Spring 2027 CSCI/CSCY Courses

CS Core Courses

CS Core	Systems Core (for BS students)
CSCI 1410 – Fundamentals of Computing MW 11:00am - 12:15pm, Instructor: Dave Ogle TTH 9:30am – 10:45am, Instructor: Dave Ogle	**CSCI 1510 – Logic Design** MW 2:00pm – 3:15pm, Instructor: Sung Nam TTH 11:00am – 12:15pm, Instructor: Ben Caulfield
CSCI 1411 – Fundamentals of Computing Lab Wed 8:30am – 10:30am, Instructor: Zheshuo Li Thurs 3:30pm – 5:30pm, Instructor: Rumana Sultana F 9:30am – 11:30am, Instructor: Muhamad Babar	**CSCI 2525 – Assembly Language** MW 9:30am – 10:45am, Instructor: Diane Ricciardella MW 3:30pm – 4:45pm (Wed on Zoom), Instructor: John Pace
CSCI 2312 – Object Oriented Programming MW 11:00am – 12:15pm, Instructor: Diane Ricciardella MW 9:30am – 10:45am, Instructor: Dave Ogle TTH 11:00am – 12:15pm (all on Zoom), Instructor: Diane Ricciardella	**CSCI 3415 – Principles of Programming Languages** TTH 9:30am – 10:45am, Instructor: Sung Nam
CSCI 2421 – Data Structures & Program Design TTH 9:30am – 12:45am, Instructor: Salim Lakhani	**CSCI 3453 – Operating Systems Concepts** MW 11:00am – 12:15pm (Wed on Zoom), Instructor: Tiago Perez
CSCI 2511 – Discrete Structures MW 12:30pm – 1:45pm, Instructor: Ben Caulfield TTH 12:30pm – 1:45pm (all on Zoom), Instructor: Diane Ricciardella	**CSCI 3761 – Intro to Computer Networks** MW 2:00pm – 3:15pm, Instructor: Ilkyeun Ra
CSCI 3287 – Database Systems TTH 3:30pm – 4:45pm, Instructor: Debi Parcheta	**CSCI 4591 – Computer Architecture** TTH 2:00 – 3:15pm, Instructor: Salim Lakhani
CSCI 3412 – Algorithms MW 9:30am – 10:45am, Instructor: Ben Caulfield TTH 12:30pm – 1:45pm, Instructor: Sung Nam	
CSCI 3508 – Software Engineering MW 12:30pm – 1:45pm, Instructor: Salah Boukhris	
CSCI 4034 – Theoretical Foundations of CS MW 9:30am – 10:45am (Wed on Zoom), Instructor: Tom Altman	

Spring 2027 CSCI/CSCY Courses

CS Breadth Courses

<table>
<tr><th colspan="2">-System Software-</th></tr>
<tr><td colspan="2">CSCI 4287 – Embedded Systems Programming
MW 5:00 – 6:15pm, Instructor: Salim Lakhani
Pre-reqs: CSCI 3453</td></tr>
<tr><th colspan="2">-Secure Computing-</th></tr>
<tr><td>CSCI 4741 – Cybersecurity Principles
MW 2:00pm – 3:15pm, Instructor: Zhengxiong Li
Pre-reqs: CSCI 3761

