# Computer Science, Bachelor of Science

## First Year

### Fall Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 1302 | Computer Science Principles | 3 |
| MATH | 2211 | Precalculus A | 2 |
| MATH | 2011 | Precalculus A Lab | 0 |
| MATH | 2212 | Precalculus B | 2 |
| MATH | 2012 | Precalculus B Lab | 0 |
| ENGL | 1301 | Rhetoric and Composition | 3 |
| HIST | 1301 | United States History I | 3 |
| | | Core LPC | 3 |
| | | | |
| | | **Total Semester Hours** | **16** |

### Spring Term

| Course | Course Numbe | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 1462 | Introduction to Data Analytics | 4 |
| | | **OR** | |
| MATH | 1342 | Introduction to Probability and Statistics & | |
| | | 1 Elective Credit Hour | |
| CSCI | 2302 | Computer Programming Principles | 3 |
| MATH | 2313 | Calculus I | 3 |
| MATH | 2113 | Calculus I Lab | 1 |
| ENGL | 1302 | Research and Argument | 3 |
| HIST | 1302 | United States History II | 3 |
| | | **Total Semester Hours** | **17** |

## Second Year

### Fall Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 2311 | Event-Driven Programming | 3 |
| CSCI | 2314 | Computer Organization and Architecture | 3 |
| MATH | 2314 | Calculus II | 3 |
| MATH | 2114 | Calculus II Lab | 1 |
| | | Core LPC | 3 |
| | | | |
| | | | |
| | | **Total Semester Hours** | **13** |

### Spring Term

| Course | Course Numbe | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 3302 | Data Structures | 3 |
| CSCI | 3321 | Client Server Web Programming | 3 |
| | | Mathmatics Option | 3 |
| | | Core Science | 3 |
| | | Core Slab | 1 |
| ENGL | 2311 | Technical and Scientific Writing | 3 |
| | | **Total Semester Hours** | **16** |

## Third Year

### Fall Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 3323 | Software Engineering | 3 |
| CSCI | 3333 | Discrete Structures | 3 |
| GOVT | 2305 | Federal Government | 3 |
| SPCH | 1315 | Public Speaking | 3 |
| | | CSCI/CSIT 3000-4000 | 3 |
| | | | |
| | | **Total Semester Hours** | **15** |

### Spring Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| GOVT | 2306 | Texas Government | 3 |
| CSCI | 3341 | Principles of Operating Systems | 3 |
| CSCI | 3342 | Algorithm Analysis | 3 |
| | | Core S/BS | 3 |
| | | Elective | 3 |
| | | | |
| | | **Total Semester Hours** | **15** |

## Fourth Year

### Fall Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 4260 | Senior Design I | 2 |
| CSCI | 4342 | Organization Programming Languages | 3 |
| CSCI | 4341 | Formal Languages | 3 |
| | | Core CA | 3 |
| | | Elective | 3 |
| | | | |
| | | | |
| | | | |
| | | **Total Semester Hours** | **14** |

### Spring Term

| Course | Course Number | Course Group/Description | Required Credit Hours |
|---|---|---|---|
| CSCI | 4270 | Senior Design II | 2 |
| CSCI | 4335 | Computer Networking | 3 |
| | | CSCI/CSIT 3000-4000 | 3 |
| | | Elective | 3 |
| | | Elective | 3 |
| | | | |
| | | | |
| | | | |
| | | **Total Semester Hours** | **14** |

