOVEMENTS 3 cr.** Focusing primarily on the U.S., how and why social movements form in a democratic society, the use of extra-institutional political tactics, the ways they maintain themselves against strenuous opposition, and the dynamics of movement decline.

**317. JUDICIAL POLITICS 3 cr.** Prerequisite: PO 101. Analysis of the role of the courts in the political process and the impact of law on society: structure of federal and state judiciaries, judicial selection, models of judicial decision-making, and the implementation of judicial decisions.

**318. INTEREST GROUPS AND POLITICAL PARTIES 3 cr.** Prerequisite: PO 101. How interest groups affect the American political process. Analysis of interest-group behavior in electoral politics and in the policy process; theory and structure of groups; the rise of political action committees (PACs) and single-issue voters; the functions and activities of the political parties.

**319. U.S. ELECTIONS 3 cr.** Analysis of candidate recruitment, nomination processes, campaign strategies, campaign finance, voting behavior, and reform proposals in congressional and presidential elections. (Offered every two years on the election cycle.)

**320. CHRISTIAN DEMOCRACY IN EUROPE 3 cr.** Prerequisite: PO 102. Focuses on one of the most important contemporary political movements in Europe. Development of Catholic political and social thought from the French Revolution to the present; the role played by Christian Democratic parties in eight countries today.

**321. THE POLITICS OF THE EUROPEAN UNION 3 cr.** Prerequisite: PO 102. A more advanced course on the European Union than PO 220, going well beyond its history, institutions, and processes. Analyzes in detail some key issues and controversies within the EU concerning its structure of governance, its purpose, and its future. Includes participation in the EU Simulation in Washington, D.C., in November.

**325. POLITICS OF THE LEAGUE OF ARAB STATES 3 cr.** Focuses on achieving an understanding of international issues and the function of international organizations with specific emphasis on Arab states. Develops diplomatic capabilities, persuasion skills, and proficiency in parliamentary procedure. Includes travel for participation in the Model Arab League conference.

**328. THE MIDDLE EAST IN FILM AND MEDIA 3 cr.** Explores the Middle East through film and media. Focuses on discussions of the diversity of religious, political, and social trends in the area along with an emphasis on bias and stereotypes portrayed in both audio-visuals and readings.

**330. INTERNATIONAL POLITICS OF THE MIDDLE EAST 3 cr.** International issues and conflicts of the Middle East and their influences across the world studied within the context of the history of the area and theories of international relations. Provides a deeper understanding of the area and the system which that produced the international relations in the Middle East today.

**331. U.S. FOREIGN POLICY IN THE MIDDLE EAST 3 cr.** Overview of the U.S. policy in the Middle East from the end of World War II to the present. Examines U.S. policy through the interplay of factors such as national interest, the Cold War, the new world order, ongoing wars, and U.S. relations with a number of Middle Eastern countries.

**332. AFRICAN POLITICS 3 cr.** Historical perspective on topics of colonialism, independence movements, neopatrimonialism, nationalism, democratization, conflict, genocide, women's movements, and civil society, among many other contemporary concerns, with an emphasis on variation across space and time.

**333. INTERNATIONAL CONFLICT AND SECURITY 3 cr.** Prerequisite: PO 103. Focuses on the sources of and responses to insecurity for states and individuals, including genocide, insurgency, civil wars, interstate conflicts, terrorism, and other global threats in the kinetic, cyber, neurocognitive, and narrative space.

**334. INTERNATIONAL INSTITUTIONS, LAW, AND HUMAN RIGHTS 3 cr.** Prerequisite: PO 103. Focus on international organizations such as the International Criminal Court that help the international community cope with egregious abusers of human rights. Analysis of their structure, theory, procedure, operation, and problems, as well as their role in maintaining peace and security among member states.

**336. INTERNATIONAL POLITICAL ECONOMY 3 cr.** Prerequisite: PO 103 or PO 256. Examines trends in the global economy and the politics shaping globalization. Includes questions related to the politics of development, poverty, and income inequality both among countries and within countries.

**337. COMPARATIVE HEALTH POLICY 3 cr.** Introduction to the basic concepts, issues, and dilemmas of public health and healthcare policy. Provides students with the vocabulary and tools of comparative public health/healthcare policy analysis by examining in detail the promises and problems of various healthcare systems worldwide.

**340. LAW AND FILM 3 cr.** Explores the interplay between law and popular culture as represented by film. Also considers important themes in the study of law and judicial politics, including the relationship between law and justice, the practice of law, and the role of the courts and trials in a political system.

**342. MODERN POLITICAL THOUGHT 3 cr.** Impact of science on the study of politics, rise of the "individual" and social contract theory; the relationship between Enlightenment and revolutionary thought; critiques of Enlightenment and liberalism; examination of European biases and their meanings for political thought.

**343. CONTEMPORARY POLITICAL THOUGHT 3 cr.** The relationship between morality and politics; impact of Rawls and the social contract tradition; feminist responses to the definition of the political; the meaning of the Holocaust to Enlightenment-influenced political thought; application of post-structural analyses; deliberative and participatory approaches.

**347. AMERICAN POLITICAL THOUGHT 3 cr.** Explores enduring themes, recurring issues, and persistent problems in American political thought in order to better understand contemporary questions, issues and problems in American politics.

**351. BERLIN SEMINAR 3 cr.** Intensive introduction to the city of Berlin, focusing on Berlin as capital of empire, republic, and the Nazi regime; as divided city during the Cold War; and as center of reunified Federal Republic. Includes a ten-day study tour of Berlin during spring break preceded by a series of seminar meetings in preparation for the trip. Offered spring semester of odd-numbered years. Requires additional fee for travel.

**355. IDENTITY, SOCIAL CLASS, AND POWER IN LATIN AMERICA 3 cr.** Examines the formation and social dynamics of identity, ideology, class, and political mobilization in Latin America from the colonial period to the present.

**356. POLITICAL TRANSFORMATION: CASE STUDIES FROM LATIN AMERICA 3 cr.** Prerequisite: PO 102, PO 254, or PO355. Intensive examination and comparison of recent political and economic developments

in major countries or regions of Latin America, e.g., Mexico, Brazil, Chile, Venezuela, the Andes, or Central America.

**357. VIRTUE AND POLITICAL ORDER FROM PLATO TO THE PRESENT 3 cr.** Designed to serve as an EHE Core course linked with a PL course. Examines the political implications of the human desire for happiness.

**390. INTERNSHIP 0-6 cr.** Internship in government and political organizations. Internship prerequisites to be arranged with intern advisor. (Only 3 credits may count toward political science major or minor.)

**391. UNDERGRADUATE RESEARCH 1-3 cr.** Undergraduate research experience is for advanced students chosen to work on a faculty member's original research project. Using one or a variety of methods, students will work with a faculty member to conduct comparative, analytic, historical, data oriented, interpretative, and/or mixed methods research, ideally resulting in co-authored publication.

**395. SPECIAL TOPICS IN UNITED STATES POLITICS 3 cr.** Topic listed in semester schedule. Students may register for more than one 395 course on advice of academic advisor.

**396. SPECIAL TOPICS IN COMPARATIVE POLITICS 3 cr.** Topic listed in semester schedule. Students may register for more than one 396 course on advice of academic advisor.

**397. SPECIAL TOPICS IN INTERNATIONAL RELATIONS 3 cr.** Topic listed in semester schedule. Students may register for more than one 397 course on advice of academic advisor.

**398. SPECIAL TOPICS IN POLITICAL THOUGHT 3 cr.** Topic listed in semester schedule. Students may register for 398 more than once on advice of academic advisor.

**399. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of chair. Directed reading or individual research.

**401. SENIOR THESIS 3 cr.** Prerequisites: PO 300/300L; permission of instructor. Research of topic in political science. Reviewing past research, developing a research plan, carrying out the research plan, and writing the thesis.

**410. AMERICAN PRESIDENCY 3 cr.** Prerequisites: PO 101, PO 200. Institutions, personalities, and political processes centered in the presidency; implications of shifting balance of powers between the presidency and the other federal branches; analysis of media and public expectations in light of effective leadership and public accountability.

**412. URBAN POLITICS 3 cr.** Comparative study of the political systems of urban areas emphasizing forms of urban government, metropolitan government, political machines, elections, interest groups, local executives, city councils, and bureaucracies.

**417. THE U.S. SUPREME COURT 3 cr.** Prerequisite: PO 315, PO 317, or instructor permission. History and role of the U.S. Supreme Court in U.S. politics. Special attention as to how and why the Court renders decisions, how it determines its docket and case load, and the impact of its decisions. Includes significant independent research.

**430. SEMINAR: INTERNATIONAL RELATIONS ON THE BLEEDING EDGE: IMAGINING TOMORROW 3 cr.** Explores topics in current international relations pertaining to security, intelligence, and defense applications. Wars today take place in physical space, cyberspace, and narrative space, i.e., social media. Also examines application of neuroscience and neurotechnology to counter state and non-state threats, how virtual reality and augmented reality can help understand data, and how UAVs and robotics change the nature of the fight in the kinetic sphere.

**445. NATIONALISM AND CITIZENSHIP 3 cr.** The two dominant ways of interpreting political identity, with theoretical and empirical components. Relationship between ascriptive identity and democracy, meaning of patriotism, impact of colonialism and race-thinking, and possibilities for shared political life beyond the nation-state.

**446. MARXIST THOUGHT 3 cr.** The varieties of Marxism, including Marx, Lenin, Rosa Luxemburg, and Antonio Gramsci. Significant emphasis on leadership and party politics, hegemony, imperialism, culture, ideology, and the role of gender and race analysis in Marxist thought. Involves significant reading and writing.

**458. TOPICS IN POLITICAL DEVELOPMENT 3 cr.** Prerequisite: PO 102, PO 256, or instructor permission. Uses a different theme each time it is offered. Examines topics from around the globe on political transformation and economic development.

**498. ADVANCED INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of chair. Senior- and/or graduate-level directed reading or independent research.

**499. SEMINAR 3 cr.** Courses on a variety of topics taught in a seminar format.

# Population and Public Health (PPH)

*Co-coordinators:* J. L. Lissemore (Biology), M. W. Barnes (Sociology and Criminology);

*Advisory Committee:* J. A. Greenwolf (Student Affairs), E. E. Johnson (Biology), K. C. Lee (Pre-Health Professions), J. A. Zera (Exercise Science)

The Population and Public Health minor is an interdisciplinary program for students in any major interested in protecting and improving the health of communities. The minor addresses biological, social and cultural, environmental, ethical, and public policy influences on a population's health and requires critical, cross-disciplinary thinking applied to solving health problems.

## **Program Learning Goals in Population and Public Health.**

Students who complete the minor will be able to:

1. Demonstrate a basic understanding of population and public health.
2. Demonstrate familiarity with the concepts and uses of epidemiology to understand the prevalence and distribution of disease.
3. Display ethical behavior, cultural sensitivity, teamwork, and professional conduct.

## **Minor requirements**

**Minor in PPH:** 26-28 credit hours.

### *Core requirements*

Epidemiology: BL 240 (pre-requisite DATA 122, DATA 228, EC 210, or PO 105); Population and Public Health: PPH 273, and PPH 473 (a 4-credit-hour capstone internship and seminar; admission to the minor is limited by the enrollment cap for this course); Sociology: SC 101.

Choose three courses from the following two areas. At least one course must be taken in each area and the courses must be from at least two different departments.

*Environmental Health/Environmental Studies/Global Health:* BL 137, BL 222, BL 260, BL 331, PO 205, SC 260, SC 370.

*Social and Behavioral Health/Policy Studies:* BL 260, NP 550, PS 226, SC 275, SC 315, SC 343, SC 370, SC 385, PO 304, PO 337, PS 288.

Choose one elective course not taken to fulfill other requirements of the minor. *Electives:* BL 260, BL 310/310L, BL 410, BL 417/417L, COMM 375, EPA 200, GEND 101, HS 237, PL 316, PO 203, PO 205, PO 304, PO 337, PS 226, PS 288, SC 257 SC 275, SC 315, SC 320, SC 343, SC 370, SC 385, TRS 363.

Please see the program webpage, <http://sites.jcu.edu/populationpublichealth/> for more information.

**273. CURRENT ISSUES IN POPULATION AND PUBLIC HEALTH 1 cr.** Prerequisite: instructor permission. Interdisciplinary seminar on current population and public health issues in the U.S. and globally. Topics include disease outbreaks, current health policy debates, and community health implications of environmental issues and lifestyles, with special focus on diversity and ethics. May be repeated for up to 3 credits.

**399. SPECIAL TOPICS IN POPULATION AND PUBLIC HEALTH 3 cr.** Prerequisite: instructor permission. Occasional course on a selected topic listed in semester schedule. May be repeated with a different topic.

**473. INTERNSHIPS IN POPULATION AND PUBLIC HEALTH 4 cr.** Prerequisites: senior standing, permission of instructor, minimum GPA of 3.0 overall and in the PPH minor, SC 273, BL 240, and four additional courses in the Population and Public Health minor. Capstone for PPH minor: a supervised internship in a public

health setting in conjunction with on-campus seminar focused on career development, public health systems, and interdisciplinary analysis of the varieties of public health practices.

# Pre-Health Professions (PHP)

Kathleen C. Lee, Ph.D., *Assistant Dean for Health Programs; Physician in Residence:* George S. Lewandowski, M.D.

The Pre-Health Professions Program is John Carroll's program for students of any major interested in healthcare careers. The program helps students make the career choices best suited to their talents and abilities. This is accomplished by providing each student with current and accurate information, guidance, and support about the education, training, and careers of healthcare providers. Since students have many options available to them, the guidance helps them to determine which path is right for them and their career interests. In addition, PHP support helps students make informed choices and work through any dilemmas encountered along the way. The Pre-Health Professions Program via the Health Professions Advisory Committee (HPAC) provides students with interview experience, constructive feedback, and a committee letter of recommendation that supports applications to healthcare professional programs as determined by the student.

## Pre-Health Professions

Students planning to apply to medical or dental school must take biology, chemistry, organic chemistry, and physics. Students also are strongly advised to take genetics, biochemistry, statistics, calculus, and psychology to prepare for these highly competitive programs. Requirements for other health professional programs, and the standardized tests required for application, can vary substantially so students must check the details of specific programs and schools to inform themselves of the requirements.

Pre-health professions students are strongly urged to contact the director of the Pre-Health Professions Program at John Carroll University for more information and for assistance in planning their educational programs and applications to professional schools. Students are also advised to consult current publications and websites relevant to their proposed area of study and preferred colleges, including *Medical School Admission Requirements of U.S. and Canada*, *Admission Requirements of U.S. and Canadian Dental Schools*, and similar publications for specific professions, such as osteopathy, chiropractic, podiatry, veterinary medicine, physician assistant programs, nursing, physical therapy, occupational therapy, anesthesiology assistant, public health, and optometry.

For additional information, please see the Preparation for Graduate and Professional Study section of this Bulletin and the Pre-Health Professions website ([www.jcu.edu/prehealth](http://www.jcu.edu/prehealth)).

## Early Acceptance Programs/Dual Enrollment Programs

Lake Erie College of Osteopathic Medicine and John Carroll University have an Early Acceptance Program Agreement whereby up to twenty seats per year are reserved for John Carroll students to enter LECOM's medical, dental, and/or pharmacy schools. High school seniors and current JCU sophomores are eligible for this program.

Ohio University Heritage College of Osteopathic Medicine and John Carroll University have an Early Acceptance Program Agreement whereby up to ten seats per year are reserved for John Carroll students to enter OU-HCOM's osteopathic medical school at any of OU-HCOM's campuses (Cleveland, Dublin, and Athens). Established Ohio residents who are high school seniors and meet admission requirements may apply for the program.

John Carroll University and Case Western Reserve University's Master of Science in Anesthesia Program have an Early Acceptance Program whereby up to twelve seats per year (four at each program site: Cleveland, Houston, and Washington, D.C.) are reserved for John Carroll students to enter CWRU's program to become an anesthesiologist assistant. Current JCU students who have completed at least 80 credits and the appropriate prerequisite courses with a grade of B- or higher are eligible to apply.

For additional information, please contact the director of Pre-Health Professions or go to the Pre-Health Professions website ([www.jcu.edu/prehealth](http://www.jcu.edu/prehealth)).

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**Program Learning Goals in Pre-Health Professions.** Students will:

1. Acquire foundational knowledge of the human and natural worlds through completion of appropriate integrative courses and other courses that ensure academic preparation for health professional programs.
2. Understand the variety of careers in healthcare, and pathways to access those careers, including program prerequisites, standardized tests needed, and application processes and be able to explain why the chosen career path is personally appropriate.
3. Demonstrate understanding that health careers are service careers, requiring skills involving critical analysis, communication, leadership, collaboration, cultural competency, and creative thinking.

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**Professional Healthcare Preparation Minor & Certificate Requirements**

**Minor in Professional Healthcare Preparation Program Curricular**

**Requirements:** The minor will require 7 courses (18 credit hours): Both PHP courses in category A and one from each of the five remaining categories. Students must complete both of the requirements in the experiential course work.

**Certificate in Professional Healthcare Preparation Program Curricular**

**Requirements:** The certificate program will consist of 5 courses (12 credit hours). Students must take both PHP courses. Students then choose three more 3-credit courses from any of the remaining categories. Of those three courses, two must come from different categories. Students must meet the experiential requirement by means of G1 (shadowing), which is described below.

**Required Courses:**

- A) PHP 121 and PHP 124; plus at least one course each from B through F.
- B) Understanding the Patient: PS 362, PHP 279, or other appropriate course.
- C) The Ethics of Care: PL 316 or other appropriate course.
- D) Communication in Healthcare Settings: CO 200, CO 399, or other appropriate course.
- E) Managing Healthcare: CS 312 or other appropriate course.
- F) Elective Courses: PPH 275, SC 273, SC 275, SC 285, SC 295, SC 315, SC 385, BL 240, BL 260, PS 226, PS 381, PS 401, PS 426.
- G) Experiential Requirements:
  1. Shadowing: Students must spend a minimum of 40 hours shadowing no less than two healthcare providers.
  2. Students seeking a minor must engage in one of the following:
    - Research at an external site or at JCU with faculty member.
    - Internship at approved site.
    - Participation in medical immersion trip sponsored by JCU or other approved sponsor.
    - Participation in Summer Field Experience.
    - Service Learning related to healthcare arranged via the Center for Service and Social Action (must be a full semester) or volunteering with JCU EMS.

