

## College of Engineering & Applied Science – B.I. Computer Science

### Academic Advising Hours:

**Location:** Main Hall 208

**Hours:** Monday: 9am-5pm Walk-in Advising  
Tuesday–Friday: 9am-4pm Appointments Only  
Call: (719) 255-3260

**Website:** [www.uccs.edu/advising](http://www.uccs.edu/advising)

### General Academic Information

#### Academic Policies

It is the responsibility of each student to know and follow all Academic policies established by the University and the College of Engineering & Applied Science (EAS) that are set forth in the Catalog ([catalog.uccs.edu](http://catalog.uccs.edu)).

#### Course Prerequisites

Students are responsible for knowing and completing all course prerequisites. Course prerequisites are strictly enforced for all classes at UCCS.

#### Residency, Restrictions, and Limitations

Students must be admitted into the College of Engineering and Applied Science as well as complete at least the final 30 credit hours of coursework exclusively at UCCS. Only three hours of Independent Study may count toward the degree. Credit for work experience, Military Science, and ROTC – when granted – is generally not applicable to degree fulfillment.

#### Probation/Suspension

Students whose full-time semester's or cumulative GPA falls below 2.0 will be placed on probation for the next semester in which they are enrolled in the College of Engineering & Applied Science and will be notified by email and mail. If, after that semester, the semester or cumulative GPA is still below 2.0, the student will be suspended from the college. PLEASE NOTE: *While on probation, registration for the subsequent semester will be blocked until final grades are posted for the current semester. This is to verify that the minimum semester GPA for each student has been fulfilled.*

#### UCCS Bachelor of Innovation, Computer Science Major Degree Requirements

> A minimum of 128 hours must be completed with a cumulative CU grade point average of 2.0.

> The last 30 hours of the degree must be completed while registered in the College of Engineering and Applied Science at UCCS.

> Courses numbered below 1000 do not count towards degree completion.

> This guide is provided for student use only. It does not represent an official documentation of a student's progress towards completion of their degree program. The CS program requires a minimum 2.0 GPA in all CS course work taken in order to graduate. Students must also complete an Exit Interview with the CS Department during their final semester to graduate.

#### Compass Curriculum

Compass Curriculum is the campus-wide general education program at UCCS. The Compass Curriculum has multiple components many of which will coincide with the degree requirements listed in this guide. Please visit the Compass Curriculum website at [www.uccs.edu/compasscurriculum](http://www.uccs.edu/compasscurriculum), review your degree audit, or check out the Compass Curriculum advising guide for specific course details. The required components are listed below and referenced in the guide.

#### REQUIRED COMPASS CURRICULUM COMPONENTS:

| Component   | Course                 |
|---|------------------------|
| <b>Gateway</b>  | GPS 1010               |
| <b>Explore</b> – Arts, Humanities and Cultures  | INOV 1010              |
| <b>Explore</b> – Society, Behavior and Health   | ENTP 1000              |
| <b>Explore</b> – Physical and Natural World   | See Degree Audit       |
| <b>Navigate</b>   | INOV 3010              |
| <b>Summit</b>   | ENTP 4500              |
| <b>Writing Intensive Course (WIC)<sup>1</sup></b><br><i>Two courses with at least one upper-division (3000+ level).</i> | INOV 2010<br>INOV 3010 |
| <b>Inclusiveness<sup>1</sup></b>  | INOV 1010              |
| <b>Sustainability<sup>1</sup></b>   | ENTP 1000              |

<sup>1</sup> Can count towards other requirements within the Compass Curriculum or within a student's degree program.



## DEPARTMENT OF COMPUTER SCIENCE

Department website: [www.uccs.edu/cs](http://www.uccs.edu/cs)

