
MATHEMATICS

D'AMOUR, ALAIN, Chairperson, Associate Professor; B.S., University of Montreal; M.S., University of Ottawa; Ph.D., University of Virginia. Tel. (203) 392-5579. E-mail: damoural@southernct.edu

DECESARE, RICHARD, Graduate Coordinator, Associate Professor; B.S., M.S., Southern Connecticut State University; Ed.D., Teachers College Columbia University. Tel. (203) 392-5596. E-mail: decesarer1@southernct.edu

BRIN, LEON Q., Associate Professor; B.S., Western New England College; M.S., Ph.D., Indiana University

FIELDS, JOSEPH, Associate Professor; B.S., M.S., University of Maryland Baltimore County; Ph.D., University of Illinois at Chicago

GINGRICH, ROSS, Associate Professor; B.A., Dickinson College; M.S., Ph.D., Rensselaer Polytechnic Institute

HARTOG, MARTIN D., Associate Professor; B.A., Iona College; M.S., University of Wisconsin-Milwaukee; Ph.D., Ohio State University

INTARAPANICH, PICHAI, Associate Professor; B.A., Srinakarincoirot University, Bangkok; M.S., National Institution of Development Administration; M.S., Stanford University; Ph.D., University of Northern Colorado

KAVANAGH, JOHN P., Professor; A.B., Boston College; M.A., Ph.D., State University of New York at Binghamton

MUGNO, RAYMOND, Assistant Professor; B.A., Manhattan College; M.S., Ph.D., State University of New York at Stony Brook

PINCIU, VALERIU, Associate Professor; B.S., M.S., University of Bucharest; Ph.D., State University of New York at Buffalo

SANDIFER, THERESA, Professor; B.S., Iona College; M.S., Ph.D., University of Massachusetts

SCHEUERMANN, JOHN, Assistant Professor; B.S., University of Pittsburgh; M.S., Ph.D., New York University

SCHULTZ, GERALD, A., Professor; B.A. Manhattan College; M.A., Fordham University

APPLICATION DEADLINE:

Rolling admissions, but students are encouraged to apply by May 1 for the fall semester and November 1 for the spring semester.

SECONDARY SCHOOL MATHEMATICS TEACHER CERTIFICATION

The certification program in secondary school mathematics is designed to accommodate a wide range of professionals. Depending upon their background, candidates in this program complete a sequence of mathematics and professional courses which will include a student teaching practicum. Courses in this program are offered each fall and spring semester in the late afternoon or evening and during the summer. Students wishing to teach under a Durational Shortage Area Permit (DSAP) must first complete a minimum of twenty-one credits of mathematics courses in the certification program, and must also pass the PRAXIS II examination in mathematics.

ADMISSION REQUIREMENTS

Please refer to the section on "Admission to Teacher Certification Programs" in the beginning of this catalog. Candidates must (1) hold a bachelor's degree from an accredited college or university including 39 semester hours of liberal arts courses, and (2) must have a knowledge of precalculus mathematics: college algebra and

trigonometry. This latter requirement can be met by taking appropriate courses or can be waived by achieving a satisfactory score on the University Placement Examination.

Required Courses (minimum 30 credits)

MAT 150 — Calculus I

MAT 151 — Calculus II

MAT 250 — Foundations of Mathematics: An Introduction

MAT 405 — Elementary Mathematics from an Advanced Standpoint

MAT 508 — Technology Enriched Mathematics Instruction I

MAT 525 — Probability and Statistics

MAT 530 — Foundations of Geometry

MAT 573 — Algebraic Structures I

One additional mathematics course selected in consultation with the Graduate Coordinator

Candidates who have an undergraduate degree in mathematics must take at least two mathematics courses beyond calculus, selected in consultation with the graduate adviser. In addition, all candidates will need the following courses:

PSY 370 — Educational Psychology

HIS 110 or 112 — U.S. History

EDU 492 — Mathematics (Secondary School)

EDU 452 — Secondary School Student Teaching (8 credits)

EDU 453 — Student Teaching Seminar (1 credit)

EDF 520-526 — Educational Foundations Elective (3 credits)

SED 482 — Teaching Exceptional Students in the Secondary Education Classroom

SHE 203 — School Health

IDS 470 — Literacy in the Content Area (1.5 credits)

IDS 471 — English Language Learners in the Classroom (1.5 credits)

MASTEROF SCIENCE DEGREE IN MATHEMATICAL EDUCATION

The Master of Science degree in mathematical education is designed primarily for certified mathematics teachers, allowing for the scholarly study of mathematics as well as the development of skills that aid in teaching. Each applicant must complete core requirements of 21 credit hours.