**121. SURVEY OF HEALTH PROFESSIONS 0-1 cr.** Introduces the many career options available in healthcare. Meets once weekly; features speakers representing various healthcare professions. Students also develop an Individual Development Plan.

**124. PRIMARY HEALTH PREPARATION 2 cr.** Introduces the changing face of medicine in the 21<sup>st</sup> century. Explores current medical practice and education through readings in popular literature, social science, ethics, and contemporary medical literature.

**275. GLOBAL HEALTHCARE DELIVERY 3 cr.** Fundamentals of global issues in healthcare. Emphasizes effects of the increasing interconnectedness of healthcare among global cultures due to advances in information, communication, and the economy; also, how these developments will change healthcare delivery and health policy globally.

**279. HEALTH CARE PROFESSIONALS AND CLINICAL DECISION MAKING 3 cr.** Focus on understanding how health care professionals can utilize clinical decision-making processes in order to provide just, practical, and best practice decisions, in varied professional health care settings, involving a range of current and emerging moral dilemmas and justice concerns. Reflects the needs of health care professionals in clinical care, research and management; evaluates the role that justice plays in clinical decision making; to assess how clinical decisions may affect the quality of patient care.

# Psychology (PS)

*Professors:* H. M. Murphy, E. V. Swenson, D. D. Ben-Porath; *-Associate Professors:* J. H. Yost (Chair), A. A. Imam, T. Masterson; A. M. Canda (Director, Honors Program); S. D. Young; *Assistant Professors:* A. M. Taescavage

Psychology is the scientific study of all aspects of behavior and mental processes. The concepts and methods of science are used in the description, explanation, prediction, and modification of behavior. Psychology is a broad discipline with ties to both the natural and social sciences. It provides a base for a variety of academic and professional fields, including psychological research, counseling, clinical psychology, social work, business and industry, medicine, human resource, and law. In addition, an interdisciplinary concentration in neuroscience is coordinated through the Department of Psychology.

The Department of Psychology prepares students with knowledge in the core areas of psychology, critical thinking skills, and the ability to apply the scientific method as preparation for graduate study, work, or service. In addition, the Psychology Department participates in the College of Arts and Sciences Professional Development Program through PS 190.

## The Psychology Major

Psychology majors receive a firm grounding in the scientific aspects of the discipline. Students can explore the discipline through PS 101 (or 100) or several 200-level courses that provide students with a foundation in the discipline or core areas of psychology. Once this foundation is achieved, students move on to upper-division specialty courses that add depth to their knowledge of psychology.

Psychology majors are also required to complete course work in statistics and psychological research. This training is essential for students to receive adequate preparation for either graduate study or a professional career in psychology or an allied discipline. PS 190 is required for completion of the psychology major. **Psychology majors or those who are considering the major should take PS 190 as soon as possible.**

PS 101 (or PS 100) is the prerequisite for ~~all~~ some courses at the 200 level and all 300 and 400 level courses in Psychology. PS 100 meets the Issues in Social Justice requirement and PS 101 meets the Natural Science Experience distribution requirement of the Integrative Core Curriculum. PS 100 or 101 may be applied to the Integrative Core Curriculum or general elective credit-hour requirements. Check the listings in the schedule of classes each semester to see which additional courses may be applied to the requirements of the Integrative Core.

**Preparation for Graduate Study in Psychology:** Graduate study in Psychology takes many forms. Students seek admission in many specialty areas, including clinical, developmental, social, industrial/organizational, sports, comparative, biological, experimental, cognitive, school, or counseling psychology, and neuroscience. The Psychology major is also excellent preparation for medical school and other health professions, law school, business administration, and social work. Students planning to pursue a graduate degree in Psychology or an allied discipline should seek a firm foundation in the core areas of the discipline and obtain research experience through additional course work and independent study. The following courses are recommended for students planning graduate study: 241, 261, 262, 265 (formerly PS 365), 301/301L, 318/318L, 326, 332/332L, ~~365~~, 380/380L, 401, 421, 435, 457, 471, and 497N or 499.

**Specialized Concentrations in Psychology:** Majors may elect to complete one of the four concentrations in applied Psychology described below. These focused concentrations were designed for students with specialized interests in applying psychological principles in business, school, or mental health settings. Because courses in these concentrations are not offered every semester, careful planning and course selection will increase the likelihood of successfully completing a concentration.

**Child and Family Studies:** This concentration provides an opportunity for students to examine development from prenatal development through the end of life by the integration of theory and practice. There is a focus on the individual and individuals in a family context. This course of study supports students who wish to work in applied settings with children and families after graduation, as well as those who wish to continue to graduate study. Completing both the child and family studies concentration and the major requires the following courses: PS 100 or 101, 261, 262, 301/301L, 326, 332/332L or 380/380L, 342 or SC 255, 265 (formerly PS 365), 415, 435, 455 or 457, 476; SC 225 or 275. **Coordinator:** Dr. Sheri Young.

**Forensic Psychology:** This concentration is intended for students who have an interest in clinical psychology, forensic psychology, criminology, or law, as well as those who will be seeking employment in the criminal justice system. Requirements for completing both the forensic psychology concentration and the psychology major are as follows: PS 100 or 101, 270, 301/301L, 435, 457, 471; one of PS 318/318L or 326; one of PS 241, 261, or 262; one of PS 332/332L, 380/380L, or 386; one of PS 470 or 494 and one of PS 275 (formerly PS 375) or 462; one of SC 220, 240, or 345. **Coordinator:** Dr. Elizabeth Swenson.

**Industrial/Organizational Psychology:** This concentration is intended for two groups of students: those who wish to pursue graduate training and those seeking employment in I/O-related areas. Students prepare for both graduate school and entry-level positions in a variety of work settings that involve job analysis, staffing, training, and performance evaluation. Students should select their courses carefully and consult with the department early in their program. Course prerequisites must be observed. Completing both the I/O concentration and the psychology major requires all of the following: PS 100 or 101, 241, 259 (formerly PS 359), 301/301L, ~~359~~, 435, 459, 480C, 481C, two additional PS electives; one of PS 318/318L or 326; one of PS 332/332L, 380/380L, 386; four of MHR 376, 453, 470, 473; BI 200. **Coordinator:** Dr. Abdulrazaq Imam.

**Mental Health Services:** This concentration is intended for two groups of students: those who plan on graduate study in clinical/counseling psychology or related fields immediately or shortly after graduation, and those who will be seeking employment in some area of human services immediately after graduation. Those planning to go to graduate school should follow the advice given above in the section on preparation for graduate study. In most cases these students will do only one semester of practicum. Students planning to seek employment after graduation should consider doing two semesters of practicum, either at one setting or two. Requirements for completing both the mental health services concentration and the psychology major are as follows: PS 100 or 101, 301/301L, 381, 435, 457, 462, 471, 477, 482C, or 483C; one course chosen from PS 241, 261, 262; one of PS 332/332L or 380/380L; one of PS 318/318L or 326; and 401 or 482C or 483C. **Coordinator:** Dr. Denise Ben-Porath.

### **Interdisciplinary Concentration in Neuroscience**

This interdisciplinary concentration is coordinated by the Department of Psychology. The program provides an interdisciplinary approach to the study of physiology, biochemistry, and the behavior of higher animals. It is strongly recommended that students interested in this program investigate the neuroscience concentration as early as possible in their academic careers. **Coordinator:** Dr. Helen M. Murphy.

### **Co-Operative 3/2 Program with the Mandel School of Applied Social Sciences**

A special agreement with the Mandel School of Applied Social Sciences (M-SASS) at Case Western Reserve University enables qualified Psychology majors to enroll in the M-SASS program after their junior year at John Carroll. Successful completion of this five-year program results in a B.S. in Psychology from John Carroll and a master's in social work from Case Western Reserve University.

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**Program Learning Goals in Psychology.** Students will demonstrate:

1. A fundamental knowledge base in the core areas of psychology.
2. Critical thinking skills and their application.
3. Proficiency in the use of the language of psychology in both written and verbal form.
4. Expertise in the methods of information gathering, organization, and synthesis as applied to psychology.
5. Mastery of the experimental method and statistical analysis as practiced by psychologists.
6. An understanding of the ethics and values of the discipline.
7. A readiness for graduate study or for transition into the workforce.
8. Recognition of how psychology contributes to the understanding of human diversity.

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### Major and Minor Requirements

**Major in Psychology:** 39 credit hours. PS 100 or 101, 190, 301/301L; Group A (Biological Basis of Behavior): PS 318/318L or 326; Group B (Developmental & Social Psychology): one course chosen from PS 241, 261, 262; Group C (Individual Differences): one course chosen from PS 351, 435, 455, 457; Group D (Learning and Memory): one course chosen from PS 332/332L, 380/380L, 386. The remaining 18 hours are PS electives; all PS electives must be at the 200 level or above. A total of 18 PS credits must be at the 300 level or above.

PS 100 or 101 and 190 are the only 100-level courses that may be counted in the major. Students must have completed PS 100 or 101 and maintain a minimum overall 2.5 GPA in order to declare Psychology as a major.

At least six courses must be at the 300-400 level.

No more than 6 hours of credit for courses at or above PS 480 can be counted toward the major.

At least 18 credit hours in the major must be taken at John Carroll University.

**A comprehensive examination**, given during the final semester of the senior year, must be passed by all majors in Psychology.

*Required Support Courses:* DATA 122 and DATA 260 (formerly MT 122 and MT 223) (minimum grade of C- required in DATA 260/MT 223) should be taken by the end of the sophomore year. MT 228 or EC 208 may substitute for DATA 122/MT 122.

**Minor in Psychology:** 18 credit hours. PS 100 or 101 and 5 more PS courses, including one course from each content group (A, B, C, and D above) and one elective. At least ONE course must be a lab course.

**Minor in Forensic Psychology:** 18 credit hours. PS 101 or 100, PS 270 (formerly PS 370), PS 471, PS 457 or 455, PS 241 or 415, PS 470 or 494.

Minor in the Psychology of Human Diversity. 18 credits. PS 100 or 101, 288 (formerly PS 362), 342, 415; Choose one: PS 268 or PS 265 (formerly PS 365) and Choose one: PS 381, 387 (formerly PS 407), 455, or 457.

**100. INTRODUCTION TO PSYCHOLOGY: PERSPECTIVES IN SOCIAL JUSTICE 3 cr.** Fundamental principles of behavior, including research methods, learning, memory and cognition, biological basis of behavior, perception, motivation, human development, social psychology, personality, psychopathology, and psychological testing. Students will engage in reflection regarding the research and practices in psychology that have hindered, and contributed to, the creation of a socially just world. **Students completing PS 101 cannot take PS 100.**

**101. INTRODUCTION TO PSYCHOLOGY 3 cr.** Fundamental principles of behavior, including research methods, learning, memory and cognition, biological basis of behavior, perception, motivation, human development, social psychology, personality, psychopathology, and psychological testing. A prerequisite to all PS courses at the 200 level and beyond. **Students completing PS 100 cannot take PS 101.**

**190. PROFESSIONAL DEVELOPMENT IN PSYCHOLOGY 2 cr.** Hybrid course with comprehensive information and guidance on professional development topics in psychology. Major topics include careers in Psychology with a Bachelor's degree and preparation for graduate applications at the Masters and Doctoral level. Required for completion of the psychology major. Psychology majors or those who are considering the major should take this course as soon as possible. Pass/Fail.

**210. SPORT PSYCHOLOGY 3 cr.** Topics include personality and sport; anxiety, arousal, and sport performance; motivation in sport; violence in sport; socialization in sport; psychological benefits of sport and exercise; and psychology of sport injuries. Formerly PS 310.

**226. DRUGS AND BEHAVIOR 3 cr.** Prerequisite: PS 100 or 101 or BL 155. Introduction to the field of psychopharmacology, with special emphasis on the relationship between drugs and human behavior. Topics include history, routes of administration, absorption, distribution, metabolism, excretion, and adverse effects of psychoactive drugs. Students intending to follow the neuroscience concentration must take PS 426, not PS 226.

**241. SOCIAL PSYCHOLOGY 3 cr.** Introduction to the scientific field that explores the nature and causes of individual behavior and thought in social situations. Social psychology is the science of everyday, normal behavior. Topics include nonverbal behavior, the detection of lying, attributions we make about the causes of behavior, social cognition, prejudice, self-concept, interpersonal attraction, persuasion, and aggression.

**259. INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY 3 cr.** Traditional topics in industrial/organizational psychology approached from a social justice perspective. Includes current theories of work motivation, job design, and leadership. Formerly PS 359. Offered every spring.

**260. CHILDHOOD IN CONTEXT 3 cr.** Corequisite: HS 260. Survey of basic developmental theories, focus on gender and racial diversity, family structures and intellectual functioning from early childhood through adolescence. Designed for non-majors and does not count for credit in “Group B” of the major. Does not count for credit in the Child and Families Studies concentration. Offered in spring.

**261. CHILD DEVELOPMENT 3 cr.** Survey of the basic theories and research on human growth and development from conception through late childhood, emphasizing the physiological, cognitive, social, emotional, and cultural changes associated with human life. Cannot be taken concurrently with PS 268.

**262. ADOLESCENT DEVELOPMENT 3 cr.** Survey of the basic theories and research relative to human growth and development from preadolescence to young adulthood, with emphasis on the physiological, cognitive, socio-emotional, and cultural changes associated with the various contexts of this stage of development (i.e., educational, home and recreational settings). Cannot be taken concurrently with PS 268.

**265. ADULTHOOD AND AGING 3 cr.** Study of growth and development from young adulthood to the end of life with emphasis on life stages, transitions, and the breadth of human experience. Cannot be taken concurrently with PS 268. Formerly PS 365. Offered every fall.

**268. LIFE SPAN DEVELOPMENT 3 cr.** Survey of basic theories and research relative to human growth and development from prenatal development through the end of life, with an emphasis on the physiological, cognitive, socio-emotional, psychological, and cultural changes at various stages of life. Intended for non-majors, particularly those pursuing careers in the health professions. Does not fulfill requirements of the PS major. Cannot be taken concurrently with PS 261, 262, or 265 (formerly PS 365). Offered every spring.

**270. FORENSIC PSYCHOLOGY 3 cr.** Prerequisite: PS 100 or 101. Overview of the implications of psychological theory and methods for various legal issues and the legal perspective on some psychological issues. Social science research on legal topics such as confessions, eyewitness testimony, the jury, insanity, and competency. Focuses on the criminal justice system with some civil issues. No knowledge of the legal system is assumed. Formerly PS 370. Offered every fall.

**274. LIFE SPAN DEVELOPMENT 3 cr.** Survey of basic theories and research relative to human growth and development from prenatal development through the end of life, with an emphasis on the physiological, cognitive, socio-emotional, psychological, and cultural changes at various stages of life. Intended for non-majors, particularly those pursuing careers in the health professions. Does not fulfill requirements of the PS major. Cannot be taken concurrently with PS 261, 262, or 265 (formerly PS 365). Offered every spring.

**275. CLINICAL PSYCHOLOGY 3 cr.** Prerequisite: PS 100 or 101. Topics unique to the clinical psychologist, including psychological assessment, treatment intervention, professional issues, single-case research designs, and subspecialties in the area of clinical psychology. Specialized topics include neuropsychology, forensic psychology, and child clinical psychology. Formerly PS 375. Offered every spring.

**288. HEALTH PSYCHOLOGY 3 cr.** Demonstrates and highlights how the biopsychosocial model can be applied to a multitude of populations—both healthy and ill—and contexts (e.g., disease prevention and treatment). Formerly PS 362. Offered every spring.

**289. PSYCHOLOGY OF TRAUMA: MIND, BODY AND SPIRIT 3 cr.** Corequisite: EN 299E-51. Examines how trauma physically affects the brain and body, as well as the complex psychological sequelae associated with the various forms of trauma. Discusses the approaches to healing the body and mind, including traditional and alternative approaches such as yoga, theatre, EMDR, movement. Formerly PS 295R. Offered in fall.

**290. PSYCHOLOGY OF GENOCIDE AND MASS ATROCITIES 3 cr.** An overview of the psychological literature on genocide, mass atrocities and violence. Topics include past and present genocides as well as other examples of violence, torture, and the mistreatment of human beings. Formerly PS 395.

**295. INTRODUCTION TO SPECIAL TOPICS IN PSYCHOLOGY 1-3 cr.** Prerequisite: permission of instructor. A selection of courses on a variety of topics designed for both Psychology majors and non-majors; appropriate for exploring special topics at the 200 level. Students seeking a more advanced focus on special topics in Psychology should register for PS 395 or 495.

**299. RESEARCH EXPERIENCE IN PSYCHOLOGY 1-3 cr.** Prerequisite: PS 100 or 101 and permission of instructor. A beginning/intermediate-level research practicum to gain familiarity with the process of research in areas such as (a) conducting a literature review, (b) learning about SPSS software, (c) managing and organizing databases, (d) collecting data, and (e) scoring/coding psychological measures. Supervising faculty will guide the research. May be repeated for a cumulative maximum of 3 credit hours.

**Note:** PS 100 or 101 is the prerequisite for all upper level courses (except for Linked courses in Integrative Core).

**301. EXPERIMENTAL DESIGN AND ANALYSIS IN PSYCHOLOGY 4 cr.** Prerequisites: DATA 122 and DATA 260, formerly MT 122, 223 (with at least a C- in DATA 260/ MT 223) and completion of the Written Expression core requirement; corequisite: PS 301L. Introduction to the scientific method as it is used to design, conduct, and analyze experiments in psychology.

