



# Community: Information Technology

## BAS: Secure Software Development

### Bachelors of Applied Science

#### 2020-2021 Requirements

| General Education             | Required Courses:   | Credits  |
|-------------------------------|---|----------|
| ENG 121                       | English Composition I GT-CO1 Course   | 3        |
| MAT 121                       | College Algebra GT-MA1 Course (or higher)   | 4        |
| History                       | Choose 1 History GT-H1 Course (HIS)   | 3        |
| Social and Behavioral Science | Choose 1 Social and Behavioral Sciences GT Course (ANT, ECO, GEO, HIS, POS, PSY, SOC)                           | 3        |
| Arts and Humanities           | Choose 2 Arts and Humanities GT Courses (ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE)            | 6        |
| Natural and Physical Science  | Choose 2 Natural & Physical Sciences GT Courses (AST, BIO, CHE, ENV, GEY, PHY, SCI)                             | 7        |
| English                       | Choose 1 from the following:<br>ENG 122 English Composition II GT-CO2<br>or<br>ENG 131 Technical Writing GT-CO1 | 3        |
| Communication                 | Choose 1 from the following:<br>COM 115 Public Speaking<br>or<br>COM 125 Interpersonal Communication            | 3        |
| <b>Business Course</b>        | <b>Choose 1 from the following:</b>   | <b>3</b> |
| BUS 115                       | Introduction to Business (3)  |          |
| BUS 216                       | Legal Environment of Business (3)   |          |
| BUS 226                       | Business Statistics (3)   |          |
| MAN 210                       | Aligning Technology with Business Strategy (3)  |          |
| Computer Technology           | Required Courses Lower Division   | Credits  |
| CIS 220                       | Fundamentals of Unix  | 3        |
| CIS 240                       | Database Design and Development   | 3        |
| CIS 243                       | Introduction to SQL   | 3        |
| CIS 268                       | Systems Analysis and Design   | 3        |
| CSC 119                       | Introduction to Programming: Python   | 3        |
| CSC 129                       | Introduction to Secure Coding   | 3        |
| CSC 160                       | Computer Science I: (C++)   | 4        |
| CSC 161                       | Computer Science II: (C++)  | 4        |
| CSC 225                       | Computer Architecture   | 4        |
| CSC 245                       | Secure Software Coding  | 3        |



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| <b>Computer Technology Electives</b> | <b>Choose 9 Credits from the following:</b> | <b>9</b>       |
|--------------------------------------|---|----------------|
| CNG 101                              | Networking Fundamentals (3)                 |                |
| CNG 131                              | Principles of Information Assurance (3)     |                |
| CNG 132                              | Network Security Fundamentals (3)           |                |
| CSC 217                              | Advanced Python (3)                         |                |
| CSC 240                              | Java Programming (3)                        |                |
| CSC 241                              | Advanced Java Programming (3)               |                |
| CSC 246                              | Mobile App Development (3)                  |                |
| CSC 280                              | Internship (3)                              |                |
| CSC 289                              | Capstone (3)                                |                |
| CWB 110                              | Complete Web Authoring: HTML & CSS (3)      |                |
| CWB 205                              | Client-side Scripting: (JavaScript) (3)     |                |
| CWB 208                              | Web Application Development: (PHP) (3)      |                |
| <b>Computer Technology</b>           | <b>Required Courses Upper Division</b>      | <b>Credits</b> |
| CSC 300                              | Advanced Computer Architecture              | 4              |
| CSC 320                              | Software Engineering Fundamentals           | 4              |
| CSC 322                              | Security Fundamentals and Databases         | 4              |
| CSC 324                              | Secure Coding/Vulnerabilities I             | 4              |
| CSC 326                              | Secure Scripting of Operating Systems       | 3              |
| CSC 328                              | Security Libraries in Programming Languages | 4              |
| CSC 422                              | Secure Software Engineering                 | 4              |
| CSC 424                              | Secure Coding/Vulnerabilities II            | 4              |
| CSC 426                              | Secure Cloud Programming                    | 4              |
| CSC 428                              | Software Security Testing                   | 4              |
| CSC 480                              | Internship                                  | 4              |
| <b>Total Credits</b>                 |   | <b>120</b>     |

### Bachelors of Applied Science

2019-2020 Map

Full-Time College Ready

#### First Semester:

| Complete | Course Number                | Title  | Credits | Prerequisite         |
|----------|------------------------------|--|---------|----------------------|
|          | CSC 119                      | Introduction to Programming                    | 3       | Basic Computer Skill |
|          | ENG 121                      | English Composition I                          | 3       |                      |
|          | MAT 121                      | College Algebra (or higher)                    | 4       |                      |
|          | COM 115, 125<br>(select one) | Public Speaking<br>Interpersonal Communication | 3       |                      |

Faculty Advisor: Candace Garrod | [candace.garrod@rrcc.edu](mailto:candace.garrod@rrcc.edu) |

Page 2 of 5

Disclaimer: The contents of this sample represent the most current information available at the time of publication. However, during the period of time covered by this sample it is reasonable to expect changes to be made with respect to this information without prior notice. Students should regularly meet with the faculty advisor listed for the program.



