COLLEGE OF
ENGINEERING & INFORMATION SCIENCES

Bachelor's Degree Program

COMPUTER INFORMATION SYSTEMS

Specialization: **Software Programming**

ABOUT THIS DEGREE PROGRAM

If you love technology, then you're one of the lucky ones: you can build the skills you need to do what you love in a variety of industries. And the Computer Information Systems program at DeVry University is a great place to start.

In our Computer Information Systems program, you can learn programming languages like C++, C# and Java, giving you the hands-on experience and skills for a career in the technology field. You can learn to write programs, update and expand existing programs, debug programs, and create and test code in an industry standard integrated development environment. Best of all, you can learn by doing: developing, coding, implementing, and testing software and computer programs for a variety of real-world applications.

DeVry's Computer Information Systems degree program allows you to select a specialization that will focus your education on your specific personal and professional goals, including:

- Computer Forensics
- Cyber Security Programming
- Database Management
- Information Systems Security
- Software Programming
- Web Development and Administration
- Web Game Programming

Through our TechPath approach, we've put technology at the core of our programs in business, tech and health – including this program. Every TechPath class you take revolves around a unique learning rubric developed at DeVry. We call it People-Process-Data-Devices or P2D2. You'll gain real skills in collaboration, be able to adapt to new structures, and be comfortable working with data and a wide spectrum of tech-forward tools. P2D2 is a key component of what makes TechPath a smart, new way of getting the knowledge you need to be ready to hit the ground running in the way successful companies work today.

GENERAL EDUCATION COURSEWORK

Communication Skills

ENGL112[1]	Composition
ENGL135	Advanced Composition
ENGL216	Technical Writing
SPCH275	Public Speaking

Humanities

HUMN303	Introduction to the Humanities
ETHC445	Principles of Ethics
LAS432	Technology, Society, and Culture

Social Sciences

ECON312	Principles of Economics
SOCS185	Culture and Society
SOCS325[2]	Environmental Sociology

Mathematics and Natural Sciences

MATH114	Algebra for College Students
MATH221	Statistics for Decision-Making
SCI228[3]	Nutrition, Health and Wellness with Lab

Personal and Professional Development

CARD405	Career Development
COLL148	Critical Thinking and Problem-Solving

Business

BUSN115	Introduction to Business and Technology
MGMT404	Project Management

[1] Students enrolled at a New Jersey location take ENGL108 in lieu of this course.

[2] Students enrolled at a Nevada location must take POLI332 in lieu of this requirement.

[3] Students enrolled at a New Jersey location may take SCI200 to fulfill this requirement.

CORE-DEGREE COURSEWORK

Computer Systems Concepts

CEIS100	Introduction to Engineering Technology and Information Sciences
CIS115	Logic and Design
CIS206	Architecture and Operating Systems with Lab
SEC280	Principles of Information Systems Security

Networking – one of:

NETW202	Introduction to Networking with Lab
NETW203	Cisco Networking Academy – Introduction to Networking with Lab

Programming and Database Fundamentals

CIS170C	Programming with Lab
CIS247C	Object-Oriented Programming with Lab
CIS336	Introduction to Database with Lab

Computer Information Systems Foundations

CEIS210	Introduction to Cryptographic Methods
NETW240	Network Operating Systems – UNIX, with Lab
SEC311	Ethical Hacking
SEC321	Network Security Testing with

One of:

NETW204	Introduction to Routing with Lab
NETW205	Cisco Networking Academy – Introduction to Routing with Lab

One of:

NETW206	Introduction to Switching with Lab
NETW207	Cisco Networking Academy – Introduction to Switching with Lab

Senior Project

CIS474	Computer Information Systems Senior Project I
CIS477	Computer Information Systems Senior Project II

Programs, course requirements and availability vary by location. Some courses may be available online only. All students enrolled in site-based programs will be required to take some coursework online and, for some programs and locations, a substantial portion of the program may be required to be completed online. DeVry's academic catalog, available via devry.edu/catalogs, contains the most current and detailed program information, including admission, progression and graduation requirements. Information contained herein is effective as of date of publishing.

