

COMPUTER SCIENCE (CPSC)

QUICK FACTS: CPSC COURSES

- **Instructional School:** Science, Technology, and Math
- **Department:** Computer Science

CPSC 111 Introduction to Python Programming

(3 Credits, Fall/Spring/Summer)

Essentials of programming using the Python programming language with a focus on selection statements, loops, arrays, functions, classes, and objects. Includes construction, compilation, and debugging of complete programs that solve simple problems. *(2 lecture hours, 2 lab hours, 3 credits)*

CPSC 121 Computer Science I

(4 Credits, Fall/Spring)

This introductory course in computer science addresses object-oriented problem solving and programming. Topics covered include software development processes, data, expressions, conditionals, loops, arrays, lists, classes, interfaces, graphical user interfaces, and Unified Modeling Languages (UML) Diagrams. PREREQ: MATH 147 (or MATH 143 and MATH 144) with a grade of C or higher, or satisfactory placement score. *(3 lecture hours, 3 lab hours, 4 credits)*

CPSC 153 Navigating Computer Systems

(1 Credit, Fall/Spring)

This course introduces students to operating systems including how to manage and use a virtual machine, install and manage software packages, and work in a command-line environment. Through the command line, students will learn to manipulate and navigate the file system, control security and file permissions, and conduct tasks through shell scripting. *(1 lecture hours, 0 lab hours, 1 credits)*

CPSC 155 Introduction to Version Control

(1 Credit, Fall/Spring)

This course introduces students to the principles and practices of modern, distributed, software version control. The topics will include a history of the subject along with practical usage of working with a repository to commit changes, branch, merge, and issue pull requests, along with more advanced topics and usage. PRE/COREQ: CPSC 153. *(1 lecture hours, 0 lab hours, 1 credits)*

CPSC 199 Computer Science Special Topics

(1-5 Credits, Varies)

This course is designed to permit the offering of special topics appropriate to a student's program. Regular or frequently recurring topics are not offered under this title. The course may be repeated as new topics are presented. *(2 lecture hours, 2 lab hours, 1 credits)*

CPSC 208 Introduction to Full Stack Web Development

(3 Credits, Fall/Spring)

This course teaches students the software development life cycle (SDLC) through the introduction and development of a complete web application from browser to database utilizing the agile software development process. Topics will include HTML/CSS/JavaScript, Node.js, data modeling, database APIs, SQL, Agile Scrum, and eXtreme Programming (XP) principles. Students will also experience working together in teams on large web development projects while presenting their project and progress to the class. PREREQ: CPSC 121 and CPSC 155. *(2 lecture hours, 2 lab hours, 3 credits)*

CPSC 221 Computer Science II

(3 Credits, Fall/Spring)

This advanced course in computer science addresses object-oriented design including inheritance, polymorphism, and dynamic binding. Additional topics include graphical user interfaces; recursion; introduction to program correctness and analysis of time and space requirements; basic data structures including lists, collections, stacks, and queues; and basic searching and sorting algorithms. PREREQ: CPSC 121 with a grade of C or higher, CPSC 155, and MATH 170. *(2 lecture hours, 2 lab hours, 3 credits)*

CPSC 296 Computer Science Independent Study

(1-10 Credits, Varies)

This is a term-long project. Each credit hour is equivalent to 45 hours of work on a project. Students should make arrangements with the instructor in their field of interest. Before enrolling for independent study, a student must obtain approval of the department chair and dean, acting on the recommendation of the instructor who will be supervising the independent study. An Independent Study Registration Form must be completed and turned into a One Stop Student Services location before a student may register for this course. PREREQ: PERM/INST and submission of a completed Independent Study Registration Form. *(0 lecture hours, 0 lab hours, 1 credits)*

Refer to [How to Read Course Descriptions](#) for an explanation of elements found in the course descriptions above.