

# COMPUTER SCIENCE (CSCI)

---

## **CSCI 1110 Introduction to Computer Science – 4 credits**

This course is an introduction to the perspectives and methods of computer science. Students learn to develop algorithms, which are step-by-step procedures for accomplishing a task. Students translate these algorithms into a programming language (Python), utilizing common programming structures such as variables, functions, loops, control flow, basic data structures, classes, and a brief introduction to object-oriented programming. Offered in the College for Women.

## **CSCI 1120 Algorithms and Computer Programming II with Lab – 4 credits**

This course is a continuation of Algorithms and Computer Programming I. Special emphasis will be placed on current software practices, such as object-oriented programming, as well as on the building blocks of software design: abstraction, decomposition, and encapsulation. Programming projects will include graphics, games, simulations, and mobile applications.

**Prerequisite:** A grade of C or better in CSCI 1110. NOTE: If you transferred CSCI 1110 to St. Catherine University and the course did not include Java or object-oriented programming techniques, you must learn them before enrolling in CSCI 1120.

## **CSCI 2200 Introduction to Cyber Security – 4 credits**

This course provides a foundational understanding of cybersecurity concepts, principles, and practices. Students will learn about common cyber threats, attack vectors, defense mechanisms, and the importance of cybersecurity in protecting digital assets. Through hands-on exercises, case studies, and real-world examples, students will gain practical skills to identify, mitigate, and respond to cybersecurity threats.

## **CSCI 4954 Independent Study – 4 credits**

Independent study offers students the opportunity for specialized research not covered in a course offering, by the action project or thesis. Students work with a faculty advisor to develop a learning contract, which specifies the content and objectives of the study as well as the requirements and procedures for evaluation. The amount of credit earned for the study also is included in the learning contract.

**Prerequisites:** Permission of the faculty and department chair or program director.