| Degree Requirements   | Courses  |   |   |
|---|--|---|---|
| <b>Computer Science Core Courses</b><br>(48 hours)<br><br><i>You must be admitted into the College of Engineering in order to take any CS coursework.</i> | Complete all of the following courses:   |   |   |
|   | CS 1150  | Principles of Computer Science  | 3 |
|   | CS 1450  | Data Structures & Algorithms ( <i>pre-req CS 1150</i> )   | 3 |
|   | CS 2060  | Programming in C ( <i>pre-req CS 1150</i> )   | 3 |
|   | CS 2080  | Programming with UNIX ( <i>pre-req CS 1450</i> )  | 2 |
|   | CS 2160  | Computer Org. & Assembly Language ( <i>pre-req CS 1450, CS 2060</i> )   | 3 |
|   | CS 3050  | Social & Ethical Implications of Computing ( <i>pre-req CS 2080</i> )   | 1 |
|   | CS 3060<br>or<br>CS 3020   | Object Oriented Programming in C++ ( <i>pre-req CS 2060, CS 2080</i> )<br>Adv Object Tech Using C#/.NET.C# ( <i>pre-req CS 1450</i> ) | 3 |
|   | CS 3160  | Concepts of Programming Languages ( <i>pre-req CS 2060, CS 2160, CS 3020 or CS 3060</i> )   | 3 |
|   | CS 3300  | Software Engineering ( <i>pre-req CS 2080, CS 3020 or CS 3060</i> )   | 3 |
|   | CS 4200  | Computer Architecture I ( <i>pre-req CS 2160</i> )  | 3 |
|   | CS 4220  | Computer Networks ( <i>pre-req CS 2060 and MATH 2150</i> )  | 3 |
|   | CS 4420  | Database Systems I ( <i>pre-req CS 3300</i> )   | 3 |
|   | CS 4500  | Operating Systems I ( <i>pre-req CS 2060, CS 2080 or CS 4200</i> )  | 3 |
|   | CS 4720  | Design & Analysis of Algorithms ( <i>pre-req CS 1450, MATH 2150</i> )   | 3 |
| Computer Science Elective   | Complete three hours of Computer Science courses numbered 4000-5999 that are not being used to fulfill another requirement.  | 3   |   |
| Computer Science Professional Elective  | <i>Complete 6 hours of Professional Electives from the following options that are not being used to fulfill another requirement:</i><br>1. any 3000+ level Computer Science course<br>2. any 3000+ level Electrical Engineering course<br>3. any 3100+ level Mathematics course<br>4. any 3000+ level Natural Science course<br>5. any 3000+ level College of Business course (except BUAD 3010, 3020, or 3030)<br><br><i>At least 3 hours of Professional Electives must be science or math</i> | 6   |   |
| <b>Innovation Core</b><br>(24 hours)  | Complete all of the following courses:   |   |   |
|   | ENTP 1000  | Introduction to Entrepreneurship  | 3 |
|   | INOV 1010  | The Innovation Process  | 3 |
|   | BLAW 2010  | Business and Intellectual Property Law ( <i>pre-req Soph Standing</i> )   | 3 |
|   | INOV 2010  | Innovation Team: Analyze and Report ( <i>pre-req INOV 1010 and ENTP 1000</i> )  | 3 |
|   | INOV 2100  | Technical Writing, Proposals, and Presentations ( <i>pre-req ENGL 1310 or ENGL 1410</i> )   | 3 |
|   | INOV 3010  | Innovation Team: Research and Execute ( <i>pre-req INOV 2010</i> )  | 3 |
|   | INOV 4010  | Innovation Team: Design and Lead ( <i>pre-req INOV 2100 and INOV 3010</i> )   | 3 |
| ENTP 4500   | Entrepreneurship and Strategy ( <i>pre-req BLAW 2010 and INOV 3010</i> )   | 3   |   |

|   |   |  |           |           |           |           |
|---|---|--|-----------|-----------|-----------|-----------|
| <b>Cross-Discipline Core</b><br>(15 hours)  | Complete one of the Cross-Discipline Cores listed below. Each Cross-Discipline Core consists of 15 credit hours. See the BI website for specific courses ( <a href="http://innovation.uccs.edu">innovation.uccs.edu</a> ).  |  |           |           |           | 15        |
|   | <b>Business</b>   |  |           |           |           |           |
|   | <b>Creative Communication</b>   |  |           |           |           |           |
|   | <b>Globalization</b>  |  |           |           |           |           |
| <b>Composition Courses</b><br>(3 hours)   | Complete all of the following courses:  |  |           |           |           |           |
|   | ENGL 1310   | Rhetoric & Writing I   |           |           |           | 3         |
|   | PORT 3000   | Writing Portfolio Assessment   |           |           |           | 0         |
| <b>Mathematics</b><br>(17 hours)  | Complete all of the following courses:  |  |           |           |           |           |
|   | MATH 1350   | Calculus I ( <i>pre-req MATH 1050</i> )  |           |           |           | 4         |
|   | MATH 1360   | Calculus II ( <i>pre-req MATH 1350</i> )   |           |           |           | 4         |
| <i>NOTE: Math courses require a grade of C or better to progress through the Math sequence.</i> | MATH 2150   | Discrete Mathematics ( <i>pre-req MATH 1350</i> )  |           |           |           | 3         |
|   | CS 2300   | Computational Linear Algebra ( <i>pre-req CS 1150 or GDD 1200, MATH 99</i> )                 |           |           |           | 3         |
|   | QUAN 2010   | Business Statistics ( <i>pre-req INFS 1100, MATH 1040, sophomore standing or MATH 1120</i> ) |           |           |           | 3         |
| <b>Basic Science</b><br>(10 hours)  | Complete one full year of Basic Science with Lab in the same subject. (If Biology sequence is chosen, select two additional hours from BIOL, PES, or CHEM and inform Academic Advisor.)   |  |           |           |           |           |
|   | BIOL 1300   | BIOL 1310  | BIOL 1350 | BIOL 1360 | CHEM 1401 | CHEM 1402 |
|   | CHEM 1411   | CHEM 1412  | PES 1110  | PES 1160  | PES 1120  | PES 2160  |
| <b>Compass Curriculum</b><br>(3 hours)  | In addition to the courses outlined above a Gateway Seminar ( <b>GPS 1010</b> ) must be completed by all students to complete the Compass Curriculum. To see a list of all Compass Curriculum courses, please visit: <a href="http://www.uccs.edu/compasscurriculum">www.uccs.edu/compasscurriculum</a> . |  |           |           |           |           |
| <b>Open Electives</b><br>(8 hours)  | Complete any 8 hours of Elective coursework except Computer Science courses numbered below CS 1150, or Math courses numbered below MATH 1350.   |  |           |           |           |           |



