Approved Quantitative Engineering and Science Courses

• Any ES_APPM, especially:
  ▪ ES_APPM 311 – Methods of Applied Mathematics
  ▪ ES_APPM 346-0 – Modeling and Computation in Science and Engineering
  ▪ ES_APPM 370-0 – Introduction to Computational Neuroscience
  ▪ ES_APPM 375-1 – Quantitative Biology I: Experiments, Data, Models, & Analysis
  ▪ ES_APPM 411-1,2 – Differential Equations of Mathematical Physics
  ▪ ES_APPM 421-1 – Models in Applied Mathematics
  ▪ ES_APPM 444-0 – High Performance Scientific Computing
  ▪ ES_APPM 446-1 – Numerical Solution of Partial Differential Equations

Some require permission from the department and may not be offered every year. Course numbers are subject to change.
Approved Quantitative Engineering and Science Courses

• BMD_ENG 311-0 – Computational Genomics
• BMD_ENG 366-0 – Biomechanics of Movement
• BMD_ENG 377-0 – Intermediate Fluid Mechanics
• BMD_ENG 426-0 – MRI Modeling of Brain Physiology
• BMD_ENG 452-0 – Transport Through Connective Tissue
• BMD_ENG 463-0 – Neuropathophysiology
• BMD_ENG 468-0 – Computational Neuromechanics & Neuroethology
• BMD_ENG 469-0 – Neural Control and Mechanics of Movement
• BMD_ENG 478 – Transport Fundamentals
• BMD_ENG 495-0-3 – Biomedical Applications in Machine Learning

Some require permission from the department and may not be offered every year. Course numbers are subject to change.
Approved Quantitative Engineering and Science Courses

- COMP_SCI 349-0 – Machine Learning
- ELEC_ENG 302-0 – Probabilistic Systems
- ELEC_ENG 332-0 – Introduction to Computer Vision
- ELEC_ENG 359-0 – Digital Signal Processing
- ELEC_ENG 374 – Introduction to Digital Control
- ELEC_ENG 418-0 – Advanced Digital Signal Processing
- ELEC_ENG 433-0 – Statistical Pattern Recognition
- ELEC_ENG 435-0 – Deep Learning: FAA
- ELEC_ENG 475 – Machine Learning: FAA
- ELEC_ENG 495-0 – Bioelectric Systems Modeling & Analysis
- ELEC_ENG 495-0 – Optimization Techniques for Machine Learning & Deep Learning

Some require permission from the department and may not be offered every year.
Course numbers are subject to change.
Approved Quantitative Engineering and Science Courses

- MECH_ENG 314-0 – Machine Dynamics
- MECH_ENG 327-0 – Finite Elements for Stress Analysis
- MECH_ENG 362-0 – Stress Analysis
- MECH_ENG 390-0 – Introduction to Dynamic Systems
- MECH_ENG 414-1 – Mechanics of Composite Materials
- MECH_ENG 422 – Statistics Mechanics for Applications
- NUIN 441-0 – Biophysical Signal Processing for Movement
  - For students without a signal processing background
- Other courses with approval from Director of MS program (Prof Ankeny)

Some require permission from the department and may not be offered every year. Course numbers are subject to change.