

# LANSING COMMUNITY COLLEGE

## CURRICULUM GUIDE

Computer Programmer/Analyst  
Associate in Business Degree

Curriculum Code: 0113 (Effective Fall 2017 – Summer 2022)

Programmer/analysts plan, develop, test, and document computer programs at the request of a specific user, applying knowledge of programming, project management, testing, and quality assurance techniques and computer systems. They may evaluate user requests to determine feasibility, cost, and time required, as well as compatibility with current system and computer capabilities. In addition, they read manuals, periodicals, and technical reports to develop programs that meet user requirements and to remain current with developments and standards in the information technology industry. They formulate a plan outlining steps required to develop programs and convert project specifications into program source instructions which are entered into the computer system and tested. They may write documentation and the user manual. Students completing this curriculum may also be eligible for a Certificate of Completion for Computer Programmer/Analyst (0969), Certificate of Achievement for Computer Software Tester (1633), and a Certificate of Achievement for Mobile Application Developer (1712). **Not all courses in this program transfer to all colleges.** Students planning to transfer should see an academic advisor before enrolling in any course.

### PREREQUISITES

Students should see [Course Descriptions](#) for course prerequisite information. See [Academic Assessment and Placement Testing for Student Success](#) for skills assessment and advising information.

### INFORMATION

Contact the Computer Information Technologies Program, West Campus Building, Room M103, telephone number (517) 267-6406 (Website: [www.lcc.edu/cit/programming/](http://www.lcc.edu/cit/programming/)) or Academic Advising Department, Gannon Building – StarZone, telephone number (517) 483-1904.

### REQUIREMENTS

**TOTAL: 35 CREDITS**

| CODE     | TITLE                         | CREDIT HOURS |
|----------|-------------------------------|--------------|
| BUSN 118 | Introduction to Business      | 3            |
| CITD 120 | SQL Concepts                  | 2            |
| CITF 110 | Intro Computer Info Systems   | 3            |
| CITF 240 | IT Project Management         | 3            |
| CITF 260 | Systems Analysis and Design   | 4            |
| CITP 110 | Intro to Computer Programming | 4            |

|          |                               |   |
|----------|-------------------------------|---|
| CITP 130 | Intro to Mobile App Devel     | 3 |
| CITP 140 | Software Testing              | 3 |
| CITP 190 | Intro to Programming in JAVA  | 4 |
| CITW 150 | Internet Literacy             | 3 |
| CITW 160 | Web Site Dsgn & Development I | 3 |

**LIMITED CHOICE REQUIREMENTS**

**TOTAL: 30–36 CREDITS**

Complete the indicated number of credits from **EACH CHOICE** listed below.

**CHOICE 1: [General Education Core Areas](#)**

**16–22 Credits**

(Click the link above for information on how to fulfill these requirements. Core area proficiency exams, where appropriate, are available for each core area.)

|   |     |
|---|-----|
| Communication Core Area                     | 3–4 |
| Global Perspectives and Diversity Core Area | 3–4 |
| Mathematics Core Area                       | 3–5 |
| Science Core Area                           | 4–5 |
| Writing Core Area                           | 3–4 |

**CHOICE 2: Intro Programming (Choose one)**

**4 Credits**

|          |                             |   |
|----------|-----------------------------|---|
| CITP 150 | Intro to VB.NET Programming | 4 |
| CITP 180 | Intro to C#.NET Programming | 4 |

**CHOICE 3: Advanced Programming (Choose one)**

**4 Credits**

|          |                               |   |
|----------|-------------------------------|---|
| CITP 230 | Mobile App Devel for Android  | 4 |
| CITP 235 | Mobile App Devel for Apple    | 4 |
| CITP 250 | Advanced VB.NET Programming   | 4 |
| CITP 280 | Advanced C#.NET Programming   | 4 |
| CITP 290 | Adv JAVA Programming for Busn | 4 |

**CHOICE 4: Additional Computer Classes (See Note 1)**

**6 Credits**

|          |                                |       |
|----------|--------------------------------|-------|
| CITD 250 | Database Concepts              | 3     |
| CITF 140 | Information Technology Ethics  | 3     |
| CITN 120 | Networking Concepts            | 3     |
| CITP 220 | Game Design & Development      | 2     |
| CITP 229 | Special Topics in Programming  | .25–6 |
| CITP 240 | Advanced Software Testing      | 3     |
| CITP 295 | Programming Internship         | 3     |
| CITW 165 | Web Site Dsgn & Development II | 3     |
| CITW 180 | ASP.NET Web Development        | 4     |
| CITW 185 | PHP Web Development            | 4     |

**MINIMUM TOTAL**

**65**

**NOTES:**

1. Additional course(s) from “CHOICE 2” and/or “CHOICE 3” may be used for “CHOICE 4”.
2. For graduation from this program, a student must have earned a minimum 2.0 grade in each course with a CIT\_ prefix.

**SUGGESTED COURSE SEQUENCE**

Students should see course descriptions to find out when departments plan to offer courses. Students who for any reason are unable to follow the course sequence suggested below (for example, those who are part-time, have transferred in courses from another school, or have prerequisites to fulfill) should contact an academic advisor for help with adjustments.

| <b>I</b> | <b>II</b> | <b>III</b> | <b>IV</b> |
|----------|-----------|------------|-----------|
| BUSN 118 | CITD 120  | CITF 240   | CITF 260  |
| CITF 110 | CITP 130  | CITP 140   | Lim.Ch.1  |
| CITP 110 | CITW 160  | CITP 190   | Lim.Ch.1  |
| CITW 150 | Lim.Ch.1  | Lim.Ch.1   | Lim.Ch.3  |
| Lim.Ch.1 | Lim.Ch.2  | Lim.Ch.4   | Lim.Ch.4  |