

# Program Information

## Software Developer

2025/2026

|                                       |                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Program Overview</b>               | The Software Developer program equips students with the foundational knowledge and skills to pursue careers as Junior Full-Stack Software Developers. Through practical, hands-on projects, students develop competencies in both front-end and back-end software systems, emphasizing problem-solving, technical writing, and communication skills. |
| <b>Area of Study</b>                  | Information and Communication Technologies                                                                                                                                                                                                                                                                                                           |
| <b>Credential</b>                     | Diploma                                                                                                                                                                                                                                                                                                                                              |
| <b>Program Length</b>                 | 1 Year   Full time (12 months)<br><br>This program runs for 12 consecutive months, excluding student success weeks and holidays.                                                                                                                                                                                                                     |
| <b>Delivery</b>                       | Hybrid (online and in-classroom)<br><br>This hybrid-delivery program blends in-person and online learning. Around 70% is taught face-to-face in full-day classes, while 30% is online. You will experience lectures in person and virtually, plus independent activities.                                                                            |
| <b>Work-Integrated Learning</b>       | 7-week practicum                                                                                                                                                                                                                                                                                                                                     |
| <b>Open to International Students</b> | Yes                                                                                                                                                                                                                                                                                                                                                  |

|                 |         |
|-----------------|---------|
| <b>CIP Code</b> | 11.0201 |
|-----------------|---------|

## Career Outcomes

- Full-Stack Developer
- Back-End Developer
- Front-End Developer
- Software Developer
- Web Developer
- Web Designer
- UI/UX Designer
- Software Engineer
- Software Architect
- DevOps Engineer
- Data Analyst
- Mobile Developer

## All Courses

| Course Name                              | Description                                                                                                                                                                                                                                   | Hours    |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Introduction to Web Development (SD-100) | This course introduces students to fundamental web development concepts through hands-on projects. Students will build responsive websites and create a portfolio to showcase their work, developing essential coding skills for the program. | 66 hours |
| JavaScript Basics (SD-110)               | Students develop foundational JavaScript skills by solving programming problems and building interactive web applications. Projects include creating a digital version of Tic-Tac-Toe and the classic game 'Concentration.'                   | 76 hours |

|                                                |                                                                                                                                                                                                                           |          |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Object-Oriented JavaScript (SD-120)            | Building on JavaScript fundamentals, students explore object-oriented programming concepts, prototypes, and ES6 features. They apply these skills to develop an interactive arcade-style game and a budgeting app.        | 72 hours |
| Tools and Automation (SD-130)                  | Students learn to navigate the command line and use Git for source control. They also automate tasks by creating scripts and tools to improve development workflows.                                                      | 44 hours |
| Unit Testing in .NET (SD-125)                  | This course introduces students to unit testing principles in C#. They will explore testing frameworks and tools, learning best practices for writing and managing tests to ensure software quality.                      | 42 hours |
| Introduction to Third-Party APIs (SD-105)      | Students develop applications that integrate with external APIs, working with geolocation and transit data, as well as entertainment databases, to create dynamic and interactive web applications.                       | 35 hours |
| Technical Writing Skills (SD-160)              | Students develop writing skills essential for IT professionals, including technical documentation, workplace communication, and online collaboration tools used in the software industry.                                 | 42 hours |
| Communication and Presentation Skills (SD-170) | This course strengthens students' verbal communication, teamwork, and public speaking skills. Emphasis is placed on clear and professional interactions, cultural communication differences, and effective presentations. | 60 hours |

|                                                   |                                                                                                                                                                                                      |           |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Introduction to LINQ and ASP.NET MVC (SD-115)     | Students explore the Model-View-Controller (MVC) pattern and Language Integrated Query (LINQ) to build structured web applications with C#.                                                          | 33 hours  |
| Object-Oriented Programming Fundamentals (SD-300) | Students learn core object-oriented programming concepts in C#, including inheritance, polymorphism, encapsulation, and abstraction, to design maintainable and scalable software.                   | 40 hours  |
| Relational Database Design (SD-310)               | This course introduces students to database design and management, covering normalization, indexing, schema design, and entity-relationship modeling to ensure efficient data storage and retrieval. | 50 hours  |
| Advanced Database and ORM Concepts (SD-330)       | Students gain practical experience with advanced database interactions and Object-Relational Mapping (ORM) techniques, integrating databases seamlessly into applications.                           | 100 hours |
| Advanced Topics in C# (SD-340)                    | This course explores advanced C# programming concepts, including asynchronous programming, multithreading, and performance optimization.                                                             | 68 hours  |
| Algorithms and Data Structures (SD-290)           | Students analyze and implement algorithms and data structures in C#, focusing on efficiency, problem-solving, and performance optimization in software applications.                                 | 55 hours  |
| Introduction to Number Systems and Desktop        | Students explore number systems like binary and hexadecimal while learning the                                                                                                                       | 55 hours  |



|                                                   |                                                                                                                                                                                                |           |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Applications (SD-320)                             | fundamentals of developing desktop applications in C#.                                                                                                                                         |           |
| Software Engineering and Design Patterns (SD-350) | This course introduces students to widely used design patterns in .NET, teaching them how to build scalable and maintainable applications.                                                     | 50 hours  |
| Personal Brand and Career Management (SD-255)     | Students develop strategies for career readiness, focusing on professional branding, networking, and transitioning into the tech industry.                                                     | 20 hours  |
| Introduction to React (SD-260)                    | Students learn React.js fundamentals, building dynamic, stateful web applications using modern front-end development techniques.                                                               | 55 hours  |
| Software Developer Internship (SD-270)            | Eligible students gain hands-on industry experience in a real-world software development setting, applying their skills, learning workplace procedures, and building professional connections. | 245 hours |