

## About the Program

The Technical Certificate (T.C.) in Computer Programming Specialist is designed for developers who wish to specialize in software development technologies and languages.

Students will choose, via elective courses, to focus one of the following tracks: C Languages, Java, or Visual Basic.NET.

This program requires a **minimum of 28 credit hours**. Total program hours may vary based on the student's individual academic degree plan. This program **is not eligible** for financial aid.

## Program Requirements

Students must fulfill all requirements outlined in the college catalog.

## Important for You to Know

**This academic roadmap does not include** developmental education courses in reading, writing, and/or mathematics or other prerequisite courses that you may be required to take. In addition, it does not include technical certificate graduation requirements.

Students in this certificate program **are not required** to complete math courses unless they are listed as part of the certificate program. This certificate articulates directly into the Computer Information Technology (2153) (A.S.) degree, which includes a **Mathematical Thinking in Context math pathway**. This pathway is intended for students in the broadest range of programs of study. In this pathway, students will explore a variety of mathematical concepts utilizing multiple ways of thinking to formulate and solve problems in context.

## Additional Information

- ⇒ **Program Information**, including advisor contact details: <https://www.fscj.edu/6956>.
- ⇒ **Technical Certificate Information**, including graduation requirements: <https://catalog.fscj.edu/academics/degree-certificate-programs/technical-certificates>.
- ⇒ **\*Program Requirements**: <https://catalog.fscj.edu/programs/6956>.
- ⇒ **Math Pathways Information**: <https://catalog.fscj.edu/academics/math-pathways>.

## Sample Roadmap: C Languages Track

This sample roadmap shows one possible pathway to program completion and may not be appropriate for all students.

Prior to enrolling in classes, please **meet with an advisor** for specific guidance about your individual academic plan. Some courses are offered only once per year; advising is critical for course progression.

*\*See the **program requirements** for professional elective course options.*

### Term 1

Course	Credits
COP 1000C - Introduction to Computer Programming	3
CGS 1100C - Microcomputer Applications for Business and Economics	3
MAN 2582 - Introduction to Project Management	3

### Term 2

Course	Credits
CTS 2437C - SQL Server I – Fundamentals	3-4
COP 2822C - Web Technologies	4
CIS 2321 - Information Systems	3
Professional Elective course	3

### Term 3

Course	Credits
Professional Elective course	3
Professional Elective course	3

### Sample Roadmap: Java Track

This sample roadmap shows one possible pathway to program completion and may not be appropriate for all students.

Prior to enrolling in classes, students are strongly encouraged to **meet with an advisor** to develop an individual academic plan.

This certificate articulates directly into the Computer Information Technology (2153) (A.S.) degree, which requires the **Mathematical Thinking in Context math pathway**. This pathway is intended for students in the broadest range of programs of study. In this pathway, students will explore a variety of mathematical concepts utilizing multiple ways of thinking to formulate and solve problems in context.

#### Term 1

Course	Credits
COP 1000C - Introduction to Computer Programming	3
CGS 1100C - Microcomputer Applications for Business and Economics	3
MAN 2582 - Introduction to Project Management	3

#### Term 2

Course	Credits
CTS 2437C - SQL Server I – Fundamentals or CTS 2440 - Oracle SQL and PL/SQL	3-4
<i>Professional Elective course:</i> COP 2551C - Introduction to Object Oriented Programming with Java or COP 2800C - Java 1	3

#### Term 3

Course	Credits
COP 2822C - Web Technologies	3-4
<i>Professional Elective course:</i> COP 2805C - Advanced Java Programming	3

#### Term 4

Course	Credits
CIS 2321 - Information Systems	3
<i>Professional Elective course:</i> COP 2806C - Developing Enterprise Applications Using Java EE	3

### Sample Roadmap: Visual Basic.NET Track

This sample roadmap shows one possible pathway to program completion and may not be appropriate for all students.

Prior to enrolling in classes, students are strongly encouraged to **meet with an advisor** to develop an individual academic plan

This certificate articulates directly into the Computer Information Technology (2153) (A.S.) degree, which requires the **Mathematical Thinking in Context math pathway**. This pathway is intended for students in the broadest range of programs of study. In this pathway, students will explore a variety of mathematical concepts utilizing multiple ways of thinking to formulate and solve problems in context.

#### Term 1

Course	Credits
COP 1000C - Introduction to Computer Programming	3
CGS 1100C - Microcomputer Applications for Business and Economics	3
MAN 2582 - Introduction to Project Management	3

#### Term 2

Course	Credits
CTS 2437C - SQL Server I – Fundamentals or CTS 2440 - Oracle SQL and PL/SQL	3-4
COP 2822C - Web Technologies	4
CIS 2321 - Information Systems	3
<i>Professional Elective course:</i> COP 2837C - Introduction to Programming with Visual Basic.NET	3

#### Term 3

Course	Credits
<i>Professional Elective course:</i> COP 2823C - ASP.NET Programming	3
<i>Professional Elective course:</i> COP 2842C - Internet Programming	4