



[COMPGAS; CIP Code 11.0701]

### *Associate in Science (A.S.) – Transfer*

The goal of this program is to provide the first two years of a Computer Science baccalaureate degree program for the students who wish to transfer to a four-year program in Computer Science. The core curriculum will provide foundations in programming and problem solving, data representation and algorithms, object-oriented programming, computer organization and assembly language programming fulfilling the core competencies of critical thinking and information technology. Although this program is primarily designed for students to transfer to a four-year program, after successful completion of this program, students will also find job opportunities in computer science and information technology area

#### **Program Learning Outcomes**

Students who have completed the program should be able to:

- Learn fundamental principles, theories and analytical skills to solve computing problems throughout the program
- Analyze, design, choose the interface, coding, test and debug to effectively develop error-free computer programs
- Learn computer architecture, software design and programming that are most widely used in engineering, science and technology-related fields
- Identify, formulate and solve problems and learn to adapt to evolving computer languages, systems and industry standards
- Identify, formulate and solve problems and learn to adapt to evolving computer

✦ Are you ready to get started at RCSJ? Visit [RCSJ.edu/Enroll](https://www.rcsj.edu/Enroll) and complete the interest form. ✦

# Computer Science, A.S.

## 3+1 option in Data Analytics

### **FIRST YEAR – Fall Semester**

|                                                                                                               |             |
|---------------------------------------------------------------------------------------------------------------|-------------|
| <input type="checkbox"/> CSCI 205 Programming in C++                                                          | 4           |
| <input type="checkbox"/> ENGL 101 English Composition I <b>or</b><br>ENGL 101E Enhanced English Composition I | 3–4         |
| <input type="checkbox"/> MATH 130 Calculus I                                                                  | 4           |
| <input type="checkbox"/> _____ General Education Humanities Elective                                          | 3           |
| <input type="checkbox"/> _____ General Education Social Science Elective                                      | 3           |
|                                                                                                               | <hr/> 17–18 |

### **Spring Semester**

|                                                                       |          |
|-----------------------------------------------------------------------|----------|
| <input type="checkbox"/> CSCI 210 Object Oriented Programming in Java | 4        |
| <input type="checkbox"/> ENGL 102 English Composition II              | 3        |
| <input type="checkbox"/> MATH 140 Calculus II                         | 4        |
| <input type="checkbox"/> PHYS 201 Physics with Calculus I             | 4        |
|                                                                       | <hr/> 15 |

### **SECOND YEAR – Fall Semester**

|                                                                                                  |             |
|--------------------------------------------------------------------------------------------------|-------------|
| <input type="checkbox"/> CSCI 207 Assembly Language and Computer Organization                    | 4           |
| <input type="checkbox"/> CSCI 216 Objects and Data Abstraction using Java                        | 4           |
| <input type="checkbox"/> MATH 212 Linear Algebra <sup>1</sup> <b>or</b><br>MATH 225 Calculus III | 3–4         |
| <input type="checkbox"/> _____ General Education Humanities <b>or</b><br>Social Science Elective | 3           |
|                                                                                                  | <hr/> 14–16 |

### **Spring Semester**

|                                                                  |             |
|------------------------------------------------------------------|-------------|
| <input type="checkbox"/> CSCI 220 Data Structures and Algorithms | 4           |
| <input type="checkbox"/> MATH 201 Discrete Mathematics           | 3           |
| <input type="checkbox"/> PHYS 202 Physics with Calculus II       | 4           |
| <input type="checkbox"/> _____ Free Elective                     | 3–4         |
|                                                                  | <hr/> 14–15 |

**TOTAL MINIMUM CREDITS: 60**

### **Program Notes**

<sup>1</sup> Mathematics: Linear Algebra (MATH 212) – 3 Credits or Calculus III (MATH 225) – 4 Credits. Students planning to transfer to Rowan University should take Linear Algebra MATH 212 as their Mathematics elective.



*After completing the Computer Science, A.S., students may choose to continue with the bachelor's degree pathway at RCSJ.*

*The 3+1 Program enables students to complete three years of coursework at RCSJ and one year at Rowan University to earn a bachelor's degree. The 3+1 pathway follows Rowan's course curriculum, with junior year classes taught by RCSJ advanced-degree faculty.*

## Data Analytics 3+1 Program

### THIRD YEAR — Fall Semester

|                                               |       |
|-----------------------------------------------|-------|
| ❑ CSCI 125 Introduction to Data Science       | 3     |
| ❑ CYBR 337 Applied Database Technologies      | 3     |
| ❑ CISM 114 Fundamentals of Programming        | 4     |
| ❑ CISM 200 Principles of Information Security | 3     |
| ❑ MATH 103 Statistics I                       | 3     |
|                                               | <hr/> |
|                                               | 16    |

### Spring Semester

|                                                                  |       |
|------------------------------------------------------------------|-------|
| ❑ CISM 207 Management Information Systems                        | 3     |
| ❑ CSCI 225 Programming in R                                      | 2     |
| ❑ MATH 203 Statistics II                                         | 3     |
| ❑ DATA 301 Research Methods<br>& Ethical Issues in Data Analysis | 3     |
| ❑ SPEH 101 Effective Speech                                      | 3     |
|                                                                  | <hr/> |
|                                                                  | 14    |

### STEP 1

**START AT RCSJ**  
COMPUTER SCIENCE (A.S.)

### STEP 2

**END AT  
ROWAN UNIVERSITY**  
DATA ANALYTICS (B.S.)

**FOURTH YEAR —** After completing the third year at RCSJ, students will seamlessly transfer to Rowan University for their senior year. 3+1 Program team members at both institutions work closely with students to guide them through the process.



### Industry & Employment Opportunities

#### Bachelor's

Business Analyst, Disaster Recovery Mitigation Analyst,  
Data Analyst – Business Intelligence

#### Master's

Financial Data Analyst, Data Scientist



### Questions

About 3+1 Program:  
[3plus1@rcsj.edu](mailto:3plus1@rcsj.edu)

**RCSJ.edu/3plus1**