Farmingdale State College
State University of New York

Applied Mathematics Program

Effective Fall 2024

Courses	Credits
FYE 101 First Year Experience (required of first-time freshmen only)	1
EGL 101 Composition I: College Writing (GER)	3
EGL 102 Composition II: Writing About Literature	3
Humanities (GER)	3
The Arts (GER)	3
World History & Global Awareness OR US History & Civic Engagement (GER)	3
World Languages (GER)	3
Social Sciences (GER)	3
Natural Sciences and Scientific Reasoning (GER)	3
Oral Communication (GER)	3
BCS 109 Introduction to Programming OR CSC 111 Computer Programming I	3
Mathematics Courses	
MTH 150 Calculus I (GER)	4
MTH 151 Calculus II (GER)	4
MTH 245 Linear Algebra	3
MTH 246 Introduction to Financial Mathematics	3
MTH 252 Calculus III	4
MTH 253 Differential Equations	4
MTH 270 Introduction to Mathematical Computing	3
MTH 290 Methods of Proof in Advanced Mathematics	3
MTH 326 Mathematical Modeling in Applied Sciences (AL)	3
MTH 354 Principles of Real Analysis	3
MTH 360 Applied Probability and Statistics	3
MTH 405 Seminar in Applied Mathematics	3
Math Upper Division Elective	3
Math Upper Division Elective	3
Math Upper Division Elective	3
Math Upper Division Elective	3
Mathematics Required Total Credits	**52**
Math Related Electives	12
Upper Division Electives[2]	21
General Electives[1]	6
Program Total Credits	**121-122**

1. General Electives: Any SUBJ 100 or higher level (except MTH 322) AND no more than 3 credits in PED. If the DEIS requirement is not satisfied through dual designation in another GER course, one of the approved DEIS courses must be selected as one of the two General Electives.
2. Upper Division Electives: Any SUBJ 300 or higher level (except MTH 322)

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Microcredentials in Applied Mathematics

The Department of Mathematics offers microcredentials in three areas of Applied Mathematics-Computational Mathematics, Data Analytics, and Financial Mathematics. Each microcredential consists of three courses.

Computational Mathematics
- **MTH 270**: Introduction to Mathematical Computing
- **MTH 422**: Numerical Methods
- **MTH 400**: Problem Solving Seminar

Data Analytics
- **MTH 360**: Applied Probability and Statistics
- **MTH 380**: Experimental Design
- **MTH 420**: Statistical Data Mining

Financial Mathematics
- **MTH 246**: Introduction to Financial Mathematics
- **MTH 346**: Quantitative Finance
- **MTH 446**: Financial Engineering

These microcredentials equip participants with the necessary skills to enter or advance their professional careers in fields such as algorithm design, software development, medical research, data analysis, finance, banking, and/or insurance, or continue their study at a graduate level in applied mathematics, financial mathematics, computer science or related fields.

1. Applied Mathematics majors may select one or more microcredentials to fulfill the mathematics upper division elective and/or upper division elective requirements.

2. Students minoring in Applied Mathematics may choose one of the microcredentials to satisfy the three additional required mathematics courses in addition to the Calculus sequence (MTH 150, MTH 151, MTH 252 or MTH 130, MTH 236, MTH 322. This enables students to acquire specific skills in addition to the minor.

3. Professionals and students (including non-matriculated) with a grade of C or better in Calculus I may seek these microcredentials.

For more information, please visit
https://www.farmingdale.edu/provost/microcredentials/index.shtml or contact

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