Spring 2024 CSCI Tech Electives

Schedule and course listings subject to change

CSCI 3740 Computer Security
- Pre-requisite: CSCI 2421

CSCI 3762 Network Programming, Ogle
- Pre-requisite: CSCI 3761

CSCI 3916 Web API, McCarthy
- Pre-requisite: CSI 2421

CSCI 4203 Simulation, Williams
- Pre-requisite: CSCI 3412

CSCI 4211 Mobile Comp. & Prog., Lakhani
- Pre-requisite: CSCI 3453

CSCI 4407 Cryptography & Security, Gethner
- Pre-requisite: CSCI 3412

CSCI 4773 Introduction to Emerging System Security, Li
- Pre-requisites: CSCI 3761 & 3453

CSCI 4800 Shader & GPU for AI applications, Choi
- Pre-requisite: CSCI 3412

BACS Only

Please meet with your advisor for additional selections

CSCI 3751 Unix Systems Programming, Nam
- Pre-requisite: CSCI 2421

CSCI 3761-002 Intro to Networks, Ogle
- Pre-requisite: CSCI 2421

BACS Free Electives

CSCI 1510 Logic Design
CSCI 2525 Assembly Language
CSCY 2930 Practical System Administration
CSCI 2980 Foundations of Data Science

Spring 2024 BSCS Breadth Courses

Additional courses beyond breadth area requirements will count toward as CS electives.

Secure Computing:

CSCI 4743 Cyber & Infrastructure Defense, Jafarian
Pre-requisite: CSCI 3761
Required for the Cybersecurity & Secure Comp. Cert>

Data Science:

CSCI 4455 Data Mining, Banaei-Kashani
Pre-requisites: CSCI 3287, CSCI 3412 & MATH 3195

Scientific Computing:

CSCI 4110 Applied Number Theory, Gethner
Pre-requisite: CSCI 2511 or MATH 3000

System Software:

CSCI 4287 Embedded Systems Prog., Lakhani
Pre-requisite: CSCI 3453

CSCI 4565 Intro to Computer Graphics, Choi
Pre-requisite: CSCI 3412 & MATH 3191 or 3195

Spring 2024 BSCY Tech Electives

CS 4915 Defensive Cyber Operations will teach students advanced technical skills for defensive cyber operations. The content includes advanced tactics, techniques, and procedures with hands-on defensive cyber operation experiments and research components. The course equips students with key technical skills for conducting real-world defensive cyber operations. This course is offered through UCCS as a remote/hybrid course.

For more details or questions, contact Dr. Jafarian.. For enrollment, please contact Christy Ridd.

Special Topics Descriptions

CSCI 4800 - Shader and GPU for AI applications

Graphics Processing Unit (GPU) programming is a cutting-edge field that combines graphics and computation to create stunning visuals and powerful applications. This course will introduce how to use GPU programming for various applications, from graphics and visualization to AI and machine learning. Students will learn the basics of graphics shaders, which are programs that run on the GPU and control how objects are rendered on the screen. Another main topic will be OpenCL and CUDA, which are frameworks that allow you to write general purpose programs that run on the GPU and leverage its parallel processing power. Emphasis will be on how GPUs are used for AI and machine learning tasks.
Pre-requisites: CSCI 3412