CSCI 4742 – Cybersecurity Programming & Analysis
TTH 11:00am – 12:15pm, Instructor: Haadi Jafarian
Pre-reqs: CSCI 3740 7 CSCI 3761</td><td>CSCI 4743 – Cyber & Infrastructure Defense
Online Asynchronous, Instructor: Haadi Jafarian
Pre-reqs: CSCI 3761</td></tr>
<tr><th colspan="2">-Data Science-</th></tr>
<tr><td>CSCI 4930 – Machine Learning
Online Asynchronous, Instructor: Ashis Biswas
Pre-reqs: CSCI 3412 & MATH 3191/3195</td><td>CSCI 4951 – Big Data Systems
Online Asynchronous, Instructor: Farnoush Banaei-Kashani
Pre-reqs: CSCI 3412, 3287, MATH 3191/3195</td></tr>
<tr><th colspan="2">-Scientific Computing-</th></tr>
<tr><td colspan="2">CSCI 4407 – Security & Cryptography
MW 9:30am – 10:45am, Instructor: Victor Kebande
Pre-reqs: CSCI 3412</td></tr>
<tr><th colspan="2">-Capstone Project-</th></tr>
<tr><td colspan="2">CSCI 4739 – Senior Design II
TTH 5:00pm – 6:15pm, Instructor: Debra Parcheta
Pre-reqs: CSCI 4738</td></tr>
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Spring 2027 CSCI/CSCY Courses

CS Technical Electives

CSCI 3515 – IoT: Sensing, Comm. & Control
MW 5:00pm – 6:15pm (Wed on Zoom), Instructor: John Pace
Pre-reqs: CSCI 2312 & 2421, *restricted to BA students*

CSCI 3740 – Computer Security
TTH 9:30am – 10:45am, Instructor: Victor Kebande
Pre-reqs: CSCI 2312 & 2421

CSCI 3751: Fundamentals of UNIX
MW 12:30pm – 1:45pm
Pre-reqs: CSCI 2312 & 2421

CSCI 3762 – Network Programming
TTH 11:00am – 12:15pm, Instructor: Dave Ogle
Pre-reqs: CSCI 3761

CSCI 3910 – Web Development w/ PHP & MySQL DB
MW 11:00am – 12:15pm, Instructor: Salim Lakhani
Pre-reqs: CSCI 3287, *restricted to BA students*

CSCI 3916 – Web API
MW 3:30pm – 4:45pm (all on Zoom), Instructor: Shawn McCarthy
Pre-reqs: CSCI 2312 & 2421, *restricted to BS students*

CSCI 4172 – Complexity & Problem Solving
MW 11:00am – 12:15pm (Wed on Zoom), Instructor: Tom Altman
Pre-reqs: CSCI 4034

CSCI 4750 – Satellite Comm & Networking
MW 2:00 – 3:15pm, Instructor: Xiaojian Wang
Pre-reqs: CSCI 3761

CSCI 4773 – Intro to Emerging Systems Security
Online Asynchronous, Instructor: Zhengxiong Li
Pre-reqs: CSCI 3453 & 3761

CSCI 4800 – Special Topics
AI for Quantum Computing & Optimization
TTH 9:30am – 10:45am, Instructor: Ashis Biswas
Pre-reqs: MATH 2411 & CSCI 3412

Spring 2027 CSCI/CSCY Courses

Cybersecurity Core	Cybersecurity Tech Electives
CSCY 2930 – Practical Systems Administration Fri 9:30am – 11:45am, Instructor: Sam Wheeler Pre-reqs: CSCI 1410 **CSCY 3740 - Computer Security** TTH 9:30am – 10:45am, Instructor: Victor Kebande Pre-reqs: CSCI 2312 & 2421 **CSCY 4407 – Security & Cryptography** MW 9:30am – 10:45am, Instructor: Victor Kebande Pre-reqs: CSCI 3412 **CSCY 4741 – Principles of Cybersecurity** MW 2:00pm – 3:15pm, Instructor: Zhengxiong Li Pre-reqs: CSCI 3761 **CSCY 4742 – Cybersecurity Programming and Analysis** TTH 11:00am – 12:15pm, Instructor: Haadi Jafarian Pre-reqs: CSCI 3740 and CSCI 3761 **CSCY 4743 – Cyber & Infrastructure Defense** Online Asynchronous, Instructor: Haadi Jafarian Pre-reqs: CSCI 3453 and CSCI 3761 **CSCY 4739 – Senior Design II** TTH 5:00pm – 6:15pm, Instructor: Tiago Perez Pre-req: CSCY 4738	**CSCY 3800-HL1 – Special Topic: Digital Forensics & Cybercrime** MW 3:30pm – 4:45pm (Wed on Zoom) Instructor: Victor Kebande Pre-reqs: CSCI 2421 & CSCI/CSCY 3740 **CSCY 4800-001 – Special Topic: Cyber Law & Policy** TTH 2:00pm – 3:15pm, Instructor: Tiago Perez Pre-reqs: CSCI/CSCY 3740 & ENGL 2030 **CSCY 4800-HL1 – Special Topic: Data Security** MW 11:00am – 12:15pm (Wed on Zoom), Instructor: Victor Kebande Pre-reqs: CSCI 3761 & CSCI/CSCY 3740