**301L. EXPERIMENTAL DESIGN AND ANALYSIS LABORATORY 0 cr.** Corequisite: PS 301. Two hours of laboratory per week. Students work in groups to design and conduct an experiment investigating some aspect of human behavior, then analyze the data.

**308. SINS OF MEMORY 3 cr.** Prerequisite: EN 1125 or EN 120/121. Corequisite: HS 318. Addresses psychological research about memory, including an overview of the theoretical foundations of memory systems, lost memory, false memory, and applied issues. Offered in spring.

**318. SENSATION AND PERCEPTION 3 cr.** Corequisite: PS 318L. Structure and function of the sensory systems, how they encode environmental stimuli, and how we process these stimuli to perceive the world. Perceptual illusions are demonstrated and explained.

**318L. SENSATION AND PERCEPTION LABORATORY 0 cr.** Corequisite: PS 318. Two hours of laboratory per week. Students participate in experiments investigating human perception related to topics in PS 318.

**326. PSYCHOBIOLOGY 3 cr.** Prerequisite: PS 100 or 101 or BL 155. Study of the anatomical, physiological, and biochemical mechanisms underlying behavior.

**332. LEARNING AND BEHAVIOR 3 cr.** Corequisite: PS 332L. Fundamentals of classical and operant conditioning and how they may be used to change behavior in applied settings. Offered every spring.

**332L. LEARNING AND BEHAVIOR LABORATORY 0 cr.** Corequisite: PS 332. Two hours of laboratory per week. Applying principles of operant and classical conditioning; specifying behavioral objectives; applying principles of reinforcement to change behavior. Offered every spring.

**342. PSYCHOLOGY OF PREJUDICE 3 cr.** Discussion of classic and contemporary theories and research on stereotypes, prejudice, discrimination, and intolerance. Much of the course explores how the insidious nature of implicit prejudice and stereotyping may unknowingly perpetuate social inequality, even for individuals who genuinely do not perceive themselves as prejudiced or biased. Offered every fall.

**351. THEORIES AND RESEARCH ABOUT PERSONALITY 3 cr.** Survey of major personality theories with critical consideration of research support. Offered every fall in even years.

**380. HUMAN MEMORY AND COGNITION 3 cr.** Corequisite: PS 380L. Theoretical study of how people acquire and use knowledge. Topics include attention, the representation of meaning, memory, language, reasoning, and problem-solving.

**380L. HUMAN MEMORY AND COGNITION LABORATORY 0 cr.** Corequisite: PS 380. Two hours of laboratory per week. Students participate in experiments investigating human cognition related to topics in PS 380.

**381. EATING DISORDERS 3 cr.** Focuses on anorexia nervosa, bulimia nervosa, and binge eating disorder. How psychologists diagnose and treat those with an eating disorder. Also, etiological models of eating disorders that focus on genetic/biological, environmental, and socio-cultural (e.g., media) influences. Medical complications of eating disorders and the role of the physician, dietician, and nutrition in addressing them. Offered every spring.

**386. MIND, BRAIN, AND BEHAVIOR 3 cr.** Prerequisite: PS 100 or 101 or BL 155. Examination of the nature of mind in relationship to cellular structure, chemical signals, and operations in the brain. Association of functions of the brain with human consciousness, language, thinking, memory, and emotion. Application of modern imaging and recording techniques to explain differences between high- and impaired-functioning individuals. Offered every fall.

**387. PSYCHOLOGY OF AUTISM 3 cr.** Focuses on the characteristics and incidence of autism, and the implications for children's learning, behavior, and ability to process information. Explores the latest research on potential causes, best practices for assessment and intervention, and areas of impairment; also, the multidisciplinary specializations that work with individuals with autism and current issues related to autism services and behavioral interventions. Formerly PS 407. Offered every spring.

**389. PSYCHOLOGY OF ADDICTION 3 cr.** Covers the biological, psychological, and social aspects of alcoholism, compulsive gambling, and other addictions as well as treatment strategies. Formerly PS 395T.

**395. SPECIAL TOPICS IN PSYCHOLOGY 1-3 cr.** A selection of courses on a variety of special topics designed for both psychology majors and non-majors; appropriate for exploring special topics at the 300 level. Students seeking a more advanced treatment of special topics in psychology should register for PS 495.

**401. ADVANCED RESEARCH METHODS IN PSYCHOLOGY 3 cr.** Prerequisites: PS 301 and PS 301L. Students design, conduct, analyze, and report results of their own psychological research. They are encouraged to present their research at a professional conference and/or prepare a manuscript suitable for submission to a psychological journal. Topics include advanced statistical techniques. Offered every spring.

**415. MULTICULTURAL PSYCHOLOGY 3 cr.** Examines the influence of the social, cultural, and historical factors that impact the formation of identity within groups as well as between groups. Theoretical approaches to understanding individual and group identity are used to critically evaluate the implications and application of current research and literature, while working toward enhancing cultural competencies in professional settings. Offered every spring.

**421. HISTORY AND SYSTEMS OF PSYCHOLOGY 3 cr.** Development of psychology from its philosophical antecedents to its present status as a behavioral science and profession. Recommended as preparation for the departmental comprehensive examination.

**426. PSYCHOPHARMACOLOGY 3 cr.** Prerequisite: Permission of instructor. Not open to those with credit in PS 226. Effects of psychotropic drugs on behavior, cognitive functioning, and emotion, with an emphasis on psychotherapeutic agents utilized in the treatment of biochemical abnormalities associated with various psychopathologies and drugs of abuse.

**435. TESTS AND MEASUREMENTS 3 cr.** Prerequisite: DATA 122 or MT 122 or equivalent. Survey and evaluation of current psychological test theory. Examines test construction, reliability, validity, and frequently used psychological tests. Not a course in test administration.

**442. LAB MANAGEMENT SCIENCE IN PSYCHOLOGY 1 cr.** Prerequisite: grade of B+ or higher in PS 301. CITI certification for work with human participants must be completed at the start of the course. Uses SONA, SPSS, MediaLab, and Qualtrics to assist faculty and students in troubleshooting research protocols. Lab managers monitor department lab space and equipment to ensure compliance with IRB, federal and department regulations, and APA guidelines for research with human participants.

**455. CHILD AND ADOLESCENT PSYCHOPATHOLOGY 3 cr.** Prerequisite: PS 261 or 262 or permission of instructor. Important issues in the assessment, classification, and treatment of developmental and behavioral disturbances in infants, children, and adolescents according to the Diagnostic and Statistical Manual and current empirical literature; also, etiological and maintaining factors related to childhood psychological disorders. Aims to identify the mutual influences of psychopathology and normal developmental processes.

**457. PSYCHOPATHOLOGY 3 cr.** Theories and controversies about psychopathology and the etiology and symptoms of selected categories of emotional disturbance, with special reference to the current Diagnostic and Statistical Manual.

**459. PSYCHOLOGY OF PERFORMANCE AND CHANGE 3 cr.** Integration of applied and theoretical principles of performance evaluation and goal setting into today's workplace. Offered every fall.

**462. COUNSELING THEORY AND PRACTICE 3 cr.** Major counseling theories—including psychodynamic, cognitive-behavioral, and phenomenological—as well as third-wave therapies, such as acceptance and commitment therapy (ACT) and dialectical behavior therapy (DBT). Discussion of techniques employed in these approaches and empirical support for therapeutic interventions. Offered every fall.

**470. SEMINAR ON CHILDREN AND FAMILIES IN THE LEGAL SYSTEM 3 cr.** Overview of relevant case and statutory law pertaining to children and families. Topics include parental rights, child protection, child custody, adoption, juvenile justice, children's rights, children in the courtroom, decision-making, and the termination of the parental relationship. Offered every spring.

**471. SEMINAR IN ETHICS IN PSYCHOLOGY 3 cr.** Professional ethics in psychology. Ethical dilemmas that confront mental health service providers and counselors, researchers, academics, and those in psychology-related fields. Based on the American Psychological Association Ethical Principles of Psychologists and Code of Conduct and its usefulness in analyzing and resolving ethical dilemmas.

**476. SENIOR SEMINAR IN CHILD AND FAMILY STUDIES 3 cr.** Discussions of issues related to children and families. Offered every fall.

**477. SENIOR SEMINAR IN MENTAL HEALTH SERVICES 3 cr.** Prerequisite: PS 457. Uses film portrayals of psychological disorders as a tool to learn about abnormal psychology. Examination of DSM-5 criteria as they pertain to characters in the films. Students identify specific symptomatology and develop a treatment plan for the films' protagonists. Offered every spring.

**479. SENIOR SEMINAR IN PSYCHOLOGY 3 cr.** Series of courses on a variety of special topics in psychology designed for senior psychology students.

**480-493. PRACTICA IN PSYCHOLOGY 1-3 cr.** Prerequisite: permission of instructor. Supervised application of psychological principles and techniques in appropriate settings. Arrangements for the practicum site need to be completed, in consultation with the instructor, in the preceding semester. Requires a scholarly paper, developed with the supervising faculty member. The instructor may help in securing a practicum, but ultimate responsibility belongs to the student.

**480-481. PRACTICUM IN I/O PSYCHOLOGY 1-3 cr.** Business and industrial settings.

**482-483. PRACTICUM IN MENTAL HEALTH SERVICES 1-3 cr.** Educational and clinical settings.

**484-485. PRACTICUM IN GENERAL PSYCHOLOGY 1-3 cr.** Educational, clinical, governmental, business, and industrial settings.

**486-487. PRACTICUM IN CHILD AND FAMILY STUDIES 1-3 cr.** Educational, clinical, agency, and school settings.

**488-489. PRACTICUM: THE HOSPITALIZED CHILD 3 cr.** Prerequisites: PS 261 or PS 262; permission of instructor. Supervised experiences in the application of psychological principles and techniques to adjustment problems with infants, children, adolescents, and their families in a university medical setting.

**494. INTERNSHIP AND SEMINAR IN FORENSIC PSYCHOLOGY 3 cr.** Prerequisites: PS 270 and completion of at least 18 hours of the Forensic Psychology major concentration or minor and permission of instructor. Internship includes field placement in a law enforcement, criminal justice, legal, or research setting in which forensic work is currently conducted. Placement includes a weekly time commitment to the host site and some hands-on responsibilities; also, a weekly seminar requiring ongoing reports, reflection, and analysis by fellow interns about their field experience.

**495. ADVANCED SPECIAL TOPICS IN PSYCHOLOGY 1-3 cr.** Prerequisite: permission of instructor. A selection of courses on a variety of special topics in psychology designed for majors and non-majors.

**496. READINGS IN PSYCHOLOGY 1-3 cr.** Prerequisites: permission of instructor. Supervised readings course for advanced undergraduates on a specialized topic in psychology, co-arranged by each student and a faculty

member. Requires critical and original review of the literature. A course plan must be developed with the instructor prior to enrollment. An Independent Study Contract, signed by the instructor, department chair and the associate dean must be turned in to the Office of the Registrar by the Friday before the first day of class for Fall semester and by the Friday before the start of winter break for spring semester.

**497N. ADVANCED RESEARCH TOPICS IN NEUROSCIENCE 3 cr.** Prerequisites: 3.0 GPA; permission of neuroscience concentration coordinator. Advanced undergraduate participation in the conception, design, execution, and reporting of a research project in neuroscience. A course plan must be developed with the instructor and approved by the coordinator prior to enrollment. An Independent Study Contract, signed by the instructor, department chair and the associate dean must be turned in to the Office of the Registrar by the Friday before the first day of class for Fall semester and by the Friday before the start of winter break for spring semester. Offered every fall.

**498. PRACTICUM IN RESEARCH METHODS 1 cr.** Prerequisites: PS 301; permission of instructor. Practicum in research methods and assisting instructor by serving as resource person for students in PS 301. May be repeated for up to 3 credits.

**499. INDIVIDUAL RESEARCH PROJECT IN PSYCHOLOGY 1-3 cr.** Prerequisites: PS 401, and permission of instructor. Advanced undergraduate participation in the conception, design, execution, and reporting of a research project in psychology. The goal is to produce research that is publishable, and the student's contribution should warrant citation as co-author. A course plan must be developed with the instructor prior to enrollment. An Independent Study Contract, signed by the instructor, department chair and the associate dean must be turned in to the Office of the Registrar by the Friday before the first day of class for Fall semester and by the Friday before the start of winter break for spring semester.

# Slovak (SL)

*Associate Professor:* G. Sabo, S.J.

The program in Slovak is offered by the Department of Classical and Modern Languages and Cultures. Its study helps acquaint students with a recently sovereign and democratic nation, one of the newest members of the European Union. Beginning Slovak develops novice levels in reading, understanding, writing, and speaking Slovak. IC 230 and 231 enable students to read in English classic Slovak short fiction written since 1800 in the context of two other Slavic literatures—Russian and Czech.

While offering a way to fulfill the Core Curriculum's language requirement, Slovak—the most geographically central Slavic language—also facilitates communicating with others in Central and Eastern Europe. Moreover, Slovak, like English an Indo-European language, shares more vocabulary with it than is generally realized.

Finally, courses in the Slovak language fulfill the University's institutional academic learning outcomes, since students will be expected to communicate skillfully in multiple forms of expression, and act competently in a global and diverse world.

**101. BEGINNING SLOVAK I 3 cr.** Intensive functional approach to the four language skills in a cultural context. Classroom, multimedia, computer-assisted instruction. For students with no previous study of Slovak or by placement evaluation by the coordinator of Slavic Languages. (Fall)

**102. BEGINNING SLOVAK II 3 cr.** Prerequisite: SL 101 or equivalent or by placement evaluation by the coordinator of Slavic Languages. Amplification of language skills in a cultural context. (Spring)

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study of Slovak at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

# Sociology and Criminology (SC)

*Professors:* W. A. Wiedenhoft Murphy; *Associate Professors:* K. N. Eslinger, R. D. Clark (Chair), G. S. Vaquera, M. W. Barnes; *Assistant Professors:* K. S. Chaplin, K. Knoll-Frey.

Sociology is a broad discipline that includes the study of human interaction as well as the analysis of underlying social structure. Thus sociology students study social human behavior, in particular, the way people interact, organize, and take action. The discipline provides students with a strong analytical and theoretical background and skills to work with and understand people. The substantive areas covered within the Department of Sociology and Criminology include crime and deviance, consumer society, cultural diversity, the environment, forensics, the family, health and illness, human service and social justice, poverty and social inequality, prejudice and discrimination, population and public health, race and ethnicity, and sexuality, sex, and gender. The department offers regular course work in all of these areas.

Many students participate in internships in nonprofit and governmental agencies. Graduates have gone into many careers: law and criminal justice, social work and counseling, population and public health, nonprofit administration, education, and business, as well as sociology and anthropology.

## Major and Minor

Sociology and criminology majors may elect to focus their study in one or more of the areas of expertise (concentrations) represented in the department. Depth of knowledge can be obtained by taking a larger portion of course work within one of these areas. Such focus, however, is not required, and students may elect to take a variety of courses in the field, as a broad education in sociology can be obtained in this manner.

SC 101 is usually taken in either the first or the sophomore year. Upper-division courses are advanced courses and should ordinarily be taken during junior and senior years. At the time that students declare their major, all who intend to declare sociology and criminology must make application to the department and meet with the department chair.

## Specialized Concentrations in Sociology and Criminology

Sociology and criminology majors or minors *may* elect to focus attention on one of four specialized concentrations in sociology. Fulfillment of the concentrations requires that all requirements and options within the concentrations be successfully completed. In some cases, the requirements for a concentration may exceed the requirements for the sociology and criminology minor. For students wanting to complete two concentrations, they may overlap two courses, which would be counted toward both concentrations.

The **Criminology (CR) concentration** is recommended for students interested in crime, forensics, law, police work, and justice. Internships are available to seniors in their spring semester, and students will be matched to an internship site based on their career interests. Seniors interested in an internship should notify the department in September of their senior year. (Participation in an internship requires a 2.75 GPA.) Concentration requirements are 18-19 credit hours. The concentration consists of five tiers of courses. Tier I: Introductory Courses (Select 1) – SC 220 or 240; Tier II: Special Topics in Criminology (Select 1) – SC 265 or 275; Tier III: Diversity, Culture, and Inclusion (Select 1) – SC 235, 255, 257, or 320; Tier IV: Advanced Topics in Criminology (Select 1) – SC 340, 343, 345 or 388; and Tier V: Summary Courses in Criminology (Select 2) – SC 435, 440, or 494 All tiers must be completed to fulfill the requirements of this concentration.

The **Diversity, Justice and Social Change (DJSC) concentration** promotes an appreciation of the variety of ways humans live and prepares students for an increasingly interdependent world. It is recommended for students considering a career in a multicultural setting or graduate study in comparative sociology, ethnic studies, international studies, law, counseling, peace/human rights, or social work. Optional internships are available to seniors in their spring semester, in which students will be matched to an internship site based on their career interests. (Participation in an internship requires a 2.75 GPA.) Students interested in an internship should notify the department in September of their senior year. The concentration requires a total of 18-19 credit hours. Students

must take two out of three of the justice and social change courses: SC 111, 202 or 385. Additionally, students must select two of three diversity courses: SC 255, 257, or 320; and finally two additional electives from the courses noted above and: SC 115, 205, 215, 235, 243, 260, 300, 315, 335, 343, 353, 355, 357, 365, 370, 380, and 475.

**The Social Work, Community and Health (SWCH) concentration** is recommended for students interested in social work, nonprofit administration, counseling, community development, public health, public policy, law, advocacy and other related careers. Internships are required of seniors during their spring semester, and students will be assisted in being matched to an internship site based on their career interests. Students needing an internship should notify the department in September of their senior year.

(Participation in an internship requires a 2.75 GPA. An additional 300/400 level course can be used by permission of the Chair, if unable to complete an internship.) The concentration requires a total of 19 credit hours, consisting of four foundational courses: SC 225, 273, 385, and 475, and at least two of the following: SC 115, 202, 215, 235, 255, 257, 260, 265, 275, 295, 315, 320, 335, 340, 343, and 365.

