

# COMPUTER STUDIES AND INFORMATION PROCESSING, COMPUTER PROGRAMMING - ASSOCIATE IN SCIENCE



## CPRD

This program may be completed at the Knight (Warwick) Campus but requires one or more courses be completed online.

The Computer Programming concentration prepares students to enter a modern programming environment. The program stresses problem definition and solution design using different programming languages in the development of applications.

**Note:** All students must obtain a grade of at least C in all computer course requirements and must maintain a 2.0 GPA. Many courses require prerequisites, corequisites and/or testing. See course descriptions for details (<https://catalog.ccri.edu/course-descriptions/>).

## Program Learning Outcomes

Upon completion of this program, a student will be able to:

1. Apply fundamental concepts of programming languages and software development to solve a diverse array of problems and recognize these concepts in different languages.
2. Communicate clearly, accurately, and succinctly through written and verbal means.
3. Work effectively with others to design, develop, evaluate, and present solutions to software engineering problems.
4. Analyze a problem, gather appropriate data, and use logic to solve and analyze results for relevance, accuracy, and consistency.
5. Apply the skills that are the focus of this program to business scenarios.

## Requirements

Code	Title	Hours
<b>General Education Requirements</b>		
COMM 1010	Communication Fundamentals <sup>^</sup> HUMN; Non-Written Communication; Social and Professional Responsibilities	3
ENGL 1010	Composition I (or ENGL 1010A) HUMN; Written Communication; Information Literacy	3
	General Education Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/">https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/</a> )	3
	General Education Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/">https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/</a> )	3
	Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> ) <sup>SSCI</sup>	3
	Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> ) <sup>SSCI</sup>	3
	Choose TWO of the following:	3-5

Mathematics Elective (<https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/>)<sup>1</sup>; MSCI

Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/</a> ) <sup>MSCI</sup>	
Subtotal	21-23
<b>Major Requirements</b>	
COMI 1150	Programming Concepts 3
COMI 1260	Introduction to SQL 3
COMI 1350	Data Analytics Programming 3
COMI 1750	Web Development 1 3
COMI 2520	Data Structures and Algorithms 3
COMI 2530	Introduction to Software Engineering <sup>^ 2</sup> 4
COMP 1200	Database Design & Management 3
Take six credit sequence of the following Programming Language Sequence courses:	6
COMI 1225	Programming in C#
& COMI 2225	and Advanced Programming in C#
COMI 1510	Java Programming
& COMI 2510	and Advanced Java Programming
Programming Language Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/</a> )	9
Choose ONE of the following:	3
Accounting Elective ( <a href="https://catalog.ccri.edu/course-descriptions/acct/">https://catalog.ccri.edu/course-descriptions/acct/</a> ) <sup>3</sup>	
Business Elective ( <a href="https://catalog.ccri.edu/course-descriptions/busn/">https://catalog.ccri.edu/course-descriptions/busn/</a> )	
Legal Studies Elective ( <a href="https://catalog.ccri.edu/course-descriptions/laws/">https://catalog.ccri.edu/course-descriptions/laws/</a> )	
Subtotal	40
<b>Total Hours</b>	<b>61-63</b>

<sup>1</sup> See table of Math Electives below.

<sup>2</sup> Computer Studies Department recommends Introduction to Software Engineering<sup>^</sup> (COMI 2530) in your final semester.

<sup>3</sup> See course descriptions. (<https://catalog.ccri.edu/course-descriptions/>)

<sup>^</sup> Work-based learning course

## Math Electives

Code	Title	Hours
MATH 1139	Mathematics for Liberal Arts Students (MATH 1139C)	3
MATH 1240	Statistical Analysis I (This course can be taken if you are not transferring)	4
MATH 2111	Pre-Calculus Mathematics	4
MATH 2138	Quantitative Business Analysis II	3
MATH 2141	Calculus I	4
MATH 2142	Calculus II	4
MATH 2243	Calculus III	4

Note: Most baccalaureate Computer Science Programs will have a Calculus requirement.

## Recommended Course Sequence

Course	Title	Hours
<b>Year 1</b>		
<b>Semester 1</b>		
COMI 1150	Programming Concepts	3
COMI 1750	Web Development 1	3
ENGL 1010	Composition I (or ENGL 1010A)	3
Choose ONE of the following:		3
Accounting Elective ( <a href="https://catalog.ccri.edu/course-descriptions/acct/">https://catalog.ccri.edu/course-descriptions/acct/</a> )		
Business Elective ( <a href="https://catalog.ccri.edu/course-descriptions/busn/">https://catalog.ccri.edu/course-descriptions/busn/</a> )		
Legal Studies Elective ( <a href="https://catalog.ccri.edu/course-descriptions/laws/">https://catalog.ccri.edu/course-descriptions/laws/</a> )		
Mathematics Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/</a> )	See Mathematics Electives note at the bottom of this page <sup>1</sup>	3
		<b>Hours</b>
		<b>15</b>
<b>Semester 2</b>		
Choose ONE of the following:		3
COMI 1225	Programming in C#	
COMI 1510	Java Programming	
COMI 1260	Introduction to SQL (Offered in spring semester only)	3
COMI 1350	Data Analytics Programming (Offered in spring semester only)	3
COMM 1010	Communication Fundamentals <sup>^</sup> (Work-based learning course)	3
Choose ONE of the following:		3
Mathematics Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/</a> )		
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		
		<b>Hours</b>
		<b>15</b>
<b>Year 2</b>		
<b>Semester 1</b>		
Choose ONE of the following:		3
COMI 2225	Advanced Programming in C#	
COMI 2510	Advanced Java Programming	
COMP 1200	Database Design & Management	3
Programming Language Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/</a> )		3
Choose ONE of the following:		3
Humanities Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/</a> )		

Mathematics Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/</a> )		
Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/</a> )		
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		3
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		3
		<b>Hours</b>
		<b>15</b>
<b>Semester 2</b>		
COMI 2520	Data Structures and Algorithms (Offered in spring semester only)	3
COMI 2530	Introduction to Software Engineering <sup>^</sup> (Work-based learning course; offered in spring semester only)	4
Programming Language Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#Programming/</a> )		6
Choose ONE of the following:		3
Humanities Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#humngened/</a> )		
Mathematics Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#mathgened/</a> )		
Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#scigened/</a> )		
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		
		<b>Hours</b>
		<b>16</b>
		<b>Total Hours</b>
		<b>61</b>

<sup>1</sup> Mathematics Electives Note: For list of MATH courses that fulfill the Math elective requirement for this program, please see table of Math Electives on the Computer Programming Requirements page (p. 1).

## Transfer

Please meet with an Academic Advisor/Student Success Coach (<https://ccri.edu/advising/>) if you are interested in earning a bachelor's degree. Your Academic Advisor will help you select the courses that best prepare you for transfer to a four-year college or university.

Check out the Joint Admissions Agreement (<https://ccri.edu/jaa/>) if you are interested in transferring to Rhode Island College or the University of Rhode Island. The JAA program offers seamless transfer to RIC or URI with additional benefits. Transfer information, events, and articulations are available on the Transfer Center website ([https://ccri.edu/oes/transfer\\_center/](https://ccri.edu/oes/transfer_center/)).