
Spring 2027

Registration Opens: November 09, 2026

Course Preview Week: January 19 - January 25, 2027

Semester Dates: January 26 - May 07, 2027

APC 300 - Programming I

**3
Credits**

This course provides a solid foundation in computing by focusing on problem-solving and fundamental programming skills. You will gain skills in computational thinking and learn to implement solutions using a contemporary programming language. This course will emphasize good programming practices such as writing well-tested comprehensible code that is developed incrementally and iteratively. The course will cover essential topics that will include variables, data types and expressions, control structures (conditionals, loops), basic data structures, functions and modular programming, handling input/output, and testing and debugging.

[APC 300 syllabus](#)

APC 310 - Math for Computer Science

**3
Credits**

This course covers topics that serve as the foundation for general computer science practice including logic, sets, functions, mathematical reasoning, counting, probability, relations, graphs, trees, Boolean algebra, and algorithms.

[APC 310 Syllabus](#)

APC 340 - Legal and Ethical Responsibilities of the IT Professional

**3
Credits**

This course explores a range of legal, regulatory, ethical and compliance issues associated with developing software and using information systems in an organization. Topics include the ethical and legal issues associated with data privacy and intellectual property, compliance with regulatory requirements such as Sarbanes Oxley, and other related contemporary subjects.

[APC 340 Syllabus](#)

APC 350 - Programming II

**3
Credits**

This course offers continuation of fundamental computer concepts and Programming. It provides hands-on coverage of Methods, File IO, Arrays and their applications, Abstract Data Types, Classes, simple GUI application, and introduction to inheritance and composition.

[APC 350 Syllabus](#)

Prerequisites

- APC 300 - Programming I
- APC 310 - Math for Computer Science



APC 360 - Database Management I

**3
Credits**

This course covers design and implementation of relational database management systems to support computer-based information systems. Topics include: data modeling techniques such as entity-relationship modeling, extended entity-relationship modeling, database normalization techniques, and basic and advanced features of database query language SQL.

[APC 360 Syllabus](#)

Prerequisites

- APC 300 - Programming I

APC 370 - Systems Analysis and Design

**3
Credits**

This course explores the first five phases of the Systems Development Life Cycle including scope definition, problem analysis, requirements analysis, logical design and decision analysis with the goal of determining an effective system solution. Topics covered include use case development, gap analysis, financial analysis of IT investments, and feasibility analysis.

[APC 370 Syllabus](#)

Prerequisites

- APC 300 - Programming I
- APC 320 - Introduction to Business
- APC 330 - Technical and Professional Communication

APC 380 - Project Management Techniques

**3
Credits**

This course is an introduction to project management tools and techniques including project selection and life cycle, stakeholder management, scope management, budget control, scheduling, quality management, risk identification, and procurement management.

[APC 380 Syllabus](#)

Prerequisites

- APC 300 - Programming I
- APC 320 - Introduction to Business
- APC 330 - Technical and Professional Communication

APC 425 - Machine Learning

**3
Credits**

Introduction to machine learning and methods, including neural networks and deep learning. Incorporates underlying concepts, hands-on experience and machine learning tools. Topics include generative AI and large language models, supervised, unsupervised, and reinforcement learning.

[APC 425 Syllabus](#)

Prerequisites

- APC 350 - Programming II



APC 430 - Applied Data Structures and Algorithms

**3
Credits**

This course covers fundamental concepts and the application of data structures and algorithms. Topics may include abstract data type, dynamic array, iterators, linked list, generics, stacks, queues, binary search tree, collections, maps, hashing, graphs, and sorting. It introduces a variety of application scenarios including graphics, web programming and user interfaces.

[APC 430 Syllabus](#)

Prerequisites

- APC 390 - Object Oriented Programming

APC 440 - Web Development

**3
Credits**

This course teaches students how to create advanced and interactive websites using technologies like HTML, CSS, JavaScript, Bootstrap, Python, Django, web services, and database integration. The class also introduces principles of good user interaction design to the creation of effective web pages.

[APC 440 Syllabus](#)

Prerequisites

- APC 360 - Database Management I

APC 460 - Software Engineering Practices

**3
Credits**

This course covers basic software development methodologies and tools. Methodologies include the waterfall, iterative, and agile approaches. Tools include integrated development environments (IDEs), unified modeling language (UML), and testing frameworks. Other topics include requirement analysis, object-oriented analysis, test-driven development, and design patterns. Students will work on a team software project.

[APC 460 Syllabus](#)

Prerequisites

- APC 370 - Systems Analysis and Design
- APC 390 - Object Oriented Programming

APC 495 - Capstone Project

**3
Credits**

The purpose of this course is for students to complete the project that was approved in APC 490. This course covers development, management and delivery of an applied computer science project for a client, including communication of project requirements and status to a non-technical audience.

For inspiration and ideas, explore [past capstone projects](#).

[APC 495 Syllabus](#)

Prerequisites

- APC 490 - Capstone Project Preparation