



Bachelor's Degree Program

COMPUTER INFORMATION SYSTEMS

Specialization: **Cyber Security 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

ENGL112¹	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
SOCS325²	Environmental Sociology

Mathematics and Natural Sciences

MATH114	Algebra for College Students
MATH221	Statistics for Decision-Making
SCI228³	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

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

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

³Students 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
CISI15	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

CISI70C	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



SPECIALIZATION: CYBER SECURITY PROGRAMMING

ABOUT THIS SPECIALIZATION

DeVry University's bachelor's degree program in Computer Information Systems can provide you with a solid foundation in technical software and programming skills. Our specialization in Cyber Security Programming can prepare you to design and implement cyber security solutions to business problems.

DeVry University's Cyber Security Programming specialization can put you on the front lines of this security battle: fighting cyber-crime, protecting data from cyber thieves, preventing computer hacks and defending against cyber-attacks. By being immersed in virtual cyber-attack simulations, you can develop hands-on skills to design an organization's security systems procedures, standards, protocols, and policies, as well as ensure that operational security is in compliance with standards, policies and laws.

More than half of all cyber security positions require at least one professional certification such as the Systems Security Certified Practitioner (SSCP) certification.¹ The SSCP designation certifies that you have technical skills and practical security knowledge in hands-on operational IT roles.² As a student enrolled in this specialization, you can take advantage of our Certification Prep courses offered at no tuition charge. Better still, eligible students who register for and complete the exams may be reimbursed for one exam sitting.³

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

- Computer Programmer
- Computer Security Specialist
- Cyber Security Specialist
- Data Security Administrator
- Forensics Expert
- Information Security Analyst
- Information Security Manager
- Software Developer

Employment in some occupations may require years of relevant experience.

¹Study by Burning Glass Technologies, "Job Market Intelligence: Report on the Growth of Cybersecurity Jobs," 2014, pg. 8

² <https://www.isc2.org/sscp/default.aspx>

³ The SSCP designation requires 1 year of work experience. Without the work experience, those that pass the exam earn the Associate of (ISC)2.

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 is accredited by The Higher Learning Commission (HLC), www.hlcommission.org. DeVry is certified to operate by the State Council of Higher Education for Virginia, Arlington Campus – 2450 Crystal Dr., Arlington, VA 22202. DeVry University is authorized for operation by the THEC, www.tn.gov/the Nashville Campus - 3343 Perimeter Hill Dr., Nashville, TN 37211. To report unresolved complaints to the Illinois Board of Higher Education, visit their webpage at <http://complaints.ibhe.org/> or by mail to the Illinois Board of Higher Education, 1 N. Old State Capitol Plaza, Suite 333, Springfield, IL 62701-1377. Program availability varies by location. ©2016 DeVry Educational Development Corp. All rights reserved. Version 08/14/17

KNOWLEDGE AND SKILLS

INFORMATION SYSTEMS SECURITY PLANNING AND AUDIT — Study the kind of risk factor analysis that must be performed in order to design a flexible and comprehensive security plan.

DATA PRIVACY AND SECURITY — Explore the legal, ethical and security issues involving data and information assets that organizations must address to ensure operational continuity, as well as compliance with standards, policies and laws.

WEB SECURITY — Examine issues involved in protecting web-based applications from external threats while safeguarding customer privacy and accessibility.

INFORMATION SECURITY AND MOBILE DEVICES — Focus on protecting information on mobile devices, types of mobile devices, risks, encryption, information at rest and in motion, attack scenarios, and defense-in-depth controls.

ADVANCED NETWORK SECURITY — Develop more advanced skills in identifying network vulnerabilities, wireless vulnerabilities, conducting risk assessments, responding to intrusions, and providing for business continuity and disaster recovery.

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, as well as 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

Cyber Security Programming

- NETW411** Information Security and Mobile Devices
- SEC360** Data Privacy and Security
- SEC370** Web Security
- SEC440** Information Systems Security Planning and Audit
- CERT402** Systems Security Certified Practitioner Certification Preparation
This optional certification exam prep course may be taken in addition to the courses above.

One of:

- SEC450** Advanced Network Security with Lab
- SEC453** Cisco Networking Academy – Advanced Network Security with Lab

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