

COMPUTER INFORMATION SYSTEMS

Specialization: Software Programming



ABOUT THIS DEGREE PROGRAM

TECH CORE A FOUNDATION IN TECHNOLOGY

This program is anchored with Tech Core, curriculum designed to help you build a foundation of interdisciplinary skills you'll need for today's Internet of Things (IoT) economy. You'll learn relevant skills in operating systems, programming, hardware, connectivity and security – giving you a hands-on foundation in engineering technology, information technology and software and information systems.

A PROGRAM TO FUEL YOUR FUTURE

Learn protocols and techniques necessary to program, document, test and debug applications and software packages. You'll learn to understand the process of how software is conceived, specified and designed for an end user.

IS THIS PROGRAM FOR YOU?

Want to pursue a career in computer information systems and interested in the development of code and business programs? Then this program may be the right fit for you.

CAREER OPPORTUNITIES

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

- Computer Systems Analysts
- Computer Programmer
- Front-end and Back-end Developer
- Software Consultant
- Software Developer

WHAT YOU'LL LEARN

ESSENTIALS

- Communicate methods and findings
- Collaborate in dynamic work environments
- Solve complex problems
- Analyze numerical data
- Apply appropriate technologies

TECH CORE

- Produce, secure, operate and troubleshoot small enterprise networks
- Network, secure and deploy digital devices and sensors into the IoT ecosystem
- Solve technical problems using an algorithmic approach and basic programming and coding methods
- Install and configure operating systems using command-line interface (CLI)

PROGRAM

- Use advanced programming techniques
- Develop applications
- Understand network types and designs
- Deploy cryptographic and hacking methodologies

SPECIALIZED

- Retrieve, organize and present data utilizing algorithms
- Integrate software engineering practices
- Design applications for various platforms
- Deploy advanced programming techniques

QUICK FACTS

124
CREDIT HOURS
minimum credit hours required for graduation¹

32%
GROWTH
nationally from 2018-2028 for Employment of Information Security Analysts²

2 + 8
YEARS MONTHS
minimum length to graduation³

**TWO
IN
ONE**

2-IN-1

Earn an extra credential with our unique 2-in-1 design. All courses in our Information Technology & Networking Associate degree are embedded within this program. So you can earn an associate degree on the way to your bachelor's.

IoT KIT

PORTABLE IoT KIT

You can simulate the Internet of Things (IoT) experience wherever you are. With our portable IoT Kit, you'll get hands-on experience in how IoT technologies work in the real world. Your kit will include digital devices, sensors and other tools you will use to build relevant IoT systems.

UP TO \$300

CERTIFICATION EXAM REIMBURSEMENT

We reimburse qualified students up to \$300 for the cost of one industry certification exam attempt across a wide range of fields.

¹ 127 for students enrolled at a Pennsylvania location

² <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>. Data reflects a national projected percentage change in employment from 2018-2028 and may not reflect local economic conditions.

³ Not including breaks. Assumes year-round, full-time enrollment. Additional program information may be found at <https://www.devry.edu/degree-programs.html>.

ESSENTIALS

47

CREDIT HOURS

COMMUNICATION SKILLS

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

HUMANITIES²

ETHC232	Ethical and Legal Issues in the Professions
LAS432	Technology, Society, and Culture

SOCIAL SCIENCES

ECON312	Principles of Economics
SOCS185	Culture and Society
SOCS325 ³	Environmental Sociology

MATHEMATICS AND NATURAL SCIENCES

MATH114	Algebra for College Students
MATH221	Statistics for Decision-Making
PHYS204	Applied Physics with Lab

PERSONAL AND PROFESSIONAL DEVELOPMENT

CARD405	Career Development
COLL148	Critical Thinking and Problem-Solving

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

²Students enrolled at a Pennsylvania location must take HUMN451 as part of this requirement.

³Students enrolled at a Nevada location must take POLI332 in lieu of this requirement.

TECH CORE

21

CREDIT HOURS

TECH CORE

CEIS101	Introduction to Technology and Information Systems
CEIS106	Introduction to Operating Systems
CEIS110	Introduction to Programming
CEIS114	Introduction to Digital Devices
NETW190	Fundamentals of Information Technology and Networking I
NETW200	Fundamentals of Information Technology and Networking II
SEC285	Fundamentals of Information Security

PROGRAM

41

CREDIT HOURS

INFORMATION SYSTEMS AND PROGRAMMING

CEIS236	Database Systems and Programming Fundamentals
CIS170C	Programming with Lab
CIS247C	Object-Oriented Programming with Lab

APPLICATION DEVELOPMENT

CIS355A	Business Application Programming with Lab
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NETWORK SYSTEMS ADMINISTRATION

NETW260	Intermediate Information Technology and Networking I
NETW270	Intermediate Information Technology and Networking II

INFORMATION TECHNOLOGY AND NETWORKING

CEIS210	Introduction to Cryptographic Methods
CEIS312	Introduction to Artificial Intelligence and Machine Learning
SEC311	Ethical Hacking
SEC321	Network Security Testing with Lab

SENIOR PROJECT

CEIS392	Product, Project, and People Management
CEIS494	Senior Project I
CEIS496	Senior Project II

TECHNOLOGY CAREER PREPARATION

CEIS299	Careers and Technology
CEIS499	Preparation for the Profession

SPECIALIZED

15

CREDIT HOURS

SOFTWARE PROGRAMMING

CEIS200	Software Engineering I
CEIS295	Data Structures and Algorithms
CEIS320	Introduction to Mobile Device Programming
CEIS400	Software Engineering II
CEIS420	Programming Languages and Advanced Techniques

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