History of the Mathematics Programs at John Carroll University

John Carroll University had its beginnings on the near west side of Cleveland in 1886, when a group of German Jesuits from Buffalo founded St. Ignatius College. The seven year “Academic” and “Collegiate” program included what roughly now corresponds to three years of high school and four years of college. The 1904 Bulletin of St. Ignatius College shows that mathematics was required in all seven years, including courses in Arithmetic and Algebra, Algebra (two years), Geometry, Logarithms, Plane and Spherical Trigonometry, Advanced Algebra, Differential Calculus, Integral Calculus, and Descriptive Astronomy. The Bulletin also lists four Faculty members teaching mathematics, all Jesuits.

In 1923, property was purchased on the east side of Cleveland, in a location known as Idlewood Village, later to become the City of University Heights. In the same year, the high school (now known as St. Ignatius High School) separated from the college, which was named John Carroll University, after the first Catholic bishop in the United States. The 1923 John Carroll University Bulletin lists Advanced Algebra and Solid Geometry as remedial courses, and college-level courses in College Algebra, Plane Trigonometry, Spherical Trigonometry, Surveying, Plane Analytic Geometry, Solid Analytic Geometry, Differential Calculus and Integral Calculus. At that time, a major required a minimum of 18 semester hours beyond the freshman-level courses, and all students were also required to take two minors, each consisting of at least 12 semester hours of post-freshman level courses.

Construction of buildings began on the new property in 1931, and—at depression-related delays—classes opened in the new buildings in October of 1935. Massive growth ensued in University Heights, which was then incorporated as a city in 1940.

Growth in enrollment also continued at John Carroll University, and the traditional academic ranks began to be applied to the Faculty. In 1948, there were four full-time Faculty members in Mathematics—one Instructor, two Assistant Professors and one Associate Professor—as well six Lecturers. Rev. Henry F. Birkenhauer, S.J., Assistant Professor, was named Director of the Mathematics Department, along with his other duties as Director of the Graduate Division and Director of the Seismological Observatory.
In this same year, a Bachelor of Science in Mathematics consisted of five prerequisite courses—up to and including Differential Calculus and Integral Calculus—along with six upper-division courses: Advanced Calculus, Differential Equations, Theory of Equations, Mathematical Methods of Physics and Chemistry, Vector Analysis and Solid Analytic Geometry. In addition to those courses, students were required to take a minor in a related field, consisting of four upper-division courses beyond the prerequisites.

By 1950, the Department of Mathematics began to offer a Master of Science degree in Mathematics, and offered a total of 28 undergraduate and 10 graduate courses. In 1958, the Mathematics Department welcomed John Carroll University’s first woman faculty member, Dr. Mary Neff, a full ten years before the University became coeducational. Growth in the student body continued, and by 1960 the Department was served by ten full-time faculty members.

In 1962, Rev. Raymond W. Allen, S.J., became the Director of the Department of Mathematics, and in 1966—when the title was first used—became the Department’s Chair. Father Allen can be credited with a number of innovations in the Department, including a Bachelor of Arts degree in Teaching Mathematics and a Master of Arts degree in Mathematics that was designed specifically for junior high and high school teachers. To the current day, the M.A. in Mathematics has focused on mathematics rather than on the craft of teaching. As described in the JCU Bulletins for many years, “the degree will not be in the teaching of mathematics, but in modern mathematics.” Meanwhile, Father Birkenhauer went on to become the 19th president of John Carroll University, serving in that position from 1970 to 1980.

In 1967, the Department relocated from the “rabbit warren” in the lower level of the Administration Building to the second floor of the newly constructed Bohannon Science Center. At the same time that Father Allen was nearing retirement, Leo Schneider was returning to the Department after a 2-year stint finishing his Ph.D., and became Department Chair in 1971.

With the hiring of Mr. Jerry Moreno in 1968, the Department began to offer more courses in probability and statistics, and in 1977 introduced an optional minor in Probability and Statistics. At the same time, an optional minor in Computer Science was introduced, consisting of previously existing courses in various programming languages and mathematics courses relating to theoretical computer science.

During the 1980’s, under the leadership of the Chair, Dr. Robert Kolesar, the Department began developing new courses in computer science, and eventually received approval to offer a B.S. degree in Computer Science. The new courses in Computer Science were initially taught by four Mathematics faculty members, Dr. Francis “Bud” Ryan, Dr. Leo
Schneider and Dr. Carl Spitznagel, who had been “retooling” in computer science at other local universities, and Dr. David Stenson, who had participated in IFRICS, the national Institute for Retraining in Computer Science. Student interest in the new computer science program was enormous, and in 1985 JCU graduated its first class of computer science majors.