**The Forensic Behavioral Studies (FBSC) concentration** is recommended for students interested in forensics, law enforcement and criminal justice. The concentration consists of 18-19 credit hours. Internships are required of seniors during their spring semester, and students will be assisted in being matched to an internship site based on their career interests. Students needing an internship should notify the department in September of their senior year. (Participation in an internship requires a 2.75 GPA. An additional 300/400 level course can be used by permission of the Chair, if unable to complete an internship.) The concentration consists of five required courses: SC 220, 223, 240, 388, and 495, and one of three electives: SC 255, 257, or 320.

Please consult the department chair about questions and details regarding the concentrations.

### **Interdisciplinary Minors**

Sociology and criminology majors and minors may also participate in a number of interdisciplinary minors, such as: East Asian Studies; Gender, Sexuality and Women's Studies; Entrepreneurship; Catholic Studies; Peace, Justice, and Human Rights; and Population and Public Health. It is strongly recommended that students interested in these programs investigate them as early as possible in their academic careers. Interested students should refer to the subject-specific section in this *Bulletin* for more information.

### **Change title to: Core Requirements to be completed in the major- Additional Writing, Oral Presentation, and Capstone Experience.**

Please note select Core requirements must be completed in the major. Students will find appropriate sociology courses marked with an AW in the course schedule, designating it as an additional writing-intensive course. Sociology and criminology majors through completion of SC 352 (taken as a co-requisite with SC 351) fulfill the additional Oral Presentation requirement of the Integrative Core Curriculum. The sociology and criminology courses that fulfill the Capstone Experience are marked "C".

### **Academic Study-Abroad Opportunities for Sociology and Criminology Students**

The Department of Sociology and Criminology encourages its students to engage the world through a number of academic study-abroad opportunities coordinated by the University's Center for Global Education.

### **Service-Learning and Social Justice in the Sociology and Criminology Curriculum**

The department is committed to service-learning and social justice issues with faculty and curriculum oriented to provide such opportunities for students. It provides preparation for service and promotes understanding of various issues related to social justice through SC 101, 111, 225, 235, 240, 255, 257, 265, 273, 300, 380, 385, 475, 494, 495 and many other courses. It also cooperates with other University offices in placing students for service-learning opportunities. See the department chair for full details. All of the above courses may not be certified as ISJ courses by the University Core Committee. The student is strongly encouraged to refer to the list of approved Core courses

to confirm that a course qualifies as an ISJ certified course. See: <http://sites.jcu.edu/core/pages/approved-courses/> for a listing of all certified Core courses.

## Graduate Programs

Many graduates of the department have undertaken graduate study in sociology or criminology, and in a variety of related fields, such as anthropology, criminal justice, law, social work, counseling, public health, public policy, and nonprofit administration. The department encourages the intellectual development that makes graduate work possible. It also assists with graduate school application procedures. For more information, students should consult an academic advisor in the department.

The department is also a founding member and a participating department in the Master of Arts in Nonprofit Administration at John Carroll. The nonprofit administration program is intended for those who desire careers managing nonprofit organizations that provide assistance to people in need. It is an interdisciplinary professional degree program. Faculty from ten different departments of the University, including the Boler College of Business, offer course work in the program.

A special agreement with the Mandel School of Applied Sciences (M-SASS) at Case Western Reserve University enables qualified sociology and criminology majors to enroll in the M-SASS program after their junior year at John Carroll. Successful completion of this two-year program results in a B.A. in sociology and criminology from John Carroll and a master's in social work from Case Western Reserve University. For details, including standards for eligibility, students should consult the chair of the Department of Sociology and Criminology during their first year at John Carroll.

The department also supports a 3-3 Dual Admission Law Partnership between John Carroll University and Case Western Reserve University School of Law. A student may obtain a bachelor's degree from John Carroll University followed by the Juris Doctor degree from Case Western Reserve University in six years. The 3+3 Program is a non-traditional path that saves the student a total of one year in studies and expenses. For details, please see the department chair who will connect the student to faculty member supervising the program.

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## **Program Learning Goals in Sociology and Criminology.** Students will:

1. Be able to engage in critical questioning about their society, its social structure, and the larger world in which they live.
2. Develop critical sociological thinking skills in: reasoning, theoretical analysis, interpretation of research findings, and the general ability to separate fact from misinformation in order to engage the institutions and cultures of the multiple societies in this global community.
3. Be able to engage in research of various types with the goals of answering questions and disseminating findings in oral and written forms about the nature of human society and its diversity, cultures, human interactions, social structure, and issues related to social justice.
4. Develop as whole persons with their completion of a successful educational program with its implications for continued learning and a successful work life, and a commitment to lifelong civic engagement.

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Major and Minor Requirements
<b>Major in Sociology and Criminology:</b> 37 credit hours. SC 101, 350, 351, 352, 400 are required. At least 18 hours must be at the 300 or 400 level. MT 122 is also required of sociology and criminology majors and is a prerequisite for SC 351. At least 21 hours in the major must be taken at John Carroll University.

**Comprehensive Examination:** All sociology majors are required to pass the Major Field Achievement Test in sociology as a condition for graduation. This will be taken during the last semester of senior year. Details of the examination are available from the department chair.

**Minor in Sociology and Criminology:** 21 credit hours. SC 101, 400, and one additional upper-division sociology course are required, as well as four other sociology courses of the student's choice.

It may be desirable to construct the minor in a way that enables completion of one of the concentrations or areas defined within the department. Students constructing a sociology and criminology minor are encouraged to select courses that complement their chosen major. See the department chair for further details.

**101. FOUNDATIONS IN SOCIOLOGY 3 cr.** Survey of human social relations, diversity, socialization, and social structure; introduction to the major divisions of the field of sociology.

**111. INTRODUCTION TO SOCIAL JUSTICE 3 cr.** Overview of the theories of social justice, including discussion and analyses of social inequalities both domestic and global, and issues related to civic engagement, social responsibility, and change. Service-learning component required.

**115. MASCULINITIES 3 cr.** Sociological perspectives on contemporary masculinities and men's lives. Topics include men's experiences with relationships, sports, violence, family, sexuality, caregiving, health systems, media portrayals, and work. Includes analysis of the differing viewpoints on male stereotypes, as well as the consequences for men, women, and the broader society.

**199. SPECIAL STUDIES 1-3 cr.** Variety of courses with special focus; subjects will be announced in the course schedule.

**201. HISTORICAL AND CONTEMPORARY SOCIAL ISSUES 3 cr.** Topics include crime and deviance, delinquency, health care, mental health, sex-related social problems, divorce and the family, poverty, discrimination, population and environmental problems.

**202. Social Change 3 cr.** This course will examine the processes that propel social change, including the transformation from agricultural to industrial societies, the formation of states, the role of technology, revolutions, and social movements.

**203. SOCIOLOGY OF SPORTS 3 cr.** Exploration of the cultural and structural relationships of sport to society. Particular attention to issues of race, class, gender, sexuality, crime and deviance, education, religion, economics, and politics as they relate to sport. The historical development of other social institutions will also be examined.

**205. CONFLICT/COOPERATION: WAR/PEACE 3 cr.** Applies a global approach to the study of war. Examines research from sociology, political science, history, and anthropology to address questions regarding the origins of war; mobilization; the identification and treatment of enemies; war's impact on race, class, and gender relations; relations between citizens and states; the significance of transnational insurgents; and peace-building.

**215. SELF AND SOCIETY 3 cr.** Introduction to sociological social psychology theories and concepts concerning the relationship between the individual and society. Topics include the process of socialization, the development of one's sense of self, how individuals are affected by groups and group processes, and the symbolic nature of human interaction.

**220. CRIMINAL JUSTICE SYSTEMS 3 cr.** Overview of the American system of criminal justice as an integrated process with focus on procedures and functions or system components, including law, police, prosecution, court, and corrections.

**223. FORENSICS: OVERVIEW OF CRIME SCENE ANALYSIS 3 cr.** Introduction to the practice of crime scene investigation and the field of forensic science. Students will learn about types of physical evidence, crime scene documentation, procedures, and subsequent scientific analyses.

**225. SOCIOLOGY OF THE FAMILY 3 cr.** Examination of the institution of the family, with an emphasis on its changing nature in U.S. society. Topics include family structure and diversity, interaction within families, analysis of courtship and marriage patterns, intersections between work and family, parenting, and family policy.

**230. DEVIANT BEHAVIOR 3 cr.** Causes and effects of violating social norms; inadequate socialization, labeling, and the relationship between individual and society; role of social control.

**235. AFRICAN AMERICAN EXPERIENCE IN THE UNITED STATES 3 cr.** Survey of African American people. Examines various facets and aspects of African Americans' cultures that collectively construct 'the African American Experience.' Themes include the arts and sciences, literature and film, research, drama, migration and education, law and urbanization, and economics and politics. Explores and analyzes problems and issues facing African Americans through cultural and socio-political contexts.

**240. CRIMINOLOGY 3 cr.** Survey of sociological data and theories pertinent to the types and incidence of crime in America.

**243. GLOBAL DEBT AND JUSTICE 3 cr.** Examines debt from an interdisciplinary perspective, including how different religions and cultures understand debt, interest, profit, and obligation; the political economy of debt between nation-state and global institutions; and debt justice movements.

**255. PREJUDICE AND DISCRIMINATION 3 cr.** Study of prejudice and discrimination, including their history, contemporary sources, and prospects for their reduction, with application to U.S. institutions. Particular emphasis on understanding the social construction of difference and the experiences of stigmatized statuses, as they relate to sex and gender, race/ethnicity, sexuality, class, and disability.

**257. SOCIAL INEQUALITIES IN SOCIETY 3 cr.** Theoretical and methodological approaches and analysis of the consequences of systems of social inequalities. Emphasis on issues of social class, class structure, and mobility in American society.

**260. ENVIROMENTAL JUSTICE AND HUMAN RIGHTS 3 cr.** Prerequisite: one SC course. Examines the objects, subjects, and places of consumption, exploring a variety of topics such as food, tourism, and education. Addresses problems associated with consumer culture in addition to consumer movements that have achieved social change.

**265. VICTIMS OF CRIME 3 cr.** Special problems faced by victims of crime; crime prevention; post-crime trauma.

**273. PUBLIC HEALTH IN U.S. SOCIETY 3 cr.** Introduces basic concepts of public health and explores major public health issues in the United States. Central focus on health disparities regarding who becomes ill and inequalities of access to treatment due to stereotypes, racism, and social class.

**275. FAMILY VIOLENCE 3 cr.** Social causes of violence in the family, especially dynamics of child and spouse abuse. Review of current research with attention to measures for preventing family violence and treating its effects.

**285. AGING, HEALTH, AND SOCIETY 3 cr.** Interdisciplinary overview of aging with special attention to the impact on the individual, family, and society. Experiential learning and review of current research findings with emphasis on successful aging and health promotion.

**290. ENVIRONMENTAL SOCIOLOGY 3 cr.** Critical examination of the relationship between society and nature, particularly how humans have attempted to dominate nature throughout history. Topics include consumption, food and agriculture, population growth, and renewable and nonrenewable energy sources. Concludes with exploring solutions to stop environmental degradation.

**295. SOCIOLOGY OF DEATH AND DYING 3 cr.** Death and dying from a life-cycle perspective, including grief, bereavement, coping, and widowhood.

**299. SPECIAL TOPICS 1-3 cr.** Specialized focus on selected areas and issues in sociology.

**300. DEATH PENALTY 3 cr.** Prerequisite: one SC course. Interdisciplinary team-taught class on the sociological and philosophical beliefs underlying support for the death penalty, nationally and internationally. History of executions, legal changes in the death penalty process, public opinion, deterrence, living and working on death row, and human rights concerns.

**303. WOMEN, GENDER RELATIONS, AND SPORTS 3 cr.** Prerequisite: one SC course. Examination of the cultural and structural relationships of women and gender (relations) in sport and society. Particular focus on issues of culture, structure, and organization as they relate to masculinities and femininities, gender relations, and sex and sexuality. Survey of past and current developments of women and gender in sport in North America.

**310. COMPARATIVE CRIME AND PUNISHMENT 3 cr.** Prerequisite: one SC course. A comparative-historical study of the bodies of law, crime rates, and structure and function of criminal justice systems in the U.S. and other western and eastern nations. Includes the study of criminal and juvenile law, policing, courts, and corrections.

**315. SEXUALITY AND SEXUAL BEHAVIOR 3 cr.** Prerequisite: one SC course. Social scientific examination of sexuality, including biological, social, cultural, and psychological aspects. Topics include sexual identity, expression, and variation; sources of beliefs and attitudes about sexuality; the influence of changing gender roles and norms; the social, psychological, and health consequences of sexual behaviors.

**320. SEX AND GENDER 3 cr.** Prerequisite: one SC course. Study of the relationship among culture, biology, and social expectations of male and female behavior cross-culturally in global context. Topics include gender, health, and the body; gendered work and social change; gender and family; religion; social movements and gender; comparative sex/gender hierarchies; gender and sexuality; gender and globalization.

**335. PRISONS AND HUMAN RIGHTS 3 cr.** Prerequisite: one SC course. Study of U.S. prisons from a human rights perspective. Covers the history, function, and impact of prisons in the U.S., including the rise of mass incarceration and the relevance of prisons to inmate rehabilitation; also, alternatives to incarceration.

**340. JUVENILE DELINQUENCY 3 cr.** Prerequisite: one SC course. Historical development of America's juvenile justice system since its inception in 1902. The range of offenses committed by youth, including delinquency and status offenses; social and personal causes, effects, and interventions.

**343. DRUGS AND CRIME 3 cr.** Prerequisite: one SC course. Introduction to the relationship between drugs and crime; law enforcement techniques used to reduce drug abuse; prevention and treatment; and the arguments for and against drug legalization.

**345. CORRECTIONS 3 cr.** Prerequisite: one SC course. Correctional procedures and types of penal institutions, policies, practices, and inequalities in supervising convicted offenders.

**350. SOCIOLOGICAL RESEARCH METHODS I 3 cr.** Prerequisites: SC 101 and two additional SC courses. Focuses on the logic of, procedures for, and issues relating to, theory testing in various types of social research. Topics include hypothesis construction, concept operationalization, research design, data collection, instrument

construction, sampling techniques, and ethical concerns. Methods include surveys, in-depth interviews, observational field research, and content analysis.

**351. SOCIOLOGICAL RESEARCH METHODS II: DATA ANALYSIS 3 cr.** Prerequisites: MT 122 and SC 350. How to do quantitative data analysis, including SPSS statistical analysis program coding/recoding variables, levels of measurement, hypothesis testing, estimation, sampling distributions, bivariate relationships, correlations, and regression. Requires an original quantitative research project.

**352. PRESENTATION IN SOCIOLOGY AND CRIMINOLOGY 1 cr.** Corequisite: SC 351. Students learn how to present their sociological research and enhance their professional development skills. Meets the Additional Presentation in the major (AP) requirement of the Integrative Core Curriculum.

**353. LATINA/O TRANSNATIONAL EXPERIENCE 3 cr.** Prerequisite: one SC course. Examination of social issues impacting Latina/o communities (Chicanas/os, Mexican-Americans, Puerto Ricans, Cubans, and Central Americans) within the U.S., abroad, and in this emerging transnational space. Topics include ethnic movements, immigration, identity construction, borderlands, labor, education, gender, and language policies.

**355. COMPARATIVE RACE AND ETHNIC RELATIONS 3 cr.** Prerequisite: one SC course. Overview of historical and contemporary dynamics of ethnic relations in the U.S. and selected regions and societies around the world. Fundamental concepts and dynamics in ethnic relations, the historical and contemporary experiences of major ethnic groups in the U.S., and instances of ethnic cooperation, conflict, and inequality in different parts of the world.

**357. DIVERSITY IN SPORTS 3 cr.** Prerequisite: one SC course. Provides a comprehensive perspective of diversity and inclusion within North American and international sport and sport organizations. Specifically, explores and analyzes how power and inequality based in diversity impacts people in sport and sport organizations with particular emphasis on race, class, gender, ethnicity, sexuality, and disability.

**360. CITIES AND SUBURBS 3 cr.** Prerequisite: one SC course. Growth of urbanization; patterns of ecology, social institutions, characteristic lifestyles, and current problems in the core city, suburbs, and the urbanized region. Analysis of the metropolitan regions, urban crime, characteristic urban ethnic patterns; worldwide trends in urbanization.

**365. ETHNICITY, CRIME AND CRIMINAL JUSTICE 3 cr.** Prerequisite: one SC course. A detailed examination of the interplay between ethnicity and the criminal justice system including historical overviews of the creation of an ethnic divide and how the CJS impacts minority communities in the US

**370. CULTURE, ENVIRONMENT, AND GLOBAL HEALTH 3 cr.** Prerequisite: one SC course. Patterns of disease and illness in relation to subsistence patterns and the natural environment; nutrition and life cycle effects of disease distribution; disease, economic development, and the epidemiological transition; cross-cultural and international medicine in a global context; current major global health problems.

**380. CONSUMER CULTURE AND SOCIETY 3 cr.** Examines the objects, subjects, and places of consumption, exploring a variety of topics such as food, tourism, and education. Addresses problems associated with consumer culture in addition to consumer movements that have achieved social change.

**385. POVERTY, WELFARE, AND SOCIAL JUSTICE IN THE U.S. 3 cr.** Prerequisites: SC 101 and one additional SC course. Critical examination of poverty and welfare reform: underlying causes, inequalities, consequences, and victims.

**388. FORENSIC SCIENCE IN CRIMINAL JUSTICE 3 cr.** Prerequisites: SC 223 and 220 or 240. Focuses on the basic concepts of evidence applied in the criminal legal system. The application of legal constraints and definitions on evidence and trial process. Court decisions illustrate the use of forensic evidence in the legal process.