Candidates must hold a bachelor's degree from an accredited college or university and have had a minimum of 18 semester hours of undergraduate mathematics including calculus, geometry, linear and abstract algebra, probability and statistics. Deficiencies may be overcome by taking appropriate courses under advisement. A personal interview by the Mathematics Department graduate admissions committee is required.

Required Courses

MAT 508 — Technology Enriched Mathematics Instruction I

MAT 514 — Teaching Mathematics to Accelerated Students and Low Achievers

MAT 526 — Probability and Applied Statistics II

MAT 530 — Foundations of Geometry

MAT 541 — Topics in Real Analysis (4 credits)

MAT 574 — Algebraic Structures II

MAT 595 — Seminar in Mathematics Education (2 credits)

Upon completing the 21 credit-hours of core requirements, students choose one of the following plans:

Master's Thesis

Thesis Seminar (MAT 590) and Thesis — 6 credits plus 3 credits of electives for a total of 30 credits.

Comprehensive Examination

The student completes the 30 credit-hour degree program by electing 9 credits under advisement and must pass a comprehensive oral examination.

Special Project

The student completes a special project plus 15 credits of electives for a total of 36 credits.

MASTER OF SCIENCE DEGREE IN MATHEMATICAL EDUCATION WITH CERTIFICATION

Applicants who are not certified teachers may simultaneously enroll in a planned master's degree program leading to certification to teach mathematics, grades 7-12.

Candidates in this program first complete the certification requirements described above and then continue with the master's degree requirements. In order for initial certification to be elevated to professional certification, the State of Connecticut requires 30 additional credit hours of graduate study.

MATHEMATICS COURSES

Courses are offered on a rotating basis. A schedule is available at the Mathematics office and on the Mathematics Department website at <http://www.southernct.edu/departments/math/>.

MAT 508 — Technology-Enriched Mathematics Instruction

Techniques for using the computer and graphing calculator to augment and enhance the teaching of mathematics. Emphasis is placed on technology-enriched instruction of mathematics for students at all levels. Graphing calculator required. Prerequisite: MAT 151. Scheduled summer semesters. 3 credits.

MAT 514 — Teaching Mathematics to Accelerated Students and Low Achievers

Characteristics and needs of low achievers and accelerated students in mathematics, and methods of effectively teaching these two student populations. Scheduled summer semesters of even years. 3 credits.

MAT 525 — Probability and Statistics (Certification Program)

Descriptive statistics; introduction to probability theory; probability and sampling distributions; hypothesis testing and estimation; non-parametric tests. Scheduled summer semesters. 4 credits.

MAT 526 — Probability and Applied Statistics II

Linear regression and correlation, analysis of variance and applications. Scheduled fall semesters of odd years. 3 credits.

MAT 530 — Foundations of Geometry

An axiomatic development of Euclidean and non-Euclidean geometries. Prerequisite:

MAT 250. Scheduled spring semesters. 3 credits.

MAT 541 — Topics in Real Analysis

The real numbers as a metric space, limits in metric spaces, integration, topics in calculus of two and three variables, applications. Prerequisite: MAT 151 and admission to M.S. program in mathematical education. Scheduled fall semesters of even years. 4 credits.

MAT 560 — Topology

Metric spaces and fundamental concepts, topological spaces, subspaces and product spaces, countability properties, separation properties, compactness, and connectedness. Prerequisite: MAT 250. Scheduled fall semesters of odd years. 3 credits.

MAT 573 — Algebraic Structures I (Certification Program)

Matrices and vectors; systems of linear equations; introduction to groups, rings, fields and vector spaces; linear and affine transformation. Certification only. Prerequisite: MAT 250. Scheduled fall semesters. 4 credits.

MAT 574 — Algebraic Structures II

Direct products and factor groups; ideals and factor rings; polynomial rings; extension fields; introduction to Galois theory. Prerequisite: MAT 573 or one semester each of linear algebra and abstract algebra at undergraduate level. Scheduled spring semesters of even years. 3 credits.

MAT 590 — Thesis Seminar

Research and writing of the thesis in the area of concentration, under the direction of a mathematics department faculty member. For specific details, consult the chairperson or graduate coordinator of the department. Prerequisite: departmental permission. 6 credits.

MAT 595 — Seminar in Mathematics Education

Current issues in mathematics education. Scheduled summer semesters of odd years. 2 credits.

MAT 600 — Independent Study

Provides qualified students with an opportunity for independent study and careful discussion from an advanced standpoint of selected topics in mathematics. Prerequisite: departmental permission. 1-3 credits.

The following course has been approved but is not scheduled for 2006-2007.

MAT 518 — Technology-Enriched Mathematics Instruction II
