

MATHEMATICS

MASTER OF SCIENCE

classical tradition of pure mathematics with the option of coursework in applied mathematics. Faculty are committed to providing close personal attention to students in a high quality academic environment; at John Carroll, student-faculty contact is the *norm* rather than the exception. Students frequently use the M.S. program as a stepping-stone for further graduate study. Graduates of our program have a competitive edge when applying to doctoral programs in mathematics. Our M.S. program has been especially attractive to students who want to begin their graduate studies in a small program where their progress is carefully monitored and their success is nurtured. Graduates of our program have established careers in business, industry, government, and education. Their graduate degree has played a major part in their success. Of course, the primary reason students continue their education in mathematics is because of the intellectual excitement it provides. Mathematics is one of the great achievements of the human mind.

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Program Coordinator

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Visit us at:

www.jcu.edu/graduate

Features

- Small class size and close working relationship with faculty
- Opportunities to collaborate with faculty on research projects
- Graduate assistantships available to full-time students
- Attractive suburban campus

Admission

Entrance requirements include a minimum of seven post-calculus mathematics courses, preferably including abstract algebra, linear algebra and advanced calculus (or real analysis). If you have not taken all of these courses, one or more of them may be taken as part of the program. Normally, applicants should have a minimum 2.8 GPA in mathematics. If you do not meet these criteria, provisional admission may be granted under certain circumstances.

Financial Assistance

- Graduate Assistants assist faculty by grading papers, working in the department tutoring center, and teaching under supervision. Assistants who have an interest in teaching are sometimes given this opportunity in their second year. Assistantships are awarded on a competitive basis, and normally require at least a 3.0 GPA in mathematics (applications should be made to the office of Graduate Studies). Assistantship applications completed by March 1st will receive full consideration. Late applications may also be considered, depending on assistantship availability.
- The University's Office of Admissions and Financial Aid offer assistance on Student loans.

Courses

Courses open only to M.S. graduate students include:

- Algebra I, II
- Real Analysis I, II
- Topology
- Complex Analysis
- Differential Geometry
- Functional Analysis

Your program will include at least six of these courses, complemented by additional courses selected from a wide range of offerings in pure and applied mathematics. Degree requirements include ten courses, a research essay written under the guidance of a faculty member, and a comprehensive exam.

Faculty

The following is a list of our faculty and their interests:

- **Patrick B. Chen, Ph.D.** (Case Western Reserve University). Topological groups, lie groups, algebraic groups.
- **Barbara K. D'Ambrosia, Ph.D.** (University of Oregon). Algebra, ring theory.
- **Brendan J. Foreman, Ph.D.** (Michigan State University). Mathematics education, differential geometry.
- **Frederick J. Fuglister, Ph.D.** (Harvard University). Algebraic combinatorics, symbolic computation.
- **Marc Kirschenbaum, Ph.D.** (The Ohio State University). Swarm intelligence, logic programming, artificial intelligence.
- **Robert J. Kolesar, Ph.D.** (Northwestern University). Algebraic topology, history of mathematics.
- **Douglas A. Norris, Ph.D. (Chair)** (University of Notre Dame). Differential geometry, mathematics education.
- **Daniel W. Palmer, Ph.D.** (University of North Carolina at Chapel Hill). Swarm intelligence, decentralized control algorithms, software engineering.
- **Leo J. Schneider, Ph.D.** (Case Western Reserve University). Differential equations, theory of algorithms.
- **Linda M. Seiter, Ph.D.** (Northeastern University). Software Engineering.
- **Paul L. Shick, Ph.D.** (Northwestern University). Algebraic topology, homological algebra.
- **Thomas H. Short, Ph.D.** (Carnegie Mellon University) Statistics, statistics education.
- **Carl R. Spitznagel, Ph.D.** (University of Kentucky). Structure of semigroups, statistical computing, fractal geometry, algebra.
- **David L. Stenson, Ph.D.** (University of Massachusetts). Topological algebra, database systems.