The growth of student enrollments in the Department led to the hiring of new faculty members, and during the 1980’s and 1990’s the size of the Department’s full-time faculty grew from 9 to 18—due not only to the new computer science offerings, but also to an increasing emphasis on research and publication, with its consequent need for lighter teaching loads. During this time, the Department became known as the Department of Mathematics and Computer Science.

An aging Bohannon Science Center, along with an increased interest in undergraduate research, became the impetus for the construction of a new facility to house the science departments. In 2003, the Dolan Center for Science and Technology opened its doors, with state-of-the-art teaching and lab facilities for Mathematics and Computer Science, as well as Physics, Chemistry, Biology and Psychology.

In 2003, the Department added a major in Computer Information Systems to accommodate students with an interest in the applications of computing in a business environment, and in 2014 a new major program in Computer Science and Healthcare Information Technology was instituted, to leverage JCU’s increasing cooperative arrangements with the Cleveland Clinic.

Today the Department’s fourteen full-time Faculty members offer a total of 64 different undergraduate courses in Mathematics and Computer Science, and 20 different graduate-level courses in Mathematics, in support of its five undergraduate degree programs, three minors and two graduate programs. Over the past decade, the Department has averaged 20 bachelor’s degrees per year (11 in Mathematics and Teaching Mathematics, and 9 in Computer Science and Computer Information Systems), and 8 master’s degrees per year.
Appendix: Department Directors and Chairs

1971—1979  Dr. Leo J. Schneider
1979—1987  Dr. Robert J. Kolesar
1987—1995  Dr. Carl R. Spitznagel
1995—2003  Dr. Dwight M. Olson
2003—2011  Dr. Douglas A. Norris
2011—      Dr. Paul L. Shick

Appendix: Involvement of the Department Faculty in the MAA

The Department has had a long-standing interest in the Mathematical Association of America, and its Ohio Section. This appendix lists some of the major offices in the Ohio Section held by Department members over the past several decades.

1980—1981  Darrell J. “Dick” Horwath  Program Committee Chair
1982—1983  Darrell J. “Dick” Horwath  President
1991—1997  Darrell J. “Dick” Horwath  Secretary-Treasurer
1995—1996  Leo J. Schneider  Program Committee Chair
1997—1998  Leo J. Schneider  President
2000—2003  Leo J. Schneider  Section Governor
2001—2002  Dwight M. Olson  Program Committee Chair
2003—2004  Carl R. Spitznagel  Program Committee Chair
2005—2006  Dwight M. Olson  President
2005—2008  Carl R. Spitznagel  Newsletter Editor
2006—2007  Barbara K. D’Ambrosia  Program Committee Chair
2008—2012  Barbara K. D’Ambrosia  Newsletter Editor
2012—2015  Barbara K. D’Ambrosia  Section Governor

Appendix: Selected Faculty Awards and Honors

1982  Edward J. Walter  Distinguished Faculty Award (JCU)
1992  Jerry L. Moreno  Lucrezia Culicchia Award for Teaching Excellence (JCU)
1995  Jerry L. Moreno  Fellow (American Statistical Association)
1998  Carl R. Spitznagel  Lucrezia Culicchia Award for Teaching Excellence (JCU)
1999  Jerry L. Moreno  Founder’s Award (American Statistical Association)
2000  Jerry L. Moreno  Distinguished Teaching Award (Ohio MAA)
2003  Barbara K. D’Ambrosia  Lucrezia Culicchia Award for Teaching Excellence (JCU)
2004  Leo J. Schneider  Distinguished Teaching Award (Ohio MAA)
2004  Thomas Short  Fellow (American Statistical Association)
2013  Linda M. Seiter  Curtis Miles Award for Community Service (JCU)
Appendix: Full-time Department Faculty in 2014-2015

Patrick B. Chen
Joseph Consiglio
Barbara K. D'Ambrosia
Brendan Foreman
Marc Kirschenbaum
Robert J. Kolesar
Victor Lee
Christopher Lin
Douglas A. Norris
Daniel W. Palmer
Paige M. Rinker
Linda M. Seiter
Thomas Short
Paul L. Shick

Professor
Visiting Assistant Professor
Professor
Associate Professor
Professor
Visiting Assistant Professor
Visiting Assistant Professor
Associate Professor
Professor
Assistant Professor
Associate Professor
Professor
Professor

Appendix: Emeritus Faculty

Frederick J. Fuglister
Jerry L. Moreno
Dwight M. Olson
Carl R. Spitznagel
David L. Stenson

Associate Professor Emeritus
Assistant Professor Emeritus
Professor Emeritus
Professor Emeritus
Associate Professor Emeritus