

# SOFTWARE DEVELOPMENT

Specialization: Software Design and 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

Develop the needed skills to build and maintain software products created to customer design specifications. Learn how software packages are tested, the methods used to build software and the types of programming languages available for various applications.

### IS THIS PROGRAM FOR YOU?

Ready to dive deep into the world of software development and learn about the design and creation of new applications and software packages? Then this program may be the right fit for you.

## CAREER OPPORTUNITIES

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

- Scientific Software Programmer
- Software Application Developer
- Software Developer and Programmer
- Software Programmer and Analyst
- Software Systems Developer
- Mobile App Developer and Programmer

## 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

- Design web distributed systems
- Develop applications
- Analyze and design software systems
- Product life cycle management

### SPECIALIZED

- Design and develop applications and algorithms
- Utilize advanced strategies for software development
- Program and secure mobile devices
- Utilize advance programming techniques for app development

## QUICK FACTS

**120**  
CREDIT HOURS  
minimum credit hours required for graduation

**22%**  
GROWTH  
nationally from 2019-2029 for Employment of Software Developers<sup>1</sup>

**2 + 8**  
YEARS MONTHS  
minimum length to graduation<sup>2</sup>

**THREE  
IN  
ONE**

### 3-IN-1

Earn two extra credentials with our unique 3-in-1 design. All courses in our Programming Essentials certificate and Information Technology & Networking associate degree are embedded within this program. So you can earn a certificate and an associate degree on the way to your bachelor's.

**IoT  
PROJECTS**

### WORK WITH IOT TECHNOLOGIES & SYSTEMS

Immerse yourself in the Internet of Things (IoT) world and obtain hands-on experience with IoT, cloud, software and security technologies and 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.

**DIVERSITY,  
EQUITY &  
INCLUSION**

### BE AN ACTIVE PART OF AN INCLUSIVE FUTURE

Customize your curriculum by choosing Diversity, Equity and Inclusion (DE&I) course alternates for your Communication Skills, Humanities and Social Science courses. These options highlight relevant topics to help empower you to promote an inclusive workplace.

<sup>1</sup> <https://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm>. Growth projected on a national level. Local growth will vary by location.

<sup>2</sup> Not including breaks. Assumes year-round, full-time enrollment. Additional program information may be found at <https://www.devry.edu/online-programs.html>.

## Software Development | Software Design and Programming

### ESSENTIALS

51

CREDIT HOURS

#### COMMUNICATION SKILLS

ENGL112	Composition
ENGL135	Advanced Composition
ENGL216	Technical Writing

#### Select one

SPCH275	Public Speaking
SPCH276	Intercultural Communication ☼

#### HUMANITIES

LAS432	Technology, Society, and Culture ☼
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#### Select one

ETHC232	Ethical and Legal Issues in the Professions
ETHC334	Diversity, Equity and Inclusion in the Workplace ☼

#### SOCIAL SCIENCES

ECON312	Principles of Economics
SOCS185	Culture and Society ☼

#### Select one

SOCS325	Environmental Sociology
SOCS350	Cultural Diversity in the Professions ☼

#### MATHEMATICS AND NATURAL SCIENCES

MATH114	Algebra for College Students
MATH221	Statistics for Decision Making
MATH234	Discrete Math in Information Technology
PHYS204	Applied Physics with Lab

#### PERSONAL AND PROFESSIONAL DEVELOPMENT

CARD405	Career Development
COLL148	Critical Thinking and Problem Solving

☼ This icon indicates Diversity, Equity & Inclusion Courses

### 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
NETW191	Fundamentals of Information Technology and Networking
NETW211	Fundamentals of Cloud Computing
SEC285	Fundamentals of Information Security

### PROGRAM

37

CREDIT HOURS

#### INFORMATION SYSTEMS AND PROGRAMMING

CEIS150	Programming with Objects
CEIS209	Intermediate Programming
CEIS236	Database Systems and Programming Fundamentals
CIS355A	Business Application Programming with Lab

#### ANALYSIS AND DESIGN

BIAM110	Introduction to Business Analytics
CEIS310	Process Improvement with Machine Learning
CEIS312	Introduction to Artificial Intelligence

#### CAREER PREPARATION

CEIS299	Careers and Technology
CEIS499	Preparation for the Profession
MGMT404	Project Management
TECH460	Senior Project

### SPECIALIZED

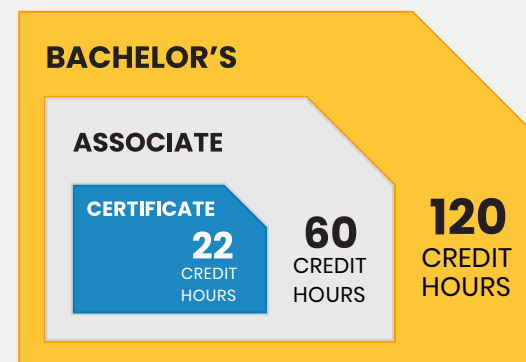
12

CREDIT HOURS

#### SOFTWARE DESIGN AND PROGRAMMING

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

#### Demonstrate Skills at Every Step



#### EMBEDDED PROGRAMS

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