**399. ADVANCED SPECIAL TOPICS 3 cr.** Prerequisite: one SC course. In-depth focus on specialized areas and issues in sociology.

**400. SOCIOLOGICAL THEORY 3 cr.** Prerequisites: SC 101 and one additional SC course. Analyzes classical and contemporary work in relation to three key sociological theorists: Marx, Weber, and Durkheim. Emphasizes economic inequality, formal rationality and culture, and social integration and regulation.

**435. LAW, ETHICS, AND CRIMINAL JUSTICE POLICY 3 cr.** Prerequisites: SC 101 and one additional SC course. Interrelationship between law and its implementation; legal processes and institutional framework; social factors affecting practice in the criminal justice system.

**440. VIOLENCE AND SOCIETY 3 cr.** Prerequisite: SC 101 and one additional SC course. Trends and patterns of violence in society, its causes and consequences. Special focus on the influence of social environment, the impact of personal relationships, and violence prevention.

**Registration for SC 491, 492, and 493 requires a pre-approval process which involves an instructional plan reviewed by the instructor, department chair, and dean's office.**

**491. INDEPENDENT STUDY 1 cr.**

**492. INDEPENDENT STUDY 2 cr.**

**493. INDEPENDENT STUDY 3 cr.** Prerequisites: approval of project by instructor of course and chair of the department. Directed advanced research and/or supervised advanced readings. Students must report regularly to faculty advisor during the semester. Course available only if regular classroom instruction on the selected topic is unavailable, and/or course of study extends beyond a previously taken course.

**494. INTERNSHIP AND SEMINAR IN CRIMINOLOGY 4 cr.** Prerequisites: completion of SC 435 or 440, senior standing, and permission of instructor and chair. Internship requires field placement in a law enforcement, criminal justice, legal, or research setting in which criminology work is currently conducted. Also includes a weekly seminar with ongoing reflection on and analysis of field experiences.

**495. INTERSHIP AND SEMINAR IN FORENSIC BEHAVIORAL STUDIES 4 cr.** Prerequisites: Completion of SC 223 and 220 or 240, senior standing, and permission of instructor and chair. Internship requires field placement in law enforcement, criminal justice, legal, or research setting in which forensics work is currently conducted. Also includes weekly seminar with ongoing reflection on and analysis of field experiences.

**496. INTERNSHIP AND SEMINAR IN SOCIOLOGY 4 cr.** Prerequisites: senior standing, and permission of instructor; or completion of a minimum of 12 credit hours within the diversity, culture, and inclusion concentration, senior standing, and permission of instructor. Internship in human service, health, social justice, legal, or research setting; seminar on related personal and career growth, including reflection on internship.

**497. UNDERGRADUATE RESEARCH ASSISTANT 1 cr.** Prerequisites: SC 101, junior or senior standing, permission of instructor and chair. Students become more familiar with the research process by assisting faculty with their research. Tasks may include literature reviews, subject recruitment, data collection, entering data, and data analysis. Pass/Fail. May be repeated for a cumulative maximum of 3 credit hours.

**499. ADVANCED SEMINAR 1-3 cr.** Prerequisites: SC 101, two additional SC courses, and senior standing. In-depth analysis of selected sociological topics. Responsibility for this seminar rotates among faculty members.

# Spanish and Hispanic Studies (SP)

*Professor:* K. M. Gatto; *Associate Professors:* E. Luengo, M. L. Thornton

The program in Spanish and Hispanic Studies is offered by the Department of Classical and Modern Languages and Cultures. The program comprises a rich curriculum in language, culture, civilization, literature, and film. An articulated sequence of courses in Spanish leads from competence in basic Spanish language skills to a thorough understanding of the language, as well as Spanish and Latin American cultures and literatures. Furthermore, the program concentrates equally on Spanish and Latin American content through a cyclical offering of courses. All courses are taught in Spanish.

With more than 400 million speakers, Spanish is the second most widely spoken language in the world and the official language of 21 countries. The United States alone has approximately 53 million speakers of Spanish, making it the world's second largest Spanish-speaking community. Thus, learning Spanish has become essential to one's marketability, and studying Spanish at JCU will complement any major program or professional career. Students are strongly encouraged to study abroad in Spain or Latin America to enhance their language skills and cultural knowledge. Spanish and Latin American cultures have made vast contributions to art, architecture, cuisine, music, literature, film, and theater. The study of Spanish further enhances one's enjoyment and appreciation of these areas. In sum, choosing to major or minor in Spanish and Hispanic Studies prepares students to become global citizens, placing them on the cutting edge of today's global job market.

## **Program Learning Goals in Spanish and Hispanic Studies.**

Students will:

1. Communicate skillfully and effectively in Spanish:
  - a. engage in effective interpersonal communication.
  - b. engage in effective interpretive listening.
  - c. engage in effective interpretive reading.
  - d. engage in effective presentational speaking.
  - e. engage in effective presentational writing.
2. Demonstrate foundational cultural and linguistic knowledge of the Spanish-speaking world:
  - a. demonstrate knowledge of features of the culture of the Spanish-speaking world, such as its art, literature, music, film, popular culture, traditions, and customs.
  - b. demonstrate knowledge of how aspects of the history, politics, religion, or geography of the Spanish-speaking world relate to its culture.
  - c. read and analyze cultural texts.
3. Demonstrate emerging intercultural competence:
  - a. demonstrate an awareness of the interplay of personal identity and culture.
  - b. interpret an event, cultural product, or issue from the perspective of a worldview outside their own.

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Major and Minor Requirements
<p><b>Major in Spanish and Hispanic Studies:</b> 31 credit hours.</p> <ul style="list-style-type: none"><li>• Ten Spanish courses at the 200- or 300- level. SP 301 and 302 are required as part of those ten. SP 250 is strongly recommended. Two of the remaining courses may be replaced by related courses as defined below.</li><li>• Related courses are those outside Spanish offerings which are closely linked to Spanish or Latin American culture, such as Art History, History, Philosophy, Political Science, IC literature and/or culture courses in translation as well as other language and literature courses.</li></ul>

Courses other than Spanish must be approved in advance by the major advisor.

- SP 410 fulfills the capstone requirement for the major and should be completed during the student's senior year.

**Minor in Spanish and Hispanic Studies:** 15-18 credit hours.

- Students who begin the minor at SP 101 or SP 102: Six courses at the 100, 200 and 300 levels approved by the advisor.
- Students who begin the minor at the 200 level or higher: Five courses at the 200 and 300 levels approved by the advisor.

**101. BEGINNING SPANISH I 3 cr.** Introduction to the Spanish language with focus on speaking, listening, reading, and writing within a cultural context. For students with little or no previous study of Spanish or by placement test. SP 101 counts for the minor but not for the major.

**102. BEGINNING SPANISH II 3 cr.** Prerequisite: SP 101 or equivalent or by placement test. Amplification of language skills in a cultural context. Added emphasis on reading and writing. SP 102 counts for the minor but not for the major.

**198. BEGINNING INDEPENDENT STUDY 1-3 cr.** Supervised independent study of Spanish at the beginning level. May be repeated with a different topic.

**199. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**201. INTERMEDIATE SPANISH 3 cr.** Prerequisite: SP 102 or equivalent or by placement test. Further development of the four language skills for communication in a cultural context; expansion of vocabulary, idiomatic usage, and grammar.

**250. SPANISH IN REVIEW 3 cr.** Prerequisite: SP 201 or equivalent or by placement test. Intensive review of the four language skills in Spanish, with a particular emphasis on grammar to strengthen communicative competence in a cultural context. Ideal for students who need additional review before taking 300-level courses.

**298. INTERMEDIATE INDEPENDENT STUDY 1-3 cr.** Supervised independent study of Spanish at the intermediate level. May be repeated with a different topic.

**299. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. May be repeated with a different topic.

**301. CONVERSATION IN SPANISH 3 cr.** Prerequisite: SP 201 or equivalent or by placement test. Development of communicative competence in Spanish through oral practice and use of conversational strategies and techniques.

**302. WRITING AND CREATIVITY 3 cr.** Prerequisite: SP 201 or equivalent or by placement test. Development of writing ability in Spanish. Fundamentals and practice of creative writing across genres. Computer technology heavily utilized in the advanced development of different writing styles.

**305. TRANSLATION IN SPANISH 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Introduction to the methods and mechanics of translation.

**306. SPANISH FOR THE PROFESSIONS 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Development of linguistic skills in Spanish and cultural knowledge of the Spanish-speaking world to enhance professional careers in business, medicine, law, and other related fields.

**307. POPULAR CULTURES OF SPANISH-SPEAKING COUNTRIES 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Latin American and Spanish cultures represented in performance, music, dance, soap operas, and films.

**308. HISPANIC CULTURE THROUGH FOOD 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Exploration of different cuisines throughout the Hispanic world and their cultural history and significance.

**309. HISPANIC CULTURE THROUGH MUSIC 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Exploration of musical genres, themes, and singers throughout the Hispanic world.

**310. THE CINEMA OF SPAIN 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Selected films from Spain as an expression of culture, civilization, and language. Films, instruction, and discussion in Spanish.

**311. PERSPECTIVES ON THE PEOPLE AND CULTURES OF SPAIN 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Development of Spain, its people, and institutions from its origins to the present. Various aspects of Spanish culture and intellectual development, especially as found in language, literature, and art forms.

**312. THE CINEMA OF LATIN AMERICA 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Selected Latin American films as an expression of culture, civilization, and language. Films, instruction, and discussion in Spanish.

**314. PERSPECTIVES ON NATIONS AND CULTURES OF LATIN AMERICA 3 cr.** Prerequisite: SP 301 or 302 or equivalent or instructor permission. Development of Latin American culture and institutions from colonial times to the present. Discussion of various aspects of Latin American culture and intellectual development, especially as found in language, literature, and art forms.

**315. THE ART OF INTERPRETATION 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Introduction to Spanish and Latin American literature and culture through close critical readings of the principal literary forms (poetry, drama, and prose), as well as oral interpretations of texts.

**321. ADVANCED SPANISH GRAMMAR 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Theory and practice of Spanish grammatical structures based on everyday usage and on literary language. Guided and creative exercises and compositions.

**325. SELECTED READINGS FROM PENINSULAR SPANISH LITERATURE 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Overview of the major writers of Spain through short readings of different genres from the Middle Ages to the present.

**327. SELECTED READINGS FROM LATIN AMERICAN LITERATURE 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Overview of the major writers of Latin America through short readings of different genres from the 19<sup>th</sup> century to the present.

**329. MIGRANT VOICES 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Exploration of the cultural production by and about Spanish-speaking immigrants around the globe.

**331. ADVANCED SPANISH CONVERSATION 3 cr.** Prerequisite: SP 301 or equivalent or instructor permission. Development of advanced vocabulary and conversational techniques. Includes in-depth discussion and debate of current events and real-life issues as well as oral analysis of readings.

**332. ADVANCED WRITING AND CREATIVITY 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Theory and practice of correct grammatical usage of the written word. Exercises in advanced composition and creative writing.

**336. CONTEMPORARY MEXICAN LITERATURE AND CULTURE 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Exploration of major trends in Mexican fiction, film, and music of the 20<sup>th</sup> and 21<sup>st</sup> centuries with special focus on post-revolutionary national identity, marginality, gender, migration, and drug wars.

**338. CERVANTES 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Study of the works of Cervantes, with special attention to the *Quijote* and the *Novelas ejemplares*.

**340. CONTEMPORARY NARRATIVE OF ARGENTINA, CHILE, AND URUGUAY 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Postmodern fiction and urban chronicles from the last two decades in Argentina, Chile, and Uruguay, where the topics of exile and collective memory, marginality, gender, and violence find expression in the post-dictatorship imagination.

**344. SPANISH SHORT STORIES 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Spanish narrative trends from the 19<sup>th</sup>, 20<sup>th</sup>, and 21<sup>st</sup> centuries. Authors include Juan Valera, Emilia Pardo Bražan, Ana María Matute, Camilo José Cela, Carmen Laforet, Soledad Puértolas, Mercedes Abad.

**346. LATIN AMERICAN SHORT STORY 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Major trends in the contemporary short story in Latin America. Authors include Horacio Quiroga, Jorge Luis Borges, Juan Rulfo, Julio Cortázar, Gabriel García Márquez, Carlos Fuentes, and Isabel Allende.

**348. CONTEMPORARY SPANISH DRAMA 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Representative works of contemporary Spanish drama.

**350. CONTEMPORARY LATIN AMERICAN DRAMA 3 cr.** Prerequisite: SP 302 or equivalent or instructor permission. Representative works of contemporary Latin American drama.

**396. EXPERIENTIAL LEARNING IN SPANISH 1-3 cr.** Prerequisites: permission of instructor. Supervised, independent learning opportunity or internship with accompanying assignments designed to deepen students' awareness of and/or preparedness for career options using Spanish, such as in education, government, etc. May be repeated for a total of 3 credits.

**398. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Supervised independent study. May be repeated with a different topic.

**399. SPECIAL TOPICS 1-3 cr.** Occasional course on a selected topic announced in advance. Designed to respond to student and faculty interest in specific themes or issues not otherwise covered in the curriculum.

**410. SENIOR CAPSTONE 1 cr.** Research project chosen in consultation with student's advisor in Spanish. The experience should reflect both the student's interest in Spanish and the courses s/he has taken to fulfill the major. Student will produce a written thesis in Spanish and also give an oral presentation in Spanish.

# The Mike Cleary Major in Sports Studies (SPS)

*Associate Professors:* K. M. Manning (Chair), G. S. Farnell; *Assistant Professors:* J. Nagle Zera; B. Turner; Visiting Instructor: J. Beiting; *Practicum/Internship Coordinator:* B. C. Beigie

The major in Sports Studies (SPS) is offered by the Department of Exercise Science and Sports Studies.

Sports and sports-related business are significant aspects of society across the continuum of age and time, encompassing the world in which we live—physically, emotionally, mentally, and socially. Sports can be found in all corners of our lives, e.g., school, community centers, business, politics, and world relations. The Mike Cleary Major in Sports Studies is designed to develop and prepare the John Carroll graduate to make a significant contribution to others through, and with, sports: to recognize and respect that sports play a vital role in our society and world—from business to education, to health and wellness; and to follow in the footsteps of John Carroll alumni who have distinguished themselves in sports and sports-related roles such as athlete, coach, athletic trainer, physician, allied health professional, administrator, and sports-information professional. The major in Sports Studies provides our graduates the knowledge, skills, and dispositions to become a leader with, and for, others in sports and sports-related careers.

The major in Sports Studies is one of two majors offered within the Department of Exercise Science and Sports Studies. The overall program is committed to the value and importance of high-quality physical activity in the lives of all people and, to that end, provides a comprehensive curriculum that encourages the development of knowledge, skills, and dispositions across the continuum of physical activity. The ESSS program is grounded in the Ignatian ideal of the dignity of the individual and promotes goals and outcomes that respect this dignity and strives for the maximum achievement of individual potential.

Candidates will receive in-depth preparation for careers in sports and sports-related positions in such areas as sports administration and management, sports, fitness, and wellness for diverse populations. The curriculum focuses on administration, management, program development and implementation, leadership, and working with diverse populations. In addition to the course work, candidates for the major will experience fieldwork, practicums and internships that enhance their sense of vision and mission in connection with their career. The Sports Studies major is composed of 27-28 hours of core courses, 16 hours of course work within a selected program, and 6 hours of electives. Candidates selecting a major in Sports Studies are encouraged to pursue a minor or additional course work in business, economics, exercise science, communications, entrepreneurship, or psychology to enhance career and graduate school options.

The Department of Exercise Science & Sports Studies is committed to providing a progressive sequence of professional development opportunities for our candidates within courses, and specifically through fieldwork, practicum and internship experiences.

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**Program Learning Goals in Sports Studies.** Students will have the knowledge, skills, and dispositions to be able to:

1. Demonstrate their knowledge of history, philosophy, mission, personal and professional identity.
2. Demonstrate their knowledge of working with diverse populations within multiple types of sports administration and sports-related settings, and provide evidence of their ability to be an effective leader.
3. Demonstrate their knowledge of organization, leadership, and planning for a variety of situations.
4. Demonstrate their knowledge of research and the appropriate use of research in papers and projects, and for problem-solving and critical thinking.
5. Demonstrate their knowledge related to the collection and interpretation of data and the effective use of data-driven decision-making in an ethical and moral manner with attention to the decision-making process and its impact on others, e.g., employees, those being served, and the broader community

6. Demonstrate their knowledge related to moral and ethical behavior in decision-making for sports professionals in leadership positions.
7. Demonstrate their knowledge in a professional internship setting in sports administration, coaching, or working with diverse populations, through planning, organization, decision-making, reflection, oversight and implementation of rules, policies, and procedures.

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Major Requirements: 49-50 credit hours
<p><b>Sports Studies Core:</b> 27-28 credit hours, SPS 201, 232, 300, 312, 408, 413, 497; Select one: SPS 435, PL 311, or PL 312; Select one: DATA 122, DATA 229, EC 210, or SPS 122.</p> <p>Students must choose at least one of the following two curricular programs:</p> <ol style="list-style-type: none"> <li>1. <b>Sports and Athletic Administration:</b> 16 credit hours. Select one for 6 credit hours: EC 201/202; AC 201/202; or EC 201/AC 201. Required: BI 100, BI 200, MHR 325/352, MK 301, or COMM 270.</li> <li>2. <b>Sports, Fitness, and Wellness for Diverse Populations:</b> 15 credit hours. EPA 208, 229, 340, 420, 432.</li> </ol> <p><b>Electives:</b> minimum of 6 credit hours: CO 226, EN 299A, EPA 200, 208, 229, 340, 411, 420, 432, PS 310, SC 285, SPS 203, 215, 301, 303. Other electives may be approved in consultation with the academic adviser and Chair .</p> <p><b>Double Major in Economics and Sports Studies:</b> Students interested in a double major (Sports Studies/Athletic Administration and Economics) should consult with their academic adviser regarding the course requirements.</p>

#### Requirements for acceptance and continuation as a Sports Studies major:

##### The application process includes:

#### 1. Application Process

- A formal meeting with the chair of Exercise Science and Sports Studies.
- An evaluation of academic course work.
- The fulfillment of the following academic requirements:
  - 2.0 or higher major GPA
  - 2.0 or higher overall GPA

#### 2. Acceptance Decisions

- **Accept:** Candidate may continue to take course work within the major course of study.
- **Conditional Acceptance:** Candidate may continue to take course work within the major course of study, but certain restrictions have been placed on continuation in the program. Conditional acceptance may remain in effect for no longer than one academic year.
- **Defer:** Student is not accepted into the major at this point.

