APPLIED MATHEMATICS - SUPPLEMENTAL MAJOR

The program consists of 24 credits in the designated list of courses. To earn a supplementary major in applied mathematics a student must earn 15 credits from Categories I.A and I.B of which at least 9 credits must be from Category I.B. A student must also earn 9 credits from the Category II list of related disciplines. The courses in Category II may be taken from any combination of areas. A student may not earn a bachelor’s degree in mathematics and also a supplementary major in applied mathematics.

Requirements

Category I.A.
Select two from the following:

- MATH 377 Introduction to Numerical Methods
- MATH 391 Vector Analysis
- MATH 392 Introduction to Ordinary Differential Equations
- MATH 421 Financial Mathematics I
- STAT 371 Statistics for Engineers and Scientists I

Category I.B.
Select three from the following:

- MATH 331 Introduction to Modern Algebra
- MATH 332 Introduction to Analysis
- MATH 422 Financial Mathematics II
- MATH 451 Introduction to Differential Geometry
- MATH 453 Introduction to Topology
- MATH 454 Mathematical Logic
- MATH 457 Mathematical Logic
- MATH 471 Complex Variables
- MATH 472 Fourier Series and Boundary Value Problems
- MATH 473 Calculus of Variations and Optimal Control
- MATH 480 Matrix Theory and Applied Linear Algebra
- STAT 470 Probability: Theory and Applications
- STAT 480 Statistics: Theory and Applications

Category II
Select 9 credits from the following Related disciplines:

- C E 315 Structural Analysis
- C E 331 Fluid Mechanics and Hydraulics
- C E 356 Fundamentals of Environmental Engineering
- C E 382 Hydraulic and Hydrologic Engineering
- C S 372 Data Structures and Algorithms
- C S 476 Computer Graphics I
- C S 486 Bioinformatics
- C S 491 Parallel Programming
- CHME 305 Transport Operations I: Fluid Flow
- CHME 306 Transport Operations II: Heat and Mass Transfer
- CHME 412 Process Dynamics and Control
- CHME 441 Chemical Kinetics and Control Engineering
- CHEM 433 Physical Chemistry I
- CHEM 434 Physical Chemistry II
- CHEM 456 Inorganic Structure and Bonding
- ECON 405 Introductory Econometrics
- ECON 457 Mathematical Economics
- ECON 498 Independent Study (with approval)
- E E 312 Signals and Systems I
- E E 314 Signals and Systems II
- E E 395 Introduction to Digital Signal Processing
- E E 473 Introduction to Optics
- E E 475 Automatic Control Systems
- E E 476 Computer Control Systems
- E E 496 Introduction to Communication Systems
- E E 497 Digital Communication Systems I
- FIN 355 Investments
- FIN 385 Analysis of Financial Markets and Institutions
- FIN 406 Theory of Financial Decisions
- FIN 435 Investment Analysis
- I E 365 Quality Control
- I E 413 Engineering Operations Research I
- I E 423 Engineering Operations Research II
- I E 460 Evaluation of Engineering Data
- I E 466 Reliability
- M E 332 Vibrations
- M E 333 Intermediate Dynamics
- M E 338 Fluid Mechanics
- M E 341 Heat Transfer
- PHYS 395 Intermediate Mathematical Methods of Physics
- PHYS 451 Intermediate Mechanics I
- PHYS 454 Intermediate Modern Physics I
- PHYS 455 Intermediate Modern Physics II
- PHYS 461 Intermediate Electricity and Magnetism I
- PHYS 462 Intermediate Electricity and Magnetism II
- PHYS 473 Introduction to Optics
- PHYS 476 Computational Physics
- PHYS 480 Thermodynamics
- PHYS 485 Independent Study
- PHYS 495 Mathematical Methods of Physics I
- PHYS 497 Introduction to Space Plasma Physics
- SUR 351 Introductory Spatial Data Adjustment I
- SUR 451 Advanced Survey Measurements, Analysis, and Adjustments
- SUR 461 GNSS Positioning
- C S 510 Automata, Languages, Computability
- C S 570 Analysis of Algorithms

Total Credits: 24
Student must be eligible to take 500-level courses.