

# COMPUTER SCIENCE (BS) - SOFTWARE SYSTEMS TRACK

## Program of Study

| Code   | Title   | Credit Hours |
|--|---|--------------|
| <b>Core IMPACTS Area : Institutional Priorities <sup>1</sup></b>                           |   | <b>4-5</b>   |
| COMM 1110  | Public Speaking   | 3            |
| ITDS 1779  | Scholarship Across the Disciplines                                | 2            |
| LEAD 1705  | Introduction to Servant Leadership                                | 2            |
| PERS 1506  | Perspectives 1-hour   | 1            |
| PERS 1507  | Perspectives 2-hour   | 2            |
| Foreign Language Course Options  |   |              |
| ARAB, CHIN, FREN, GERM, GREK, ITAL, JAPN, KREN, LATIN, PORT, SPAN - 1001, 1002, 2001, 2002 |   |              |
| SWAH 1001  | Elementary Swahili I  |              |
| SWAH 1002  | Elementary Swahili II   |              |
| <b>Core IMPACTS Area : Mathematics &amp; Quantitative Skills <sup>1</sup></b>              |   | <b>3-7</b>   |
| DATA 1501  | Introduction to Data Science                                      | 3            |
| MATH 1001  | Quantitative Skills and Reasoning                                 | 3            |
| MATH 1101  | Introduction to Mathematical Modeling                             | 3            |
| MATH 1111  | College Algebra   | 3            |
| MATH 1113  | Pre-Calculus  | 4            |
| MATH 1125  | Applied Calculus  | 3            |
| MATH 1131  | Calculus with Analytic Geometry I                                 | 4            |
| MATH 1132  | Calculus with Analytic Geometry II                                | 4            |
| MATH 1165  | Computer-Assisted Problem Solving                                 | 3            |
| MATH 1401  | Introduction to Statistics  | 3            |
| MATH 1501  | Calculus I  | 4            |
| MATH 2125  | Introduction to Discrete Mathematics                              | 3            |
| STAT 1401  | Elementary Statistics   | 3            |
| <b>Core IMPACTS Area : Political Science and U.S. History</b>                              |   | <b>6</b>     |
| HIST 2111  | U. S. History to 1865   | 3            |
|  | or HIST 2112 U. S. History since 1865                             |              |
| POLS 1101  | American Government   | 3            |
| <b>Core IMPACTS Area : Arts, Humanities, and Ethics</b>                                    |   | <b>6</b>     |
| Select one Fine Arts course  |   | 3            |
| ARTH 1100  | Art Appreciation  |              |
| ARTH 2125  | Introduction to the History of Art I– Prehistoric through Gothic  |              |
| ARTH 2126  | Introduction to the History of Art II– Renaissance through Modern |              |
| MUSC 1100  | Music Appreciation  |              |
| THEA 1100  | Theatre Appreciation  |              |
| ITDS 1145  | Comparative Arts <sup>2</sup>                                     |              |
| Select one Humanities course   |   | 3            |
| ENGL 2111  | World Literature I  |              |
| ENGL 2112  | World Literature II   |              |
| ITDS 1774  | Introduction to Digital Humanities                                |              |
| PHIL 2010  | Introduction to Philosophy  |              |
| ITDS 1145  | Comparative Arts <sup>2</sup>                                     |              |

|   |   |             |
|---|---|-------------|
| <b>Core IMPACTS Area : Communicating in Writing</b>                           |   | <b>6</b>    |
| ENGL 1101   | English Composition I   | 3           |
| ENGL 1102   | English Composition II  | 3           |
| <b>Core IMPACTS Area : Technology, Mathematics, and Sciences <sup>1</sup></b> |   | <b>7-11</b> |
| ANTH 1145   | Human Origins   | 3           |
| ASTR 1105   | Descriptive Astronomy: The Solar System                       | 3           |
| ASTR 1106   | Descriptive Astronomy: Stars and Galaxies                     | 3           |
| ASTR 1305   | Descriptive Astronomy Lab                                     | 1           |
| ATSC 1112   | Understanding the Weather                                     | 3           |
| ATSC 1112L  | Understanding the Weather Lab                                 | 1           |
| BIOL 1125   | Contemporary Issues in Biology Non-Lab                        | 3           |
| BIOL 1215K  | Introductory Biology  | 4           |
| BIOL 1225K  | Contemporary Issues in Biology with Lab                       | 4           |
| CHEM 1151 & 1151L   | Survey of Chemistry I and Survey of Chemistry I Lab           | 4           |
| CHEM 1152 & 1152L   | Survey of Chemistry II and Survey of Chemistry II Lab         | 4           |
| CHEM 1211 & 1211L   | Principles of Chemistry I and Principles of Chemistry I Lab   | 4           |
| CHEM 1212 & 1212L   | Principles of Chemistry II and Principles of Chemistry II Lab | 4           |
| CPSC 1105   | Introduction to Computing Principles and Technology           | 3           |
| CPSC 1301K  | Computer Science I  | 4           |
| ENVS 1105   | Environmental Studies   | 3           |
| ENVS 1105L  | Environmental Studies Laboratory                              | 1           |
| ENVS 1205K  | Sustainability and the Environment                            | 4           |
| GEOG 2215   | Introduction to the Geographic Information Systems            | 3           |
| GEO 1110  | Natural Disasters: Our Hazardous Environment                  | 3           |
| GEO 1121  | Introductory Geoscience I: Physical Geology                   | 3           |
| GEO 1121L   | Introductory Geoscience I: Physical Geology Lab               | 1           |
| GEO 1122  | Introductory Geo-sciences II: Historical Geology              | 3           |
| GEO 1322  | Introductory Geo-sciences II: Historical Geology Lab          | 1           |
| GEO 2225  | The Fossil Record   | 4           |
| PHYS 1111 & PHYS 1311   | Introductory Physics I and Introductory Physics I Lab         | 4           |
| PHYS 1112 & PHYS 1312   | Introductory Physics II and Introductory Physics II Lab       | 4           |
| PHYS 1125   | Physics of Color and Sound                                    | 3           |
| PHYS 1325   | Physics of Color and Sound Lab                                | 1           |
| PHYS 2211 & PHYS 2311   | Principles of Physics I and Principles of Physics I Lab       | 4           |
| PHYS 2212 & PHYS 2312   | Principles of Physics II and Principles of Physics II Lab     | 4           |
| <b>Core IMPACTS Area : Social Sciences</b>                                    |   | <b>6</b>    |
| Select one Behavioral Science course  |   |             |
| ECON 2105   | Principles of Macroeconomics                                  |             |
| ECON 2106   | Principles of Microeconomics                                  |             |
| PHIL 2030   | Moral Philosophy  |             |
| PSYC 1101   | Introduction to General Psychology                            |             |
| SOCI 1101   | Introduction to Sociology                                     |             |
| Select one World Cultures course  |   | 3           |