#### 3. Continuation in the Major

- Student evaluations will be conducted each semester for continuation in the program.

#### 4. Practicum

- Candidates must identify one, or more, practicum experiences that align with their professional and/or graduate school goals. The total practicum requirement is 50 hours.
- These hours are completed in relation to enrollment in EPA/ SPS 232 Research Methods.
- Candidates will register for EPA/SPS 232A for the semester in which they complete the practicum requirements.
- Approval of the practicum(s) experiences by the ESSS Director of Practicum and Internships must be obtained in writing prior to beginning the experience.
- Please consult the Practicum Handbook for specific details and required forms.

## **5. Capstone Experience: Internship**

- Candidates, during the junior year, must identify a specific internship experience that aligns with intended professional and/or graduate school goals.
- Prior to the beginning of the internship, candidates are responsible for the following:
  - Completion of the 50 hour practicum requirement.
  - Meeting with the John Carroll internship director for approval of the specific internship experience.
  - Obtaining approval from the proposed internship site supervisor for completion of all internship requirements.
  - Completion and submission of all required formal documentation to the John Carroll internship director for final approval of the internship experience.
- Approval of the internship experience by the John Carroll internship director must be obtained in writing prior to beginning the experience.
- Registration for SPS 497A in the semester when the internship will be completed, summer, fall or spring.
- Please consult the Internship Handbook for specific details and required forms.
- If a candidate is not approved for an internship, additional content-area work will be substituted.

## **6. Exit Assessment**

- Candidates for graduation will complete a formal exit interview in their final semester of course work.
- Candidates for graduation will complete a formal written program evaluation specific to their major.

## **Sports Studies (SPS)**

### **Theory and Practice Courses**

**122. STATISTICS IN SPORTS 3 cr.** Finding and posing statistical questions related to sports, critical thinking about statistical information in sports, and statistical tools for representing data, drawing inference from data, and appreciating sources of error for statistics within sports. Ethical issues in sports statistics. Use of appropriate software.

**201. FOUNDATIONS OF EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Corequisite: SPS 201A. Major ideas, institutions, movements, and individuals in exercise science, physical education, and sports studies. Examines potential careers in exercise science, physical education, sports studies, and allied health professions. Includes a practicum experience.

**SPS 201A 0 Credit:** Corequisite: SPS 201. Field Work Experience: a 10 hour minimum observation experience in a selected professional field of professional interest.

**203. SOCIOLOGY OF SPORTS 3 cr.** Exploration of the cultural and structural relationships of sport to society. Particular attention to issues of race, class, gender, sexuality, crime and deviance, education, religion, economics, and politics as they relate to sport. Also, the historical development of other social institutions.

**213. TEACHING AND COACHING INDIVIDUAL SPORTS 3 cr.** Examines prevailing theories and methods used by successful coaches at all levels of competition in the areas of: developmentally appropriate styles for teaching and coaching; teaching individual sport skills; preparing for teaching and coaching sessions; developing

conditioning programs for specific sports, and effective game-day coaching. Also, technology used to enhance coaching; learning and current research in coaching.

**214. TEACHING AND COACHING TEAM SPORTS 3 cr.** Examination of prevailing methods used by successful coaches at all levels of competition in the areas of: teaching team sport skills, preparing for teaching and coaching; developing conditioning programs for specific team sports; technology used to enhance coaching, effective game-day coaching, and research on effective coaching.

**215. PSYCHO-SOCIAL ASPECTS OF EXERCISE SCIENCE & SPORT 3 cr.** Overview of principles, theory, and practice related to the psychological and sociological factors involved in exercise, fitness, play, and sport.

**232. RESEARCH METHODS IN EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Prerequisite: QA Course. Corequisite: SPS 232A. Research methodology used in exercise science, allied health and sports studies. Emphasis on the individual aspects of the research process, such as the use of research databases, developing reviews of literature, developing research questions. Requires the development of a research proposal.

**SPS 232A 0 Credit:** Corequisite: SPS 232. Practicum: a minimum of 50 hour onsite experience in sports studies in a professional area of interest with a supervisor holding credentials in the specific area of expertise. Includes formative and summative evaluations by the supervisor.

**299. SPECIAL TOPICS 1-3 cr.** Prerequisite: permission of instructor. Topics are published in the schedule of classes for each term.

**300. QUALITIES AND CHARACTERISTICS OF LEADERSHIP IN COACHING 3 cr.** Explores major leadership theories and models, and practical application of theories; examines methods used by successful coaches in different sports throughout history; also, leadership qualities focused on individuals, teams, and organizations.

**301. DIVERSITY IN SPORTS 3 cr.** Comprehensive overview of diversity and inclusion within North America and international sport and sport organizations. Analyzes the ways people in sport and sport organizations can differ, and how power and inequality based on diversity impacts academic and occupational experiences and outcomes. Covers issues of non-dominant groups and historically under-represented groups in U.S.; emphasis on race, class, gender, ethnicity, sexuality, and disability.

**303. WOMEN, GENDER RELATIONS, AND SPORTS 3 cr.** Examines the cultural and structural relationships of women and gender (relations) in sport and society. Focuses on issues of culture, structure, and organizations as they relate to masculinities and femininities, gender relations, and sex and sexuality. Surveys historical and current developments of women and gender in sport in North American Society.

**305. GLOBALIZATION AND SPORT 3 cr.** Explores the roles that sport and physical activity have played in both the United States and globally. Examines the history of sport and physical activity throughout the world, current issues, and the role sports and physical activity play in society, specifically comparing the United States and Ireland. Will Include mandatory spring trip to Ireland to experience topics discussed in class.

**SPS 306. SPORTS MARKETING 3 Credit:** The course will discuss the management of sports at professional, collegiate and special event levels focusing on the role marketing plays in planning and decision making in attracting fans and the other major customer—sponsors. Other topical areas will include: sports branding; athlete management; globalization; event sponsorship and marketing; media involvement; fantasy sports; sports vendors; and sports innovations. Students will study current opportunities and threats facing sports and trends that may impact the future of sports and its various audiences.

**312. SPORTS GOVERNANCE 3 cr.** Critical analysis of sports governance at multiple levels, including the development and implementation of policies and procedures at different levels of competition, e.g., pros, college, high school; evaluation of how contemporary sport deals with issues such as gender, race, ethnicity, and national identity; and development of a perspective on future issues in sports governance.

**413. AREAS AND FACILITIES IN RECREATION AND SPORTS 3 cr.** Introduction to facility management for health, fitness, physical activity, recreation, and sport. Organization and management principles; policy and procedure development; ethical decision-making; planning for success; special event planning; and management of human resources, the marketplace, finances, risk, programming, and volunteers.

**435. ETHICAL PROBLEMS IN EXERCISE SCIENCE AND SPORTS STUDIES 3 cr.** Prerequisites: acceptance into Sports Studies major; senior standing. The nature of ethics through the study of ethical issues in exercise science and sports studies, e.g., use of performance-enhancing drugs, fitness guidelines for youth sports, recruiting, and professionalism.

**440. INDEPENDENT STUDY 1-3 cr.** Prerequisite: permission of instructor. Intensive study of problems and concerns in a selected area of sports or sports-related topics.

**496. PRACTICUM 3 cr.** Prerequisite: Junior or senior status; Sports Studies major; one-half of coursework in major completed; chair and/or instructor permission required. Supervised application of the theory and principles of sports studies in applied, controlled environment selected by the individual candidate. Proposed plan must be approved by the JCU Internship Coordinator prior to enrollment. Final paper developed in conjunction with practicum required.

**497. INTERNSHIP AND SEMINAR 3 cr.** Prerequisites: acceptance into Sports Studies major, senior standing; approval of proposed plan by internship director. Candidates select an internship assignment in line with graduate school focus or interest, e.g., athletic training, strength and conditioning, physical therapy. cCompletion of internship required.

**SPS 497A 0 Credit:** Internship: Includes a 150 hour onsite experience in sports studies in a selected area of professional interest with a supervisor holding credentials in the specific area of expertise. Includes formative and summative evaluations by the supervisor.

# Supply Chain Management (SCM)

*Professor: C. A. Watts (Chair); Associate Professor: B. Z. Hull; Assistant Professor: S. Brockhaus; Visiting Instructor: A. Marculetiu*

The Department of Management, Marketing, and Supply Chain is dedicated to educating and serving its students, the University, and the community. The primary goals of the supply chain management faculty are to achieve national recognition, and to provide students, the University, and the business community with comprehensive, up-to-date information about supply chain management theory and practice. Methods of achieving these goals include, but are not limited to, excellent teaching, quality research (both academic and practitioner), student internships, and faculty involvement in supply chain-related organizations.

Value creation is at the heart of Supply Chain Management (SCM). SCM is key to conceptualizing, designing, and manufacturing the products we cherish and delivering them to homes on time and in one piece. SCM is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. SCM also involves the reverse flow of materials, information, and finances. Effective supply chain management improves business performance and provides value to customers. Supply chain management includes transportation, warehousing, channel management, purchasing, inventory control, order processing, and customer satisfaction.

The field is extensive, and many businesses are potential employers. There is a shortage of college graduates to fill available entry-level positions, and these opportunities are expected to grow (over 1.5 million openings in the next several years) because of the increasing emphasis on the effective and efficient movement of goods and information. Our SCM program incorporates the best-in-class methods, concepts, and tools that companies need to gain a competitive advantage. Many students have internship opportunities in SCM, and these opportunities provide the student with valuable practical experience in supply chain management.

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**Program Learning Goals in Business Supply Chain.** Students will have:

- Knowledge of supply chain management and supply chain.
- Skills necessary to identify opportunities and challenges associated with supply chain management.
- Ability to differentiate acceptable supply chain management practices from unacceptable supply chain management practices.
- Ability to apply supply chain management concepts to improve operational effectiveness and efficiency.

The SCM curriculum complements other business majors. The supply chain management major intends to provide students with the foundational *knowledge, skills, and abilities* to pursue these goals. *Knowledge, skills, and abilities* reflect current thinking in the education discipline; *knowledge* refers to what students know, *skills* refers to what students can do, and *abilities* refers to things students can do in a more complex and lasting way, often combining knowledge and skills.

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Major Requirements
<b>Major in Supply Chain Management:</b> A total of 61-64 credit hours, as described below.
<b>Business Core:</b> 40-43 credit hours, including MHR 461.
<b>Major Courses:</b> 21 credit hours. It requires students to take four Supply Chain courses: SCM 328, SCM 440, and two more chosen

from (SCM 330, SCM 361, SCM 350, or SCM 405) plus one of the three course tracks either the Marketing track or the Data Analysis track. The Marketing Track is MK 302, MK 309 and MK 402. The Data Analysis track is BI 341, BI 371 and MHR 483.

**301. SUPPLY CHAIN AND OPERATIONS MANAGEMENT 3 cr.** Prerequisite: EC 210 or MT 122 or MT 228. The core elements of SCM: customer value, collaboration, and the process of transforming raw materials into successful products. Introduces the three primary functions of supply chain activities: purchasing, operations, and logistics; also, the qualitative and quantitative tools to facilitate and analyze underlying processes. How to leverage concepts such as Just-In-Time, Process Design, and Inventory Control in order to turn great ideas into needed products and services.

**328. SUPPLY CHAIN LOGISTICS 3 cr.** Prerequisites or co-requisite: SCM 301 or permission of instructor. Analysis of business supply chain functions such as transportation, warehousing, inventory management, ordering, and customer satisfaction, with emphasis on interactions between these functions. Focus on problem-solving with analytic tools.

**330. PURCHASING 3 cr.** Prerequisites: SCM 328. This course focuses on professional purchasing. Emphasis on category analysis, supplier selection/development, and cost analysis. It also covers corporate social responsibility, negotiation, quality, and technology integration.

**350. SUPPLY CHAIN TRANSPORTATION 3 cr.** Prerequisites: SCM 301 or permission of instructor. Contemporary analysis of transportation systems, including regulatory issues, carrier management, for-hire and private transportation. Covers characteristics of traditional and emerging modes of transportation.

**361. GLOBAL SUPPLY CHAIN 3 cr.** Prerequisite: SCM 328. Principles and practices of supply management in a global environment. Emphasis on the regulatory, technological, social, business, and political issues that might impact transnational supply-chain efficiency.

**405. CONTEMPORARY TOPICS IN SUPPLY CHAIN MANAGEMENT 3 cr.** Prerequisite: SCM 328 or as announced. Contemporary topics in supply chain management not covered in depth in other business supply chain courses. Specific topic, method of presentation, and student requirements will be designated by the seminar leader.

**440. PROBLEMS IN SUPPLY CHAIN MANAGEMENT 3 cr.** Prerequisites: SCM 328 and BI 200. The design and implementation of supply chains to maximize their effectiveness and efficiency. Focus on the analysis and design activities of the supply chain development process and introduction to system implementation and maintenance issues.

**498. INDEPENDENT STUDY 1-3 cr.** Prerequisites: supply chain management major and overall GPA of 3.0 or higher; permission of chair and faculty member. Research project supervised by a full-time SCM faculty member willing to act as advisor. The student selects an aspect of SCM, establishes goals, and develops a plan of study that must be approved by the chair and filed with the dean's office. Consult the chair for the department guidelines established for such study.

# Theology and Religious Studies (TRS)

*Professors:* S. E. McGinn, P. K. Nietupski, E. P. Hahnenberg (Chair), Z. Saritoprak, J. Bretzke; *Assistant Professor:* K. Tobey; *Visiting Assistant Professor and Tuohy Fellow:* N. Bickart; *Anisfield-Wolf Post-doctoral Fellow:* K. Stevens.

John Carroll University considers the study of theology and religion an integral part of a liberal education. As a Jesuit and Catholic university, John Carroll provides the opportunity for students to choose courses designed to give them an understanding of their faith commensurate with their other learning. The University Core requirement in theology and religious studies is satisfied by two appropriately designated 3-credit TRS courses, one lower-division and one upper-division.

TRS courses at the 100, 200, and 300 levels are open to all students except where prerequisites are specifically stated. Course numbers indicate subject areas more than the level of difficulty of a course. Lower-division courses (100- and 200-levels) involve broad surveys of one or more issues and topics fundamental to the field while 300-level Core courses allow students to engage in more in-depth study of one or more of the issues and topics significant to a contemporary understanding of theology and/or religious studies. *Note that only 100-, 200-, and 300-level TRS courses may be used to fulfill a requirement of the JCU Core Curriculum.*

Enrollment in 400-level courses typically is restricted to TRS majors, minors, and graduate students; other students with special interests may seek permission of the department chair.

The Department of Theology and Religious Studies offers a major and minor. The major in theology and religious studies may serve as partial fulfillment of the requirement for the certification of elementary and high school teachers of religion in the Diocese of Cleveland.

The department is privileged to offer courses with the support of several endowments: the Walter and Mary Tuohy Chair of Interreligious Studies, the Bediüzzaman Said Nursi Chair in Islamic Studies, the F. J. O'Neill Charitable Corporation Fund (for the Ignatian Spirituality Institute), and the Jack and Mary Jane Breen Chair in Catholic Systematic Theology.

The department also collaborates with the Borromeo Seminary Institute (BSI) in offering undergraduate theology courses for pre-seminarians and other interested undergraduates. Details on the BSI program, including the current list of BSI adjunct faculty, can be found in the Borromeo section in this Bulletin.

## Five-Year Integrated B.A./M.A. Program

The five-year integrated B.A./M.A. program in Theology and Religious Studies is designed for undergraduate theology and religious studies majors who wish to earn the master's degree with an additional year of study beyond the baccalaureate degree. Undergraduate students majoring in theology and religious studies may apply for admission to the M.A. program in their junior year. Once accepted, they may begin taking graduate courses in order to complete the M.A. in their fifth year. The master's degree is a 30-credit-hour program. Normally students will complete 6 graduate credits between the fall and spring of senior year, 6 credits in the summer between their fourth and fifth years, and 18 credits between the fall and spring of the fifth year. More information about this program is available on the department website at [go.jcu.edu/trs](http://go.jcu.edu/trs).

Program requirements and course descriptions for the Master of Arts degree in Theology and Religious Studies and the Certificate in Theological Education are published in the *Graduate Studies Bulletin* and are available on the Theology and Religious Studies website at [go.jcu.edu/cte](http://go.jcu.edu/cte).

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## **Program Learning Goals in Theology and Religious Studies.** Students will:

1. Critically analyze the religious dimensions of human experience as expressed in sacred texts, art, ritual practice, ethical commitments, philosophy/theology, and social structures.

2. Appreciate how religious or ethical traditions provide resources for responding to injustice and living ethically.

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### Major and Minor Requirements

#### **Major in Theology and Religious Studies: 36 credit hours.**

Two courses, at least one upper-division, in each of the following areas:

- Biblical Studies (TRS 105, 200–209, 300–309, 400–409)
- History of Christianity & Sociology of Religion (TRS 120, 220–229, 320–329, 420–429)
- Systematic Theology (TRS 130–139, 230–239, 330–339, 430–439)
- Religious Ethics (TRS 260–269, 360–369, 460–469)
- World Religions:
  - Judaism (TRS 210–219, 310–319, 410–419)
  - Islam (TRS 240–249, 340–349, 440–449)
  - Asian Religions (TRS 250–259, 350–359, 450–459)

One 400-level elective that meets the I-Core Advanced Writing in the Major and Oral Performance requirements (3 credits)

Senior Seminar (TRS 493 = I-Core Capstone).

