Spring 2026

Registration Opens: November 10, 2025
Course Preview Week: January 20 - January 26, 2026
Semester Dates: January 27 - May 08, 2026

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 480 – Computer Security II

3 Credits

This course covers topics spanning communication and network security, security assessment and testing, software development security, and asset security. Specific topics include operating system security, network security (e.g. firewalls, tunneling, intrusion detection, and wireless networking), browser security, and application security (e.g. database security, email security, payment system security, and digital-rights management).

APC 480 Syllabus

Prerequisites

• APC 360 – Database Management I
• APC 400 – Applied Communication Networks
• APC 420 – Computer Security I
• APC 450 – Operating Systems Theory and Practice

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