# Community: Information Technology

## BAS: Secure Software Development

### Second Semester:

| Complete | Course Number                        | Title  | Credits | Prerequisite               |
|----------|--------------------------------------|--|---------|----------------------------|
|          | CSC 160                              | Computer Science I: C++  | 4       | CSC 119                    |
|          | CIS 220                              | Fundamentals of Unix   | 3       | CSC 119                    |
|          | CIS 240                              | Database Design and Development  | 3       | CSC 119<br>Co-Req: CIS 243 |
|          | CIS 243                              | Introduction to SQL  | 3       | Co-Req: CIS 240            |
|          | Gen Ed 100 or 200 level (select one) | Natural & Physical Sciences GT courses (AST, BIO, CHE, ENV, GEY, PHY, SCI) | 3       |                            |

### Third Semester:

| Compete | Course Number                                 | Title   | Credits | Prerequisite |
|---------|---|---|---------|--------------|
|         | CSC 129                                       | Introduction to Secure Coding   | 3       | CSC 160      |
|         | Elective (select one)                         | CNG 101, 131, 132<br>CSC 217, 240, 241, 246, 280, 289<br>CWB 110, 205, 208    | 3       |              |
|         | CSC 161<br>CSC 225 (select one)               | Computer Science II: C++ - (Fall Only)<br>Computer Architecture (Spring Only) | 4       | CSC 160      |
|         | ENG 122, 131 (select one)                     | English Composition II<br>Technical Writing                                   | 3       |              |
|         | Gen Ed 100 or 200 level with lab (select one) | Natural & Physical Sciences GT courses (AST, BIO, CHE, ENV, GEY, PHY, SCI)    | 4       |              |

### Fourth Semester:

| Complete | Course Number                                     | Title   | Credits | Prerequisite |
|----------|---|---|---------|--------------|
|          | CIS 268   | Systems Analysis and Design (Spring Only)                                   | 3       |              |
|          | CSC 245   | Secure Software Coding  | 3       | CSC 129      |
|          | CSC 161<br>CSC 225 (select the one not completed) | Computer Science II: C++ (Fall Only)<br>Computer Architecture (Spring Only) | 4       | CSC 160      |
|          | BUS Elective                                      | BUS 115, 216, 226, or MAN 210   | 3       |              |

### Fifth Semester:

| Complete | Course Number                        | Title   | Credits | Prerequisite  |
|----------|--------------------------------------|---|---------|---|
|          | Elective (select one)                | CNG 101, 131, 132<br>CSC 217, 240, 241, 246, 280<br>CWB 110, 205, 208                     | 3       |   |
|          | CSC 300                              | Advanced Computer Architecture  | 4       | CSC 225, CSC 245<br>Or permission of instructor         |
|          | CSC 320                              | Software Engineering Fundamentals   | 4       | CSC 225, CIS 268 & CSC 245 OR permission of instructor  |
|          | CSC 322                              | Security Fundamentals and Databases   | 4       | CIS 240, CIS 243, & CSC 245 OR permission of instructor |
|          | Gen Ed 100 or 200 level (select one) | Arts & Humanities GT courses (ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE) | 3       |   |

### Sixth Semester:

| Complete | Course Number         | Title  | Credits | Prerequisite   |
|----------|-----------------------|--|---------|--|
|          | Elective (select one) | CNG 101, 131, 132<br>CSC 217, 240, 241, 246, 280, 289<br>CWB 110, 205, 208 | 3       |  |
|          | CSC 324               | Secure Coding/Vulnerabilities  | 4       | CSC 245<br>Or permission of Instructor                     |
|          | CSC 326               | Secure Scripting of Operating Systems                                      | 3       | CIS 220 & CSC 245<br>Or permission of Instructor           |
|          | CSC 328               | Security Libraries in Programming Languages                                | 4       | CSC 161 or CSC 240, CSC 245<br>Or permission of Instructor |



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### Seventh Semester:

| Complete | Course Number                        | Title   | Credits | Prerequisite                           |
|----------|--------------------------------------|---|---------|--|
|          | CSC 422                              | Secure Software Engineering   | 4       | CSC 320<br>Or permission of instructor |
|          | CSC 424                              | Secure Coding/Vulnerabilities II  | 4       | CSC 324<br>Or permission of instructor |
|          | Gen Ed 100 or 200 level (select one) | Arts & Humanities GT courses (ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE) | 3       |  |
|          | Gen Ed 100 or 200 level (select one) | Social & Behavioral Sciences GT courses (ANT, ECO, GEO, HIS, POS, PSY, SOC)               | 3       |  |

### Eighth Semester:

| Complete | Course Number                     | Title                     | Credits | Prerequisite                                     |
|----------|-----------------------------------|---------------------------|---------|--|
|          | CSC 426                           | Secure Cloud Programming  | 4       | CSC 326 & CSC 328<br>Or permission of instructor |
|          | CSC 428                           | Software Security Testing | 4       | CSC 326 & CSC 328<br>Or permission of instructor |
|          | CSC 480                           | Internship                | 4       | Faculty Approval                                 |
|          | HIS 100 or 200 level (select one) | History GT-H1 course      | 3       |  |