Courses in the Integrative Core Curriculum may be used to meet 200- and 300-level course requirements for the TRS major.

Although not required, majors are strongly encouraged to take advantage of the CAS Humanities Professional Development program as well as internship and JCU study-abroad opportunities.

#### **Minor in Theology and Religious Studies: 18 credit hours.**

Three courses (9 credits), one each from *three* of the following areas:

- Biblical Studies (TRS 105, 200–209, 300–309, 400–409)
- History of Christianity & Sociology of Religion (TRS 120–129, 220–229, 320–329, 420–429)
- Systematic Theology (TRS 130–139, 230–239, 330–339, 430–439)
- Religious Ethics (TRS 260–269, 360–369, 460–469)
- World Religions:
  - Judaism (TRS 210–219, 310–319, 410–419)
  - Islam (TRS 240–249, 340–349, 440–449)
  - Asian Religions (TRS 250–259, 350–359, 450–459)

No more than one of the above may be taken at the 100 level.

At least one of the above must be taken at the 300 or 400 level

Two or more electives, including one at the 400 level (6 credits)

Senior Seminar (TRS 493)

Courses in the Integrative Core Curriculum may be used to meet the 200- and 300-level course requirements for the TRS minor.

*All 100-level TRS courses require the EN120, 121, or 125 as a co-requisite or pre-requisite. They typically require service learning.*

**101. INTRODUCTION TO THEOLOGY AND RELIGIOUS STUDIES 3 cr.** Introduction to the academic study of theology and religion. Topics include the nature of religion; the human search for meaning; revelation; symbol, myth, and ritual; and faith as it relates to reason, experience, and morality. Introduction to the areas of scripture, theology, ethics, and non-Christian religious traditions. Offered online in the summer session only.

**105. MYTH MATTERS 3 cr.** An introduction to the Bible through its various literary genres (e.g., myth, history, poetry, satire), with comparisons to contemporary literature and other media that follow the same or similar forms.

**120. HOW RELIGION WORKS 3 cr.** Explores various understandings of the "how," "what," and "why" of religion as fundamental to human experience, personal and communal; strategies for thoughtfully probing and creating coherent meaning out of manifold life experiences, emotions, and activities. Topics covered include the nature of religion; religious experiences and practices; revelation; symbol and ritual.

**130. WORLD OF GRACE 3 cr.** Exploration of the Christian vision of the entire world as grace-filled, resonant with the Holy. Humanity is innately attuned to this Transcendent Mystery; the hallmark of the Christian spiritual life is finding and honoring "God in all things" (St. Ignatius Loyola). This world of grace grounds the possibilities of human freedom, trust, and hope, fostered by life in the community of graced seekers (i.e., the church), and flowing into a life of compassion and justice in the world today.

**131. ULTIMATE QUESTIONS (of Life, the Universe, and Everything) 3 cr.** An examination of life's ultimate questions: those profound mysteries and fundamental issues all humans must confront, which demand a personal response; how these questions have been articulated and expressed through the centuries. Religion as the story we inhabit: the narrative we "believe into"; that shapes identity, influences decisions, forms actions, and provides the context within which humans respond to the ultimate questions.

**132. IDENTITY MATTERS 3 cr.** An exploration of Christian spirituality, religion, and theology from the LGBTQ+ perspective. Topics include the origin, history and themes of queer theology and its relation to Queer Theory; queering scriptural interpretations and theological doctrines; intersections of queer people of color; and societal and ecological engagement in the post-colonial western world. Case studies on queerness, race, and ethnicity in Womanist, Asian-American, Latina/o, and Two-Spirit Indigenous theologies.

**200. HEBREW BIBLE 3 cr.** Historical and cultural environment of the Jewish Bible (the collection of scriptures in the *Torah*, *Nebi'im*, and *Kethubim*, or "Tanakh," which Christians call the "Old Testament"), its nature and composition, and its religious and theological developments.

**205. NEW TESTAMENT 3 cr.** Development and composition of the New Testament; the historical, cultural, and religious environments out of which it arose; and the various theological perspectives found within it.

**210. INTRODUCTION TO JUDAISM 3 cr.** Historical overview of the development of Judaism from its biblical beginnings through the modern period, including a discussion of the major religious ideas of classical Judaism.

**222. AMERICAN CHRISTIANITIES 3 cr.** Development of Christianity in the U.S. from colonial times to today. Emphasis on interaction between Christianity and American culture and on the development of Roman Catholicism in the U.S. Topics include the Puritans, religious liberty, abolition, revivalism, immigration, nativism, Industrial Revolution, Catholic education, prohibition, fundamentalism, rise of the laity, and modern secularism.

**223. AFRICAN-AMERICAN RELIGION 3 cr.** The African-American religious experience, including historical roots of African religion essential to slave Christianity, development of the institutional church, and spiritual

expressions influencing African-American worship styles. Important political and social foundations of the church from which political and social organizations grew, as well as African-American theology.

**225. RELIGION IN POPULAR CULTURE 3 cr.** Examines the dynamic relationship between religion and popular culture by investigating the role of religion in such “secular” phenomena as mainstream U.S. literature, music, and film. Emphasis on the particular influence that Catholic authors, actors, and musicians have had in shaping contemporary U.S. popular culture.

**226. RELIGIONS OF OHIO & THE WESTERN RESERVE 3 cr.** Investigates the rich religious history of Ohio and the Western Reserve, which has served as an incubator for several well-known religious groups and significant religious modes, from the ancient mound builders to the present day. Case studies raise broader theoretical concerns about the role of place in the religious lives of individuals and communities.

**227. RELIGIOUS ENTHUSIASM IN MODERN AMERICA 3 cr.** Sociological inquiry into religious fervor in the 20<sup>th</sup>- and 21<sup>st</sup>-century America. Examines the histories and the lived religious experiences of several modern/contemporary “enthusiastic” religious movements, paying particular attention to the discrepancy between the appeal they exert over adherents versus the fear and mistrust they often excite in society at large. Case studies explore dynamics of contemporary American religion and offer ways to think about American religious history. *Forms an I-Core Link with HS 240 “Spiritual Awakenings in Early America.”*

**230. CONTEMPORARY CATHOLIC THEOLOGY 3 cr.** Overview of Roman Catholic theological themes and issues since the Second Vatican Council (1962-65) with attention to selected areas: scripture, grace, sin, redemption, the role of Jesus, the Church, ethical norms and morality, and sacraments.

**232. JESUS: HISTORY AND THEOLOGY 3 cr.** The ways Christians have understood the person and work of Jesus. Use of scripture and tradition to illumine how those who confess him as Savior have defined him and to provide means for traditional and creative thinking about the central figure of Christian faith.

**233. SAINTS AND SOCIETY 3 cr.** The theological significance of saints in the Roman Catholic tradition. Topics include the origins of the cult of the saints, changing models of sanctity, ritual and devotional practices, the process and politics of canonization, and the implications of the veneration of saints for a theological treatment of God, the church, and the human person.

**238. CATECHISM OF THE CATHOLIC CHURCH 3 cr.** Overview of Roman Catholic theology, based on the *Catechism of the Catholic Church*, as well as a look at various themes and issues since the Second Vatican Council that find their roots and explanation in the *Catechism*. Emphasis on scripture, grace, sacraments, sin, redemption, the role of Jesus, the Church Magisterium, ethical norms, and morality. Offered at the Center for Pastoral Leadership.

**240. INTRODUCTION TO ISLAM 3 cr.** Surveys the history of Islam, impact of Islamic belief and culture on global social and political development, and fundamental tenets and practices of Islam. Includes a modern interpretation of the Islamic tradition.

**245. ISLAM & ISLAMISM 3 cr.** Islamic political thought in the modern period. Uses primary and secondary sources to explore key ethical norms and principles that shape Muslim reflection on social justice, the modern state, and justifications for violent action; authoritative sources for discerning just actions, including the Muslim as exemplar, Sharia, and related concepts in Islamic ethical/legal tradition. Critical analysis of the recent Islamist movement that calls itself the Islamic State and reflections on the prospect of “Post-Islamism. *Forms an I-Core Link with PO 215 “Islam & Politics.”*

**249. FAITHS OF ABRAHAM: JUDAISM, CHRISTIANITY, AND ISLAM 3 cr.** Cross-cultural approach to the study of Judaism, Christianity, and Islam, all of which claim Abraham, the Biblical patriarch, as their “father in faith.” Uses American and selected international religious communities as case studies. Involves experiential learning.

**252. RELIGIONS OF INDIA 3 cr.** Study of interpretation of India's religions and cultures, including the discussion of methods and cultural biases in the study of foreign religions and cultures. Focus on Hinduism and Buddhism in the Indian subcontinent and how these were transmitted to other Asian countries.

**253. CHINESE RELIGIONS 3 cr.** Confucianism, Taoism, and Buddhism. Ancient Chinese beliefs and practices, and the introduction and adaptations of Buddhism. Philosophical and cultural manifestations and the gradual development of the major Chinese religious movements up to the modern period.

**254. JAPANESE RELIGIONS 3 cr.** Ancient Shinto beliefs; importation and modification of Korean and Chinese cultures and religions up to the modern era. Emergence of the Japanese empire in the seventh century CE, and the developments of Tendai, Kego, Zen, and Shingon beliefs and practices.

**260. MORAL DECISION-MAKING 3 cr.** Examination of contemporary moral issues with a focus on methods for analyzing and evaluating moral problems; sources from the Christian tradition that form moral identity and ethical decisions. *This ISJ course in the I-Core curriculum requires service learning.*

**261. AFRICAN-AMERICAN CHRISTIAN SOCIAL ETHICS 3 cr.** Nature, origins, and functions of African-American ethical response as related to social, political, and religious belief systems. Emphasis on historical and social translation of values dictated by African-American religion and theology. Topics include African-American social Christianity, ethical/political issues of religion, womanist ethics, and current ethical dialogues.

**262. RELIGION, FREEDOM, AND LAW 3 cr.** Introduction to issues framed by legal and religious context. How morality and religion contribute to ethical dilemmas for individual lawyers; history of American interface between religion and law; how religion and law address similar questions in different ways; dilemmas pertaining to morality and freedom where religion and law interface; public forum and judicial system's approach to religious issues; religious topics debated and litigated in public life.

**263. ECOLOGY, RELIGION, & JUSTICE 3 cr.** Explores how the Abrahamic religions—Judaism, Christianity, and Islam—are addressing the contemporary ecological crisis. Issues of eco-justice are approached through the interplay between faith, scholarship, and activism. Responses are evaluated using the principle of the common good, assessing potential impact on the most vulnerable members of the global community. Topics include eco-theology, eco-feminism, globalization, migration, violence against women and children, food security, water scarcity, loss of biodiversity, and climate change. *Forms an I-Core Link with SC 290 Environmental Sociology.*

**266. CATHOLIC SOCIAL TEACHING IN BUSINESS 3 cr.** Examines the historical context, biblical foundations, theological meanings, and ecclesiastical purposes of the major themes of Catholic Social Teaching (CST). Students learn the CST framework in this class and then apply it in the linked business class to examine and evaluate the systems and decisions of real businesses in the contemporary world. *Forms an I-Core Link with AC 4xx Catholic Social Teaching in Business.*

**267. STONES v. BREAD: 3 cr.** Examines cross-cultural issues that impact the preservation and protection of cultural and religious heritage and ways in which global and local communities might be motivated to engage in this process. Case studies identify challenges for diplomacy and cultural-heritage work; action plans propose steps for advancing cultural-heritage protections in specific contexts.

**270. FIGUREHEADS, FOUNDERS, VISIONARIES 1–3 cr.** Focus on one or more key individuals who have influenced the historical development of one or more religions and spiritual pathways. Specific content and number of credits to be announced when offered.

**271. CHRISTIAN SPIRITUALITY 3 cr.** The interior life studied from the perspective of spiritual freedom and transformation grounded in the life and teaching of Jesus. Probes the deepest longings of the heart and their relationship to human and spiritual fulfillment. Involves experiential learning.

**272. SOUL FOOD 3 cr.** African-American spirituality, religion, and identity formation through religious and food experiences within the family and the greater African-American cultural group. History of food availability and

preparation. Film portrayals of African-American family unity maintained through cultural traditions related to food. Involves experiential learning. *Forms an I-Core Link with IC 208 Food for the Soul, Soul Food.*

**274. ARTFUL SPIRITUALITY 3 cr.** Exploration of the elements of Christian spirituality and its expression through the arts. Imaginative expression through art-making can enrich spirituality, facilitating deep, authentic encounters with God. *A CAPA course in the Integrated Core Curriculum.*

**275. THEOLOGY IN MUSIC 3 cr.** Broad survey of church music as a carrier of theology and spirituality, from the early church to Vatican II. Examines the history of western church music to understand the relationships between music, worship, theology, and spiritual life, within the cultural and historical settings of the church. Involves experiential learning. *A CAPA course in the Integrated Core Curriculum.*

**280. THE FUTURE OF RELIGION IN AMERICA 3 cr.** An overview of statistical reasoning and social-science research methods with application to the study of religion. Topics include theoretical and conceptual issues; ideas and principles of data collection; and display and analysis using quantitative data sets. Students will learn to identify and recognize research problems, analyze research designs, draw inferences, and effectively interpret and communicate results. The ethical collection, use, and representation of data will be discussed. Examples are drawn from religious studies, politics, and other social science fields. *A QA course in the I-Core Curriculum.*

**299. SPECIAL TOPICS 1–3 cr.** Selected topics in one of the areas of theology and religious studies. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

*All the 300-level TRS courses have EN 125 or equivalent as a prerequisite. They may also require a lower-division TRS course as a pre-requisite.*

**300. THE ANCIENT NEAR EAST (HS 300) 3 cr.** History, culture, and religions of Egypt, Mesopotamia, Syria, and the Levant.

**301. ARCHAEOLOGY AND THE BIBLE 3 cr.** Principles and methodologies of archaeology; examination of how archaeology broadens and informs our understanding of the world and events of the Bible.

**302. THE BIBLE THROUGH THE EYES OF THE HUNGRY 3 cr.** The Bible presents the poor as objects of God's special protection and views their treatment by the wider society as the litmus test of whether a society is righteous or wicked. Focus on the Bible's critique of the dynamics of food scarcity, displacement, exile, drought, despair, and other basic hungers of the human race. Typically involves service learning. *Prerequisite: TRS 105, 200, 205, other prior coursework in scripture, or instructor permission.*

**306. JESUS IN FILM & HISTORY 3 cr.** Introduction to the words and deeds of the historical Jesus of Nazareth, as understood by his contemporaries. Comparisons to how Jesus was later understood and portrayed by his followers (e.g., in the New Testament) and in popular media (art, literature, and film).

**308. HEALING IN EARLY CHRISTIANITY & THE GRECO-ROMAN WORLD 3 cr.** Explores the understanding of health and healing in the gospels and other early Christian traditions, and of Jesus' role as healer, in comparison to other contemporaneous Greco-Roman religious traditions (e.g., Galen, the author of the most influential medical text in the West, and the Asclepius cult, the world's first system of holistic medicine).

**309. SPECIAL TOPICS IN BIBLICAL STUDIES 1–3 cr.** Selected topics relating to the Bible and biblical archaeology. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**312. JEWISH MESSIANISM 3 cr.** Surveys the broad outlines of Messianism throughout Jewish history and how it has changed shape and form, interacted with other belief structures, become secularized and re-enchanted again. Examines its place in modern politics (especially Zionism) and how these developments affect contemporary politics, history, and theology.

**315. THE HOLOCAUST AND ITS MEANING 3 cr.** Reaction of Jewish and Christian intellectuals to the Nazi attempt to destroy the Jewish people; analysis of accounts of Holocaust survivors; the singular witness of Elie Wiesel; significance of the Holocaust for Jewish-Christian dialogue.

**316. THE RABBIS ON SEX AND GENDER 3 cr.** The Rabbis of late antiquity devoted substantial attention to the relationship and rituals of marriage, both during the betrothals and in a couple's ensuing married life. Mishnaic tractate *Kiddushin* provides a prime location for investigating Rabbinic attitudes towards marriage as well gender and sexuality more broadly construed. Explore this tractate (in English translation) through a wide variety of reading strategies, including legal analysis, text criticism, form criticism, Feminist criticism, and Queer theory.

**319. SPECIAL TOPICS IN JEWISH STUDIES 1–3 cr.** Selected topics relating to the history, culture, faith, and practice of the Jewish people. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**321. HISTORY OF THE PAPACY 3 cr.** Origins of the papacy in the Roman world; growth of papal influence in the Early Middle Ages; papal responses to, and interactions with, Protestantism, the Catholic Reformation, absolute monarchy, the Enlightenment, European revolutions, European totalitarianism, the Third World, and modern democratic trends.

**322. CONSTRUCTING RELIGIOUS IDENTITY 3 cr.** Religious people are not born but are made according to context-specific norms. An examination of the various processes of religious socialization by which religious identities are constructed, maintained, transformed, and sometimes discarded. through contemporary case studies, and using theoretical frameworks from sociology, anthropology, and psychology. Theoretical issues of identity and boundaries as they pertain to religious groups and people.

**323. MARTIN, MALCOLM, & BLACK LIVES MATTER 3 cr.** Life, career, and teaching of the civil-rights leader and Christian theologian, Martin Luther King, Jr. Sources of King's unique theology; analysis of speeches and writings; King's relationship to other thinker-activists of his time, such as Mohandas K. Gandhi and Malcolm X; milestones of justice and peace; connections and comparisons with the contemporary "Black Lives Matter" movement.

**324. HISTORY OF CHRISTMAS 3 cr.** Origins of the feast; gospel infancy narratives; apocryphal traditions; Christology; Christmas in Medieval art and drama; cult of Saint Nicholas; origins and growth of Christmas music; Puritan attack on the feast; decline of the feast in 18<sup>th</sup> century; impact of the Industrial Revolution; the establishment of modern Christmas; modern commercialization; contemporary developments.