Spring 2027 CSCI/CSCY Courses

Special Topics Course Descriptions

CSCI 4800-001 *AI for Quantum Computing & Optimization*: This course explores the emerging intersection of artificial intelligence, machine learning, quantum computing, and optimization, with an emphasis on using AI methods to improve the design, control, operation, and performance of quantum computing systems. Topics include machine learning for quantum-device characterization and calibration, reinforcement learning for quantum control, AI-assisted quantum circuit synthesis and compilation, optimization of variational quantum algorithms, noise modeling, error mitigation, and AI-assisted quantum error correction. The course also examines hybrid classical–quantum optimization for AI and engineering applications, including binary optimization, QUBO and Ising formulations, QAOA, warm-start and learning-assisted quantum optimization, and applications such as feature selection, active learning, scheduling, clustering, resource allocation, and other combinatorial problems. Students gain hands-on experience using Python-based quantum computing and machine-learning frameworks, including PennyLane and Qiskit, while critically evaluating the capabilities and limitations of current quantum technologies. A central goal of the course is to prepare students for the transition from today's noisy, hybrid quantum systems toward increasingly capable, scalable, and fault-tolerant quantum computing platforms. By developing skills that span AI, optimization, quantum algorithms, and quantum-system intelligence, students will be equipped to contribute to the next generation of quantum computing in which AI is expected to play an important role in automating, optimizing, and scaling quantum technologies.

CSCY 3800-HL1 *Digital Forensics & Cybercrime Investigations:* This course introduces the principles, methodologies, technologies, and professional practices of digital forensics and cybercrime investigation. Students learn to identify, acquire, preserve, examine, analyze, and report digital evidence from computers, networks, memory, mobile devices, cloud services, and selected cyber-physical environments. Emphasis is placed on forensic soundness, chain of custody, evidence integrity, investigative reasoning, attack attribution, event reconstruction, reproducibility, and defensible reporting. Through controlled laboratory investigations, students reconstruct cyber incidents, analyze operating-system artifacts and network traffic, and examine techniques for identifying potential threat actors, tracing malicious activities, and assessing attribution confidence based on available evidence. The course also addresses contemporary challenges, including ransomware, cloud-native evidence, artificial intelligence (AI)-assisted analysis, synthetic media, and anti-forensics. Legal, ethical, privacy, and evidentiary limitations are integrated throughout the course.

CSCY 4800-001 *Cyber Law and Policies*: This course provides an understanding of the legal, regulatory, and policy aspects of cybersecurity. It covers national and international cyber laws, regulations, and frameworks, as well as legal issues related to privacy, intellectual property, cybercrime, and digital rights. The course is designed to prepare students to navigate the complex legal landscape of cybersecurity and understand the implications of cyber laws and policies on individuals, businesses, and governments.

Spring 2027 CSCI/CSCY Courses

CSCY 4800-HL1 *Data Security*: This course explores advanced topics in Data Security, focusing on data-driven security and how digital data can be protected across its various types and states. Students will conduct threat modeling for data systems, simulate data breaches and examine ethical and legal considerations, and apply modern security measures including machine learning protection and compliance tools. This course provides both theoretical frameworks and hands-on perspectives to enable students to critically evaluate and implement data protection strategies in diverse environments.