Courses in blue are part of the DeVry Tech Path

DeVry University

Bachelor's Degree Program | Computer Information Systems

SPECIALIZATION: **SOFTWARE PROGRAMMING**

COLLEGE OF
ENGINEERING & INFORMATION SCIENCES

ABOUT THIS SPECIALIZATION

Code is the new language of business. It's hard to think of an industry that doesn't have a computer information system at its core. That's why a degree in Computer Information Systems with a specialization in Software Programming can open the door to a wide variety of career fields, such as software development, in a broad range of industries.

In the Software Programming specialization, you'll dive deeper into the world of code. You can learn how to code and test programs; the methods used to build software; and the types of programming languages available for various applications. You'll practice implementation in a team environment and learn how to code mobile applications. All so that you can develop the skills you need to help organizations build and maintain software products that can help them overcome challenges, capture opportunities, and exceed their goals.

With a specialization in Software Programming from DeVry University, you can:

- Master core programming languages like C++ and Java
- Explore building mobile applications for Android
- Build a solid foundation in structured, event-driven, object-oriented programming
- Develop general business competencies such as written and oral communication, critical thinking, problem-solving, and team skills through technical and non-technical courses

Graduates of DeVry University's Computer Information Systems program with a specialization in Software Programming may consider careers including, but not limited to, the following:

- Computer Programmer
- Software Developer
- Software Consultant
- Programmer Analyst

KNOWLEDGE AND SKILLS

SOFTWARE DEVELOPMENT — Study the tools needed to design, build, and test software, while learning quality assurance techniques, assurance techniques, process improvement, maintenance, and ethics. Learn to implement software, manage projects, and meet approved specifications.

DATA STRUCTURES AND ALGORITHMS — Become familiar with the types of structures in which data is stored, algorithms used to manipulate data, and basic techniques for modeling.

MOBILE DEVICE PROGRAMMING — Understand and apply mobile operating systems programming. Explore the Android and the iOS operating systems with the goal of creating an application. Study menu systems, user interfaces, 2D graphics, and audio.

PRODUCT, PROJECT, AND PEOPLE MANAGEMENT — Learn basic concepts of project management in an organization and explore both technical and human aspects of projects.

PROGRAMMING LANGUAGES AND ADVANCED TECHNIQUES — Master programming language concepts and design principles of programming paradigms (imperative, functional, object-oriented and logical). Gain an understanding of the history of programming languages, data types supported, control structures, and run-time management of dynamic structures.

NETWORKING, ROUTING, AND SWITCHING — Understand the underlying technology of local area networks (LANs), wide area networks (WANs), and the Internet including networking media, the Open Systems Interconnection (OSI) model, transmission control protocol/Internet protocol (TCP/IP), routing and switching, and small network configuration and troubleshooting, including preparing and testing cabling and familiarity with protocol analyzers.

LOGIC AND DESIGN — Gain knowledge of the basics of programming logic, as well as algorithm design and development, including constants, variables, expressions, arrays, files and control structures for sequential, iterative, and decision processing. Design and document program specifications using tools such as flowcharts, structure charts and pseudocode.

COMPLEX PROBLEM SOLVING — Identify complex problems and review related information to develop and evaluate options and implement solutions.

PROGRAM-SPECIFIC COURSEWORK

ALL OF

CEIS200	Software Engineering I
CEIS295	Data Structures and Algorithms
CEIS320	Introduction to Mobile Device Programming
CEIS390	Product, Project, and People Management
CEIS400	Software Engineering II
CEIS420	Programming Languages and Advanced Techniques

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For comprehensive consumer information, visit devry.edu/studentconsumerinfo. Important information about the education debt, earnings and completion rates of students who attended this program can be found at devry.edu/bcis-ge. For additional program information, visit devry.edu/bcis.

In New York, DeVry University operates as DeVry College of New York.

DeVry University

Visit DeVry.edu or call 888.DEVRY.04