## 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.

| Prefix | Title | Credits |
| :---: | :---: | :---: |
| Requirements |  |  |
| Category I.A. |  |  |
| Select two from the following: |  | 6 |
| MATH 3140 | Introduction to Numerical Methods |  |
| MATH 3160 | Introduction to Ordinary Differential Equations |  |
| STAT 3110 | Statistics for Engineers and Scientists |  |
| Category I.B. |  |  |
| Select three from the following: |  | 9 |
| MATH 3110 | Introduction to Modern Algebra |  |
| MATH 3120 | Introduction to Analysis |  |
| MATH 4320 | Logic and Set Theory |  |
| MATH 4310 | Introduction to Topology |  |
| MATH 4210 | Complex Variables |  |
| MATH 4220 | Fourier Series and Boundary Value Problems |  |
| MATH 4230 | Applied Linear Algebra |  |
| STAT 4210 | Probability: Theory and Applications |  |
| STAT 4220 | Statistics: Theory and Applications |  |
| Category II |  |  |
| Select 9 credits from the following Related disciplines: |  | 9 |
| 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 Reactor 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 395 | Introduction to Digital Signal Processing |  |
| E E 473 | Introduction to Optics |  |
| E E 475 | Control Systems Synthesis |  |
| E E 496 | Introduction to Communication Systems |  |
| E E 497 | Digital Communication Systems I |  |
| BFIN 355 | Investments |  |


| BFIN 385 | Analysis of Financial Markets and Institutions |
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| BFIN 406 | Theory of Financial Decisions |
| BFIN 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 |
| PHYS 451 | Physics |
| PHYS 454 | Intermediate Mechanics I |
| PHYS 455 | Intermediate Modern Physics I |
| PHYS 461 | Intermediate Electricity and Magnetism I |
| PHYS 462 | Intermediate Electricity and Magnetism II |
| PHYS 476 | Computational Physics |
| PHYS 480 | Thermodynamics |
| PHYS 485 | Independent Study |
| PHYS 495 | Mathematical Methods of Physics I |
| SUR 351 | Spatial Data Adjustment I |
| SUR 451 | Spatial Data Adjustment II |
| SUR 461 | GNSS Positioning |
| C S 510 | Automata, Languages, Computability ${ }^{1}$ |
| C S 570 | Analysis of Algorithms ${ }^{1}$ |
| Total Credits |  |

