

Spring 2027 School of Computing and Data Science Electives

Applied AI

Domain Electives

Business Management:

- MGMT1500 – Decision Analysis for Business
- MGMT2000 – Management Information Systems
- MGMT2100 – Management Communications
- MGMT2525 – Systems Analysis, Design, and Implementation
- MGMT2550 – Applied Project Management
- MGMT2650 – Cybersecurity Plans
- MGMT2750 – Integrative Financial Accounting
- MGMT2850 – Principles of Marketing
- MGMT3250 – Managerial Accounting
- MGMT3575 – Entrepreneurial Mindset
- MGMT4400 – Business Negotiation Principles

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

Applied Math

Technical Elective

- MATH4950 – Dynamical Systems and Chaos
- MATH4050 – Machine Learning (required course for those on the 2025-26 Catalog)
- Any 2000-Level courses in BIOE, BIOL, BMED, CHEM, CIVE, COMP, CYBR, 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
- DATA3125 – Data Science Fundamentals
- COMP3225 – Game Development
- COMP3400 – Operating Systems
- COMP3450 – Parallel and Distributed Computing
- COMP3480 – Cloud Computing
- COMP4960 – Software Engineering
- MATH4050 – Machine Learning
- Any course from the Advanced Security Elective List

Advanced Security Elective

- COMP3580 – Digital Forensics
- COMP3800 – AI for Cybersecurity
- COMP4060 – Blockchain Technologies
- CYBR4500 – Offensive Security
- MGMT2650 – Cybersecurity Plans
- MGMT2800 – Cybersecurity Management

Computer Science

Computer Science Elective

- COMP1150 – Routing and Switching
- COMP2150 – Network Administration
- COMP2160 – Wireless Networks
- CYBR2500 – Security Principles
- COMP3100 – System Administration
- COMP3125 – Data Science Fundamentals
- COMP3225 – Game Development
- COMP3480 – Cloud Computing
- CYBR3500 – Network Security
- COMP3580 – Digital Forensics
- COMP3660 – Mobile App Development
- CYBR3590 – Applied Cryptography
- COMP4060 – Blockchain Technologies

- CYBR4500 – Offensive Security
- COMP4600 – Quantum Computing for Security
- COMP4650 – Web Development
- COMP4700 – Foundations of Classical AI
- COMP4726 – Applied Large Language Models
- COMP4950 – Project Management
- MATH4050 – Machine Learning
- AAIN4080 – Agentic AI and Intelligent Agents

Cybersecurity

COMP Elective

- COMP1150 – Routing and Switching
- COMP2160 – Wireless Networks
- COMP2650 - Databases
- DATA3125 – Data Science Fundamentals
- COMP3225 – Game Development
- COMP3450 – Parallel and Distributed Computing
- COMP3480 – Cloud Computing
- COMP4650 – Web Development
- COMP4700 – Foundations of Classical AI
- COMP4950 – Project Management
- COMP4960 – Software Engineering
- MATH4050 – Machine Learning
- AAIN4080 – Agentic AI and Intelligent Agents
- Any course from the Cybersecurity Elective List

Cybersecurity Elective

- COMP3580 – Digital Forensics
- COMP4060 – Blockchain Technologies
- MGMT2650 – Cybersecurity Plans
- MGMT2800 – Cybersecurity Management

Cryptography Elective

- CYBR3590 – Applied Cryptography

Data Science

Data Science Elective

- HSSI4025 – Geographic Information Systems (GIS) for the Social Sciences and Humanities
- MATH2550 – Transitions to Advanced Math
- MATH2600 – Differential Equations and Linear Systems
- MATH4950 – Dynamical Systems and Chaos
- MGMT1750 – Integrative Financial Accounting
- Any 2000-Level courses in AAIN, BIOE, BIOL, BMED, CHEM, CIVE, COMP, CYBR, ELEC, ELMC, ENGR, ENVM, MECH, PHYS, SCIN

Information Technology

*IT Infrastructure Concentration **REQUIRED** Courses*

- COMP2150 – Network Administration
- COMP3100 – System Administration
- CYBR3500 – Network Security

IT Infrastructure Concentration Elective

- COMP2000 – Data Structures
- COMP2350 – Algorithms
- COMP2540 – Ethical Hacking
- DATA3125 – Data Science Fundamentals
- COMP3225 – Game Development
- COMP3400 – Operating Systems
- COMP3450 – Parallel and Distributed Computing
- COMP3480 – Cloud Computing
- CYBR3500 – Network Security
- COMP3580 – Digital Forensics
- COMP3600 – Software Security
- COMP4060 – Blockchain Technologies
- CYBR4500 – Offensive Security
- COMP4700 – Foundations of Classical AI
- COMP4960 – Software Engineering
- MATH4050 – Machine Learning

IT Operations and Design REQUIRED Courses

- COMP2150 – Network Administration
- COMP3100 – System Administration
- DATA3125 – Data Science Fundamentals

IT Operations and Design Concentration Elective

- COMP2000 – Data Structures
- COMP2350 – Algorithms
- COMP3225 – Game Development
- COMP3400 – Operating Systems
- COMP3450 – Parallel and Distributed Computing
- COMP3480 – Cloud Computing
- COMP3580 – Digital Forensics
- COMP3600 – Software Security
- COMP4060 – Blockchain Technologies
- CYBR4500 – Offensive Security
- COMP4700 – Foundations of Classical AI
- COMP4960 – Software Engineering
- MATH4050 – Machine Learning

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