Fall 2025 School of Computing and Data Science Technical Electives

Applied Math

Technical Elective

MATH2250 – Time Series
MATH3800 – Mathematics of Symmetry
MATH4050 – Machine Learning
MATH4575 – Complex Variables
Any 2000-Level courses in BIOE, BIOL, BMED, CHEM, CIVE, COMP, DATA, ELEC, ELMC, ENGR, ENVM, MECH, PHYS, or SCIN.

Computer Networking

NET Elective

COMP2000 – Data Structures
COMP2010 – Systems Analysis and Design
COMP2350 – Algorithms
COMP3000 – Applications of AI
COMP3010 – IT Software Development & Management
COMP3125 – Data Science Fundamentals
COMP3350 – Programming Languages
COMP3400 – Operating Systems
COMP4750 – Embedded AI
COMP4960 – Software Engineering
DATA3010 – Data Mining
MATH4050 – Machine Learning

Advanced Security Electives

MGMT2560 – Cybersecurity Law and Policy

Computer Science

Computer Science Elective

COMP2010 – Systems Analysis and Design
COMP2150 – Network Administration
COMP2500 – Security Principles
COMP3000 – Applications of AI
COMP3010 – IT Software Development & Management
COMP3100 – Systems Administration
COMP3125 – Data Science Fundamentals
COMP3500 – Network Security
COMP4750 – Embedded AI
DATA3010 – Data Mining
MATH4050 – Machine Learning

Cybersecurity

COMP Elective

COMP2010 – Systems Analysis and Design
COMP2650 – Databases
COMP3000 – Applications of AI
COMP3010 – IT Software Development & Management
COMP3125 – Data Science Fundamentals
COMP3350 – Programming Languages
COMP3400 – Operating Systems
COMP4750 – Embedded AI
COMP4960 – Software Engineering
DATA3010 – Data Mining
MATH4050 – Machine Learning

Cybersecurity Elective

TBD

Cryptography Elective

TBD

Data Science

Data Science Elective

MATH2250 – Time Series
MATH4575 – Complex Variables
MGMT2750 – Integrative Financial Accounting
Any 2000-Level courses in BIOE, BIOL, BMED, CHEM, CIVE, COMP, DATA, ELEC, ELMC, ENGR, ENVM, MECH, PHYS, or SCIN

Information Technology

IT Infrastructure Concentration Required Courses

COMP2150 – Network Administration
COMP3100 – System Administration
COMP3500 – Network Security

IT Infrastructure Concentration Electives

COMP2000 – Data Structures
COMP2350 – Algorithms
COMP3000 – Applications of AI
COMP3125 – Data Science Fundamentals
COMP3350 – Programming Languages
COMP3400 – Operating Systems
COMP4750 – Embedded AI
DATA3010 – Data Mining
MATH4050 – Machine Learning

IT Operations & Design Concentration Required Courses

COMP2150 – Network Administration
COMP3100 – System Administration
COMP3125 – Data Science Fundamentals
DATA3010 – Data Mining (replaces COMP3210 – Advanced Information Management)

IT Operations & Design Concentration Elective Courses

COMP2000 – Data Structures
COMP2350 – Algorithms
COMP3000 – Applications of AI
COMP3125 – Data Science Fundamentals
COMP3350 – Programming Languages
COMP3400 – Operating Systems
COMP3500 – Network Security
COMP4750 – Embedded AI
DATA3010 – Data Mining
MATH4050 – Machine Learning

Lab-based Science Electives (BSCN, BCOS, BSCY, BSDS, BSIT)

BIOL1100 – Cell and Molecular Biology
BIOL1200 – Fundamentals of Ecology
BIOL1700 – Anatomy & Physiology I
BIOL2200 – Advanced Molecular Biology
CHEM1000 – Chemistry of the Built Environment
CHEM1100 – General Chemistry I
CHEM1600 – General Chemistry II
CHEM2500 – Organic Chemistry I
PHYS1250 – Engineering Physics I
PHYS1750 – Engineering Physics II
PHYS2300 – Space Exploration

Science Electives

The above lab-based courses

PHYS3500 – Thermal Physics
PHYS4500 – Introduction to Quantum Mechanics

BSCN and BSIT may also take the following as lab-based Science electives

PHYS1000 – College Physics I
PHYS1010 – Conceptual Physics

Ethics Elective (BSCN, BCOS, BSCY, BSIT, BSDS)

COMM4300 – Media Ethics
CSAS2000 – Computer Science + Society Studio
PHIL4501 – Ethics
PHIL4525 – AI Ethics (May NOT count if students previously took this course as Virtual Ethics)