|           |                                    |  |
|-----------|------------------------------------|--|
| ANTH 1107 | Discovering Archaeology            |  |
| ANTH 1105 | Cultural Anthropology              |  |
| ANTH 2105 | Ancient World Civilizations        |  |
| ANTH 2136 | Language and Culture               |  |
| ENGL 2136 | Language and Culture               |  |
| GEOG 1101 | World Regional Geography           |  |
| HIST 1111 | World History to 1500              |  |
| HIST 1112 | World History since 1500           |  |
| ITDS 1155 | The Western Intellectual Tradition |  |
| ITDS 1156 | Understanding Non-Western Cultures |  |

**Core IMPACTS Total Hours** **42**

**Health and Wellness** **3**

|           |                                  |   |
|-----------|----------------------------------|---|
| KINS 1106 | Lifetime Wellness                | 2 |
|           | or PHED 1205 Concepts of Fitness |   |

Select one PEDS course (<https://catalog.columbusstate.edu/course-descriptions/peds/#peds>)

<sup>1</sup> The hours applied in the Institutional Priorities; Mathematics & Quantitative Skills; and Technology, Mathematics, and Sciences areas must add to 18 credit hours.

<sup>2</sup> ITDS 1145 Comparative Arts, though listed under both Fine Arts and Humanities, may be taken only once.

## Major Requirements

| Code   | Title  | Credit Hours |
|--|--|--------------|
| <b>Core Requirements</b>                           |  |              |
| Complete the core requirements for this program    |  | 45           |
| Core Total   |  | 45           |
| <b>Field of Study Requirements</b>                 |  |              |
| Minimum grade of C is required in each course      |  |              |
| CPSC 1301K   | Computer Science I   | 4            |
| CPSC 1302K   | Computer Science II (1 Credit Hour to Area G)                  | 4            |
| CPSC 2105  | Computer Organization  | 3            |
| CYBR 2159  | Fundamentals of Computer Networks                              | 3            |
| CYBR 2160  | Intro to Information Security                                  | 3            |
| MATH 2125  | Introduction to Discrete Mathematics (1 Credit Hour to Area G) | 3            |
| Field of Study Requirements Total                  |  | 18           |
| <b>Required for the Major</b>                      |  |              |
| Minimum grade of C is required in each CPSC course |  |              |
| CPSC 2108  | Data Structures  | 3            |
| CPSC 3125  | Operating Systems  | 3            |
| CPSC 3131  | Database Systems I   | 3            |
| CPSC 3165  | Professionalism in Computing                                   | 2            |
| CPSC 3175  | Object-Oriented Design   | 3            |
| CPSC 4000  | Baccalaureate Survey   | 0            |
| MATH 5125U   | Discrete Mathematics   | 3            |
| 1 Credit Hour from Area F CPSC 1302K               |  | 1            |
| 1 Credit Hour from Area F MATH 2125                |  | 1            |
| 1 Credit Hour Math from Area A                     |  | 1            |
| Required for the Major Total                       |  | 20           |
| <b>Major Electives</b>                             |  |              |

Minimum grade of C is required in each course

|  |                                     |    |
|--|-------------------------------------|----|
| CPSC 4115  | Algorithms                          | 3  |
| CPSC 4148  | Theory of Computation               | 3  |
| CPSC 4155  | Computer Architecture               | 3  |
| CPSC 4157  | Computer Networks                   | 3  |
| CPSC 4175  | Software Engineering                | 3  |
| CPSC 4176  | Senior Software Engineering Project | 3  |
| Select 12 credits from CPSC/CYBR 3000 level or above |                                     | 12 |
| Major Electives Total                                |                                     | 30 |

### General Electives

|  |  |    |
|--|--|----|
| Select 10 credits of General Electives |  | 10 |
| General Electives Total                |  | 10 |

**Total Credit Hours** **123**