**325. WOMEN WHO SHAPED CHRISTIANITY 3 cr.** Lives and writings of prominent women who have shaped the Christian tradition from its earliest period. Emphasis on the women's contributions in light of their historical contexts.

**326. HISTORY OF THE IDEA OF EVIL 3 cr.** The construction of the idea of evil, from the pre-biblical period up through modern times, examined through various theoretical approaches and applied to specific case studies (e.g., early Christian martyrdom, European witch hunts, Nazi Germany, the Satanic Panic).

**327. MINORITY RELIGIONS 3 cr.** Examines the histories, traditions, and lived religious practices of select minority religious groups by exploring their interaction and exchange with wider American culture (e.g., through architecture, commerce, food, law, and media). Case studies consider such questions as the shifting contextual meaning of the labels minority/majority and marginal/central; ways American religious groups affect one another while maintaining their distinct identities. Involves experiential learning.

**328. THE FRANCISCAN MOVEMENT 3 cr.** Franciscan movement from its origins with Francis of Assisi to its contemporary manifestations. Historical and spiritual aspects of the Franciscan phenomenon and its import for the Church today.

**329. SPECIAL TOPICS IN CHRISTIAN HISTORY 1–3 cr.** Selected topics relating to the history of the Christian community in its various manifestations. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**330. MODELS OF GOD 3 cr.** Comparison of several models for understanding God and God's relations to the world.

**331. SIN, GRACE, & WHOLENESS 3 cr.** Introduction to theological anthropology, the study of the human being in relation to God and in conflict with evil.

**332. CHRIST & THE PASCAL MYSTERY 3 cr.** Study of the principal developments in theological reflection on the meaning and significance of Jesus Christ in the New Testament and in later church tradition; consideration of how contemporary Christology is both affected by and responds to crucial concerns of today's culture.

**334. CHURCH & SACRAMENT 3 cr.** Introduction to the concept and nature of "sacrament" and to the historical, liturgical, and theological development of the seven sacraments. Emphasis on sacraments of initiation (Baptism, Confirmation/Chrismation, Eucharist) with consideration of sacraments of healing (Penance, Healing of the Sick) and of Church service/government (Matrimony, Holy Orders). Also examines the "sacramental imagination" and its role in the Catholic spiritual tradition.

**335. WHAT HAPPENED AT VATICAN II 3 cr.** The Second Vatican Council as a historical, sociological, and theological event. Explores what happened at Vatican II, in particular its causes and effects in the life of the Roman Catholic Church.

**336. CHURCH & MINISTRY 3 cr.** Survey of the theology of church and ministry taking into account the biblical background and historical developments and focusing on issues and ideas surrounding ministry today. Locates ministry and church mission within a broadly Christian ecumenical perspective, with an emphasis on the Roman Catholic experience.

**337. GLOBALIZATION, THEOLOGY, & JUSTICE 3 cr.** Surveys and analyzes contributions of Catholic theology and tradition on issues related to globalization, such as economics, demographic shifts, ecology, consumerism, migration, human trafficking, and interreligious conflict. Approached through the lens of Catholic social teaching, possible responses are evaluated based on the principle of the common good and the potential impact upon the most vulnerable members of society. *Involves service learning.*

**338. CATHOLICISM IN A DIGITAL AGE 3 cr.** The theological significance of the digital revolution for the Catholic experience of faith, focusing on communication technologies and their implications for the church as a global religious institution. Surveys the historical impact of technological innovation on the church and explores in depth theological topics currently being rethought in light of technological change.

**339. SPECIAL TOPICS IN SYSTEMATIC THEOLOGY 1–3 cr.** Selected problems or authors in systematic theology. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**341. ISLAM IN AMERICA 3 cr.** Introduction to the history of Islam and its arrival in the New World. Focus on the experience of American Muslims, including African-American Muslims, immigrant Muslims, and new American converts. Considers all levels of the Muslim public sphere in the U.S. and current U.S. relations with Muslim countries.

**342. ISLAM & THE ENVIRONMENT 3 cr.** Overview of environmental issues and Islamic approaches to these challenges based on the major sources of Islam: the Qur'an and the Hadith. Islamic principles regarding the natural world and humanity's place within it, and Islamic legal strictures to protect the environment. Special emphasis on contemporary Islamic activism to protect the natural world.

**344. ISLAMIC SPIRITUALITY 3 cr.** Explores the spiritual tradition of Islam, also known as Sufism, focusing on three major themes: the emergence of Islamic spirituality through the Qur'an and *hadith*; the lives of Islamic mystics

such as Harith al-Muhasibi (d. 857), Junayd al-Baghdadi (d. 910), Abu Hamid al Ghazali (d. 1111), and Jalal al-Din Rumi (d. 1273); and mystical interpretations of Islamic verses.

**349. SPECIAL TOPICS IN ISLAMIC STUDIES 1–3 cr.** Selected topics relating to the Qur'an and/or the history, faith, and practice of the Muslim community. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**350. SPECIAL TOPICS IN INTERRELIGIOUS STUDIES 3–12 cr.** Specific content and number of credits to be announced when offered. See the Tuohy website ([go.jcu.edu/tuohy](http://go.jcu.edu/tuohy)) for further information. May be repeated with a different topic.

**351. SILK ROAD RELIGIONS 3 cr.** Focuses on religion, art, and politics on the international trade routes of East, Central, and South Asia, from the second through the twentieth centuries. Representative examples are presented chronologically and carefully situated within their political and religious contexts. Interdisciplinary methodology includes consideration of histories, religions, arts, and politics of the times.

**352. PILGRIMAGE 3 cr.** Examines pilgrimage as a unifying theme in the study of world religions and as a key component of religious life. Treats pilgrimage as a perspective on the unity of spirit, mind, and body as an expression of the inseparability of individuals and larger religious communities; uses it as a point of departure to investigate symbols, rituals, myths, laws, doctrines, faiths, and visions manifested in world religions.

**359. SPECIAL TOPICS IN ASIAN RELIGIONS 1–3 cr.** Selected topics relating to the religions of Asia and/or manifestations of western religions in an Asian context. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**360. CATHOLIC MORAL THEOLOGY 3 cr.** Methods for making informed and prudential moral decisions, in the interpersonal and social spheres, grounded in experience, Scripture, church teaching, and rational discourse. Addresses such topics as conscience; virtue; individual and social sin; the common good; political, economic, and social problems such as war and peace, poverty, and prejudice; and major themes of Catholic Social Teaching.

**362. RELIGION, ETHICS, & PUBLIC POLICY 3 cr.** Focuses on debates about the role religion should play in the formulation of public policy in the United States. Considers works of Rawls, Hauerwas, Stout, and others.

**363. BIOETHICS 3 cr.** Examines the ethical principles and forms of moral reasoning that typically guide decisions in health care and frame public policy debates generated by contemporary biomedicine. Includes materials from both religious and secular traditions of thought, with particular attention to Catholic teaching on bioethical issues (e.g., assisted reproductive technology, euthanasia, genetic manipulation, stem cell research).

**364. CHRISTIAN SEXUALITY 3 cr.** Study of human sexuality, its meaning and mystery, and ethical issues related to sexual behavior and attitudes, all from a Christian perspective. Christian wisdom and wisdom of the ages in light of human experience and contemporary theories of the meaning and significance of sexuality. Special attention to the inherent relationship between spirituality and sexuality.

**365. JUST & UNJUST WAR 3 cr.** Introduces the ethical issues posed by the use of violence. Particular emphasis on the just war tradition, which has significantly shaped contemporary international law and military ethics. Examines some of the canonical texts of just war tradition, explores the evolution of the tradition, and investigates how contemporary terrorism challenges the tradition.

**366. SOCIAL JUSTICE & THE ECONOMY: MORALITY & MONEY 3 cr.** Examines the religious, moral and ethical assumptions at the heart of various economic systems, policies and practices, as well as the economic teachings of major religious traditions. Explores the social justice implications of personal, local, national and global economic decisions. Involves service-learning.

**367. RELIGION, TERROR, & CULTURE WARS 3 cr.** Ethical and practical issues regarding the importance of cultural memory and the destruction, recovery, and protection of cultural assets in a politicized global environment. Examination of past and present national and international threats to cultural assets.

**371. IGNATIAN SPIRITUALITY: ORIGINS & DEVELOPMENT 3 cr.** Study of the life and writings of Ignatius Loyola and the spirituality that emerged from his religious experience, the dissemination of Ignatian spirituality through the creation of the Jesuit order, the mission and ministry of the first Jesuits, the development of Ignatian spirituality, and its contemporary relevance. Involves experiential learning.

**372. THEOLOGY OF AFRICAN-AMERICAN SACRED MUSIC 3 cr.** Survey of theological issues and constructs in African-American sacred music. Musical theology of Negro spirituals as starting point in discovering expressions of biblical and societal musings. Gospel music and anthematic presentations as expressions of a basic understanding of life and being in the African-American experience.

**374. THE TRANSFIGURED BRAIN 3 cr.** Explores intersections of neurology, psychology, philosophy, ritual practice, and the Christian contemplative-mystical life. Brings the Christian understanding of the human person, liturgical ritual, spiritual growth, and mystical experience into conversation with empirical science. Includes guided participative ritual and prayer practices intended to heighten awareness of students' transcendent potential, followed by mystagogical reflection on human consciousness and the encounter with God.

**379. SPECIAL TOPICS IN SPIRITUALITY 1–3 cr.** Selected topics relating to the work of great spiritual leaders and/or to spiritual practices such as prayer, worship, and meditation. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**381. TEACHING THEOLOGY & RELIGIOUS STUDIES 3 cr.** Introduction to pedagogy for theological educators. Topics include the nature and goals of theological education, the vocation of the theology teacher, the sociological research relevant to religious education, the developmental needs of adolescents and young adults, diversity in the classroom, and concrete pedagogical strategies. Special attention given to practical implementation of the learning goals of the U.S. Catholic Bishops High School Curriculum Framework.

**389. SPECIAL TOPICS IN PASTORAL/PRACTICAL THEOLOGY 1–3 cr.** Selected topics in the area of pastoral theology and ministry. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**399. SPECIAL TOPICS 1–3 cr.** Selected topics in one of the areas of theology and religious studies. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

**Note: Registration in 400-level courses is open only to TRS majors, minors, and graduate students; other interested students may seek permission of the department chair.**

**400. SCRIPTURE & REVELATION 3 cr.** Problems of and approaches to understanding the Jewish and Christian scriptures as “revelatory texts.” Special focus on the methods essential to exegesis, biblical interpretation, and contemporary uses of the scriptures. *An I-Core Advanced Writing in the Major and Oral Performance course.*

**405. “REJECTED BOOKS” OF THE BIBLE 3 cr.** Introduction to the non-canonical writings of formative Judaism and early Christianity. Intensive study of selections from the intertestamental, apocryphal, and pseudepigraphical literature of the Old and New Testaments; the Mishnaic and later Talmudic literature; and the writings of early Christian authors.

**406. NEW TESTAMENT ETHICS FOR CONTEMPORARY CULTURE 3 cr.** Ethical perspectives and prescriptions conveyed by the New Testament. The teaching and praxis of Jesus, including concern for the poor and solidarity with the marginalized, provide the center of gravity for analysis of a cross-section of the paraenetic teaching and ethical traditions in the New Testament. Students develop sophisticated tools for understanding its contribution to contemporary ethical debates.

**408. LIFE & LETTERS OF PAUL OF TARSUS 3 cr.** Introduction to the cultural and historical background of the life and career of the Apostle Paul, examination of his major writings, writings in the Pauline traditions, their impact in their original historical-cultural settings, and uses of these texts in other settings today.

**420. THE RISE OF CHRISTIANITY 3 cr.** Emergence of Christianity into the Greco-Roman world during the first six centuries. Key topics include establishment of Trinitarian theology and Christology; relations of Church and State; roles of women; origins of monasticism; interaction with pagan culture; establishment of ecclesiastical structures; early Christian art; major figures (Constantine, Athanasius, Augustine); and the Church's growing self-understanding.

**421. CRADLE OF CHRISTIANITY: EARLY CHRISTIANITY IN SYRIA & ASIA MINOR 3 cr.** Rise of Christianity in Roman Syria and Asia Minor (modern Turkey) through study of significant literature and sites. Traces Christian development from northern Palestine through Syria, Cappadocia, and Anatolia, to Ephesus, the "metropolis of Asia." Often done "on location" during a study tour of Syria, Turkey, and/or Greece.

**422. AUGUSTINE: LIFE, THEOLOGY, INFLUENCE 3 cr.** Introduction to Augustine of Hippo (CE 354–431), a magisterial figure in the history of Christian thought who remains significant for contemporary Christianity. Topics include Augustine's views of early church and state, marriage and sexuality, original sin, and freedom of the will.

**430. INTRODUCTION TO SYSTEMATIC THEOLOGY 3 cr.** Consideration of concepts key to understanding how theology works: faith, revelation, scripture, symbol, tradition, community, and method. Explores how these concepts work in the writings of significant theologians. Places these thinkers within their historical and cultural worlds to help students reflect on what it means to do theology out of their unique commitments, contexts, and life experiences. *An I-Core Advanced Writing in the Major and Oral Performance course.*

**431. READINGS IN FEMINIST THEOLOGY 3 cr.** Exploration of the way in which the feminist movement has affected the articulation of Christian doctrine through a reading and analysis of the works of contemporary feminist theologians. Includes a survey of feminist theory from the late 18<sup>th</sup> century to the present.

**449. FAITHS OF ABRAHAM: JUDAISM, CHRISTIANITY, AND ISLAM 3 cr.** Cross-cultural approach to the study of Judaism, Christianity, and Islam, all of which claim Abraham, the Biblical patriarch, as their "father in faith." Uses American and selected international religious communities as case studies. Involves experiential learning.

**461. CATHOLIC SOCIAL TEACHING 3 cr.** An introduction to Catholic Social Teaching, from its historical origins through today, focusing on its basic principles and norms for discernment and judgment, leading to criteria for action to address contemporary social challenges.

**491. INTERNSHIP 1–4 cr.** An internship/practicum experience in the field(s) of ministry, religious studies, and/or theology. Involves supervised work at a religiously-affiliated institution or agency engaged in direct service to and/or advocacy in the local community. Each student is placed in a local institutional context best suited to individual skills and interests, receives on-the-job mentoring, and engages in guided reflection through a written journal and weekly seminar discussions. Course done by arrangement and with permission of department chair. May be repeated with a different topic or placement. *This is a service-learning course.*

**492. INDEPENDENT STUDY 1–3 cr.** Prerequisites: permission of department chair. In-depth study on a tutorial basis of a particular problem, approved by the chair and directed by a member of the department. Requires a research paper.

**493. SENIOR SEMINAR 3 cr.** Culminating seminar for TRS majors and minors. Meets the I-Core Capstone requirement for the major.

**494. THE CATHOLIC EXPERIENCE 3 cr.** Capstone seminar for students in the Catholic Studies program. Normally taught in spring semester.

**499. SPECIAL TOPICS 1–3 cr.** Selected topics in one of the areas of theology and religious studies. Specific content and number of credits to be announced when offered. May be repeated with a different topic.

# Wealth Management and Financial Planning (PFP)

*Assistant Professor: X. Zhang*

Today's world requires that individuals efficiently manage their assets. Courses in this field focus on consumers. What are their financial problems and challenges? What are the possible solutions? How can consumers plan, manage, and make decisions to achieve their goals and resolve personal challenges and problems?

Many people find financial situations and decisions overwhelming. Consequently, they avoid or ignore this area to their detriment. Students will learn to understand financial planning clients and how to help them. This involves developing budgeting plans, making investment decisions, assessing insurance needs, tax planning, retirement planning and estate planning.

Personal financial services is a rapidly expanding, rewarding profession. It is a satisfying profession. Financial services professionals help people order their lives. The profession has significant earning potential.

**301. INTRODUCTION TO FINANCIAL PLANNING 3 Cr.** Corequisite or Prerequisite: FN 312. An introductory course concerning the process and principles of financial planning. The course of study includes an examination of the financial planning process, client interactions, financial statements, cash flow and debt management, time value of money, housing, education planning, overview of risk management, investments planning, retirement plans, and ethics.

**371. TAX PLANNING 2 Cr.** Corequisite or Prerequisite: PFP 301. A detailed study of specific provisions of the Internal Revenue Code that relate to taxation of individuals and tax planning concepts in business and individual transactions. This course also examines the alternative minimum tax (AMT), tax management strategies, taxation of real property transactions, passive and at-risk rules, as well as charitable contributions in the context of personal financial planning.

**372. RETIREMENT PLANNING 3 Cr.** Corequisite or Prerequisite: PFP 301 & PFP 371. This course provides students with a strong and rigorous foundation in retirement planning and employee benefits. In particular, the course offers students an overview of the retirement planning process, knowledge of retirement plans (both public and private plans), and tools and strategies used by financial professionals to help individuals, families, and companies choose and implement effective retirement planning strategies.

**373. ESTATE PLANNING 2 Cr.** Corequisite or Prerequisite: PFP 301 & PFP 371. The course provides an overview of gift, estate, and generation skipping transfer taxation, including financial and estate planning applications. Topics include trusts, wills, probate, advanced directives, charitable giving, wealth transfers, and related taxes.

**374. RISK MANAGEMENT AND INSURANCE 2 Cr.** Corequisite or Prerequisite: PFP 301 & PFP 371. This course introduces to risk management and insurance decisions for individuals in the context of personal financial planning. Topics include insurance for health, disability, life, property, and liability risks, as well as annuities, group insurance, and long-term care.

**490. CASES IN FINANCIAL PLANNING 3 Cr.** Corequisite or Prerequisite: PFP 372, PFP 373 & PFP 374. This course serves as a capstone experience for students of financial planning. Emphasis is on the application of financial planning knowledge and development of a complete financial plan.