Summer 2026 School of Computing and Data Science Electives

Applied Math

Technical Elective

- MATH4875 – Real Analysis I
- MATH4475 – Actuarial Math
- MATH4050 – Machine Learning (required course for those on the 2025-26 Catalog)
- Any 2000-Level courses in BIOE, BIOL, BMED, CHEM, CIVE, COMP, DATA, ELEC, ELMC, ENGR, ENVM, MECH, PHYS, or SCIN.

Non-Technical Elective

Any 4-credit courses for which the pre-requisites have been met, in the following subjects: ARCH, COMM, CONM, CSAS, ECON, ENGL, HIST, HUMN, HSSI, INDS, INTD, LITR, MGMT, MANF, PHIL, POLS, PSYC, SOCL, SURV

Computer Networking

NET Elective

- COMP2000 – Data Structures
- COMP2350 – Algorithms
- COMP3350 – Programming Languages
- COMP3400 – Operating Systems
- COMP3450 – Parallel Computing and Distributed Computing
- COMP3575 – Scripting for Cybersecurity and Forensics
- COMP3590 – Applied Cryptography
- COMP3800 – Software Testing
- COMP3800 – AI for Software Engineering
- COMP4450 – Systems Programming
- COMP4550 – Incident Response & Business Continuity
- COMP4700 – Artificial Intelligence
- Any course from the Advanced Security Elective List

Advanced Security Elective

- COMP3575 – Scripting for Cybersecurity and Forensics
- COMP3590 – Applied Cryptography
- COMP4550 – Incident Response & Business Continuity

Computer Science

Computer Science Elective

- COMP2500 – Security Principles
- COMP3220 – Data Analytics
- COMP3230 – Game Engine Development
- COMP3500 – Network Security
- COMP3510 – Internet of Things Security
- COMP3550 – Computer Security
- COMP3575 – Scripting for Cybersecurity and Forensics
- COMP3590 – Applied Cryptography
- COMP3650 – Malware Analysis Basics
- COMP3800 – AI for Software Engineering
- COMP3800 – Software Testing
- COMP4225 – Game Design Projects
- COMP4450 – Systems Programming
- COMP4550 – Incident Response & Business Continuity
- COMP4650 – Web Development
- COMP4700 – Artificial Intelligence

Cybersecurity

COMP Elective

- COMP3350 – Programming Languages
- COMP3450 – Parallel Computing & Distributed Computing
- COMP3510 – Internet of Things Security
- COMP3575 – Scripting for Cybersecurity and Forensics
- COMP3650 – Malware Analysis Basics
- COMP3450 – Parallel Computing and Distributed Computing
- COMP3800 – Software Testing
- COMP3800 – AI in Software Engineering
- COMP4450 – Systems Programming
- COMP4650 – Web Development
- COMP4700 – Artificial Intelligence
- Any course from the Cybersecurity Elective List

Cybersecurity Elective

- *COMP3575 -- Scripting for Cybersecurity and Forensics*

- *COMP3590 – Applied Cryptography*

Cryptography Elective

- None

Data Science

Data Science Elective

- MATH4475 – Actuarial Math
- MATH4875 – Real Analysis 1
- COMP3450 – Parallel Computing & Distributed Computing
- MATH2600 – Differential Equations and Linear Systems
- Any 2000-Level courses in BIOE, BIOL, BMED, CHEM, CIVE, COMP, ELEC, ELMC, ENGR, ENVM, MECH, PHYS, SCIN

Information Technology

*IT Infrastructure Concentration **REQUIRED** Courses*

- COMP3100 – System Administration
- COMP3510 – Internet of Things Security
- COMP3550 – Computer Security

IT Infrastructure Concentration Elective

- COMP2000 – Data Structures
- COMP2350 – Algorithms
- COMP3220 – Data Analytics
- COMP3400 – Operating Systems
- COMP3450 – Parallel Computing and Distributed Computing
- COMP3575 – Scripting for Cybersecurity and Forensics
- COMP3650 – Malware Analysis Basics
- COMP3800 – AI for Software Engineering
- COMP3800 – Software Testing
- COMP4700 – Artificial Intelligence

IT Operations and Design REQUIRED Courses

- COMP3100 – System Administration

IT Operations and Design Concentration Elective

- COMP2000 – Data Structures

- COMP2350 – Algorithms
- COMP3400 – Operating Systems
- COMP3450 – Parallel Computing and Distributed Computing
- COMP3800 – Software Testing
- COMP3800 – AI in Software Engineering
- COMP4700 – Artificial Intelligence

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

- BIOL1000 – General Biology
- BIOL1100 – Cell and Molecular Biology*
- BIOL1750 – Anatomy & Physiology II*
- CHEM1000 – Chemistry of the Built Environment
- CHEM1100 – General Chemistry I
- CHEM1600 – General Chemistry II
- CHEM2500 – Organic Chemistry I
- PHYS1050 – Video-Game Physics
- PHYS1250 – Engineering Physics I
- PHYS1750 – Engineering Physics II
- SCIN1000 – Environmental Science
  *Only available if declaring Biology minor

Science Electives

- PHYS3000 – Computational Physics
- PHYS4700 – Electrodynamics
- The above lab-based courses

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

- PHYS1000 -College Physics I

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

- COMM4300 – Media Ethics
- CSAS2000 – Computer Science + Society Studio
- PHIL4501 – Ethics
- PHIL4525 – AI Ethics (WILL NOT count if students previously took Virtual Ethics)
- PHIL4550 - Bioethics