## Four-Year Degree Plan – B.I. Computer Science

The following four-year plan lists all the specific course requirements for the Bachelor of Innovation in Computer Science degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

### Suggested First Year

| FALL         |           |           | SPRING       |                              |           |
|--------------|-----------|-----------|--------------|------------------------------|-----------|
| √            | Course    | Hours     | √            | Course                       | Hours     |
|              | CS 1150   | 3         |              | CS 1450                      | 3         |
|              | ENTP 1000 | 3         |              | CS 2060                      | 3         |
|              | MATH 1350 | 4         |              | MATH 1360                    | 4         |
|              | GPS 1010  | 3         |              | INOV 1010                    | 3         |
|              | ENGL 1310 | 3         |              | Cross Discipline Core Course | 3         |
| <b>TOTAL</b> |           | <b>16</b> | <b>TOTAL</b> |                              | <b>16</b> |

### Suggested Second Year

| FALL         |                        |           | SPRING       |                        |           |
|--------------|------------------------|-----------|--------------|------------------------|-----------|
| √            | Course                 | Hours     | √            | Course                 | Hours     |
|              | CS 2080                | 2         |              | CS 3060 or CS 3020     | 3         |
|              | CS 2160                | 3         |              | INOV 2010              | 3         |
|              | BLAW 2010              | 3         |              | INOV 2100              | 3         |
|              | CS 2300 (Fall only)    | 3         |              | MATH 2150              | 3         |
|              | Basic Science with Lab | 5         |              | Basic Science with Lab | 5         |
| <b>TOTAL</b> |                        | <b>16</b> | <b>TOTAL</b> |                        | <b>17</b> |

### Suggested Third Year

| FALL         |                              |           | SPRING       |                              |           |
|--------------|------------------------------|-----------|--------------|------------------------------|-----------|
| √            | Course                       | Hours     | √            | Course                       | Hours     |
|              | CS 3160                      | 3         |              | CS 3300                      | 3         |
|              | CS 4720                      | 3         |              | CS 4200                      | 3         |
|              | CS 4220                      | 3         |              | INOV 3010                    | 3         |
|              | QUAN 2010                    | 3         |              | Cross Discipline Core Course | 3         |
|              | Cross Discipline Core Course | 3         |              | Cross Discipline Core Course | 3         |
|              |                              |           |              | Open Elective                | 2         |
| <b>TOTAL</b> |                              | <b>15</b> | <b>TOTAL</b> |                              | <b>17</b> |

### Suggested Fourth Year

| FALL         |                                      |           | SPRING       |                                      |           |
|--------------|--------------------------------------|-----------|--------------|--------------------------------------|-----------|
| √            | Course                               | Hours     | √            | Course                               | Hours     |
|              | CS 4420                              | 3         |              | CS 3050                              | 1         |
|              | CS Elective (4000-5999)              | 3         |              | CS 4500                              | 3         |
|              | Professional Elective Course (3000+) | 3         |              | Professional Elective Course (3000+) | 3         |
|              | INOV 4010                            | 3         |              | ENTP 4500                            | 3         |
|              | PORT 3000                            | 0         |              | Cross Discipline Core Course         | 3         |
|              | Open Elective                        | 3         |              | Open Elective                        | 3         |
| <b>TOTAL</b> |                                      | <b>15</b> | <b>TOTAL</b> |                                      | <b>16</b> |