

APPLIED & COMPUTATIONAL MATHEMATICS MS PROGRAM OVERVIEW FOR EMPLOYERS

School of Mathematical Sciences website: <http://math.rit.edu>

The Master of Science degree program in Applied & Computational Mathematics focuses on the interdisciplinary application of mathematical models and methods in engineering, business, science, and other areas. The goal of the program is to provide students with advanced mathematical concepts and to underscore their relevance to solving problems in business and industry. The program emphasizes the computational tools (e.g. software packages) available for solving various problems. Each student also chooses a mathematics concentration area, and about one-half of his/her coursework is related to it. Graduates from this program are well positioned to work in areas such as: mathematical modeling and analysis of manufacturing, computer and communications systems; transportation optimization; biological modeling; and consulting planning.

Degree(s) Awarded

Master of Science in Applied & Computational Mathematics

Enrollment

Approximately 10-15 students are enrolled.

Cooperative Education Component

Students are eligible to participate in an optional co-op program upon completion of their 1st year of graduate study. Participation is strongly encouraged.

Salary Information (Median/Range)

Co-op:	\$16.50	\$11.00 - \$19.50
*MS:	\$55,000	\$40,000 - \$70,000

*Statistics from the Nat'l Assn. Of Colleges & Employers (NACE) for 2007-2008 graduates

Equipment & Facilities

Students have access to programming, statistical and simulation languages, graphics software and design tools on a variety of platforms. Symbolic computation and statistical laboratories are also available.

Student Skills & Capabilities

Computing

Software: Mathematica, MATLAB, Minitab, ProModel, LINDO, dBASE

Programming Languages: C++, Java, FORTRAN, Pascal, and/or BASIC

Operating Systems: UNIX, VMS, Mac OS, Windows NT

Mathematical

Data analysis
Modeling physical systems
Simulation
Risk analysis
Probability modeling
Optimization
Developing algorithms

Note: Skill sets will vary depending on each student's undergraduate education, work experience, and selected concentration area.

Applied & Computational Mathematics

Course Sequence MS degree

First Year

Methods of Applied Mathematics
Combinatorics
Stochastic Processes
Mathematical Methods in Scientific Computing
Concentration Courses*

Second Year

Concentration Courses*
Thesis Courses

*A total of 20 credit hours are devoted to concentration courses

Concentrations most often selected include:

Computational Biomathematics:

Dynamical Systems
Biostatistics
Mathematical Biology
Concentration Electives

Discrete Mathematics:

Topics in Logic, Sets, & Computability
Graph Theory
Number Theory
Concentration Electives

Dynamical Systems:

Advanced Differential Equations
Dynamical Systems
Boundary Value Problems
Concentration Electives

Scientific Computing:

Numerical Linear Algebra
Boundary Value Problems
Numerical Partial Differential Equations
Concentration Electives

Selected Employers of Applied & Computational Mathematics Co-op and Graduating Students:

Bausch & Lomb Inc., Eastman Kodak, Hewlett-Packard, Institute for Defense Analyses, Lockheed Martin Corp., Los Alamos National Laboratory, Microsoft Corporation, NASA, National Geospatial-Intelligence Agency, National Security Agency, Oak Ridge National Laboratory, Ortho-Clinical Diagnostics, Thomson Reuters, Xerox Corp.

Contact Us:

We appreciate your interest in hiring RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Call our office and ask to speak with Kara Leonard, the program coordinator who works with the Applied & Computational Mathematics program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

Kara Leonard

Program Coordinator

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