| | |
|---|---|
| **Total Hours for Degree** | **120** |

# Computer Science, Bachelor of Science

| Course Group Name | Credit Hours | Courses in Group | | Course Group Name | Credit Hours | Courses in Group | |
|---|---|---|---|---|---|---|---|
| **Core Science** | 2-3 | | | **Core CA** | 3 | | |
| Classical and Modern Astronomy | | ASTR | 1303 | Art Appreciation | | ARTS | 1301 |
| Biology for Science Majors I | | BIOL | 1306 | Art History I (Prehistoric to the 14th century) | | ARTS | 1303 |
| Biology for Science Majors II | | BIOL | 1307 | Art History II (14th Century to the present) | | ARTS | 1304 |
| Biology for Non-Science Majors I | | BIOL | 1308 | Dance Appreciation | | DANC | 2303 |
| Biology for Non-Science Majors II | | BIOL | 1309 | Theatre Appreciation | | DRAM | 1310 |
| Anatomy and Physiology I | | BIOL | 2301 | Film and Culture | | DRAM | 2366 |
| Plant Form and Function | | BIOL | 2361 | Intro to Music Literature | | MUMH | 1307 |
| Local Flora or Fauna | | BIOL | 2381 | Music Appreciation | | MUSI | 1306 |
| Intro to Chemistry I | | CHEM | 1305 | **Core S/BS** | 3 | | |
| General Chemistry I | | CHEM | 1311 | Cultural Anthropology | | ANTH | 2351 |
| General Chemistry II | | CHEM | 1312 | Principles of Macroeconomics | | ECON | 2301 |
| Chemistry and Society | | CHEM | 1371 | Principles of Microeconomics | | ECON | 2302 |
| Intro to Environmental Science | | ENVR | 1301 | Intro to Human Dimensions and Recreation | | FORS | 2351 |
| Fundamentals of Earth Science | | GEOL | 1301 | World Regional Geography | | GEOG | 1303 |
| Introductory Geology | | GEOL | 1303 | Survey of Mass Communication | | MCOM | 1307 |
| Historical Geology | | GEOL | 1304 | General Psychology | | PSYC | 2301 |
| Cultivating Plants | | HORT | 1231 | Introduction to Sociology | | SOCI | 1301 |
| Mechanics and Heat | | PHYS | 1301 | **CSCI/CSIT 3000-4000** | 3 | | |
| Electricity, Sound and Light | | PHYS | 1302 | Contemporary Programming Language | | CSCI | 3101 |
| General Physics I | | PHYS | 1305 | Object-Oriented Programming Methods | | CSCI | 3331 |
| General Physics II | | PHYS | 1307 | Discrete Structures | | CSCI | 3333 |
| Fundamentals of Electronics | | PHYS | 1310 | Principles of Operating Systems | | CSCI | 3341 |
| Technical Physics I | | PHYS | 2325 | Algorithm Analysis | | CSCI | 3342 |
| Technical Physics II | | PHYS | 2326 | Contemporary Topics in Computer Science | | CSCI | 4101 |
| **Core Science Lab** | 1 | | | Wthics in Computer Science | | CSCI | 4111 |
| Classical and Modern Astronomy | | ASTR | 1103 | Applied Operations Research | | CSCI | 4321 |
| Biology for Science Majors I | | BIOL | 1106 | Database Management Systems | | CSCI | 4325 |
| Biology for Science Majors II | | BIOL | 1107 | Requirements Engineering and System Modeling | | CSCI | 4326 |
| Biology for Non-Science Majors I | | BIOL | 1108 | System Simulation and Model Building | | CSCI | 4331 |
| Biology for Non-Science Majors II | | BIOL | 1109 | Computer Networking | | CSCI | 4335 |
| Anatomy and Physiology I | | BIOL | 2101 | Organization Programming Languages | | CSCI | 4342 |
| Plant Form and Function Lab | | BIOL | 2061 | Computer Graphics | | CSCI | 4345 |
| Local Flora or Fauna Lab | | BIOL | 2081 | Special Problems | | CSCI | 4175 |
| Intro to Chemistry I Lab | | CHEM | 1105 | Data Analytics I | | CSCI | 3362 |
| General Chemistry I Lab | | CHEM | 1111 | Data Analysis II | | CSCI | 4362 |
| General Chemistry II Lab | | CHEM | 1112 | Capstone Data Analysis | | CSCI | 4365 |
| Conceptual Chemistry Lab | | CHEM | 1071 | Internship in Computing | | CSCI | 3185 |
| Intro to Environmental Science Lab | | ENVR | 1101 | Internship in Information Technology | | CSIT | 3185 |
| Fundamentals of Earth Science Lab | | GEOL | 1001 | **Elective** | 3 | Any course offered by SFA | |
| Introductory Geology Lab | | GEOL | 1103 | | | | |
| Historical Geology Lab | | GEOL | 1104 | | | | |
| Cultivating Plants Lab | | HORT | 1131 | | | | |
| Mechanics and Heat Lab | | PHYS | 1101 | | | | |
| Electricity, Sound and Light Lab | | PHYS | 1102 | | | | |
| General Physics I Lab | | PHYS | 1105 | | | | |
| General Physics II Lab | | PHYS | 1107 | | | | |
| Fundamental of Electronics Lab | | PHYS | 1110 | | | | |
| Technical Physics I Lab | | PHYS | 2125 | | | | |
| Technical Physics II Lab | | PHYS | 2126 | | | | |

| Course Group Key | | | |
|---|---|---|---|
| **Course Group Name** | **Credit Hours** | **Courses in Group** | |
| **Mathmatics Option** | **3** | | |
| Seminar in Mathematics I | | MATH | 3180 |
| Foundations of Mathematics | | MATH | 3300 |
| Concepts of Calculus | | MATH | 3301 |
| Concepts of Geometry | | MATH | 3302 |
| Calculus III | | MATH | 3315 |
| Introduction to Numerical Methods | | MATH | 3320 |
| Computational Linear Algebra | | MATH | 3325 |
| Differential Equations | | MATH | 3330 |
| Probability Modeling | | MATH | 3340 |
| Statistical Inference | | MATH | 3345 |
| Introduction to Modern Mathematics | | MATH | 3360 |
| Linear Algebra | | MATH | 3365 |
| College Geometry | | MATH | 3370 |
| Seminar in Mathematics II | | MATH | 4180 |
| Advanced Topics in Undergraduate Mathematics and Statistics | | MATH | 4190 |
| Special Problems | | MATH | 4195 |
| Special Problems | | MATH | 4196 |
| Introduction to Algebraic Systems | | MATH | 4320 |
| Number Theory | | MATH | 4325 |
| Introduction to Analysis I | | MATH | 4330 |
| Introduction to Analysis II | | MATH | 4335 |
| **Core LPC** | **3** | | |
| Literary Genres | | ENGL | 2335 |
| Introduction to Mythology | | ENGL | 2309 |
| British Literature to 1800 | | ENGL | 2322 |
| British Literature from 1800 | | ENGL | 2323 |
| American Literature to 1865 | | ENGL | 2327 |
| American Literature from 1865 | | ENGL | 2328 |
| World Literature to 1650 | | ENGL | 2332 |
| World Literature from 1650 | | ENGL | 2333 |
| Introduction to Literature | | ENGL | 2341 |
| Western Civilization I | | HIST | 2311 |
| Western Civilization II | | HIST | 2312 |
| World Civilizations I | | HIST | 2321 |
| World Civilizations II | | HIST | 2322 |
| Introduction to Philosophy | | PHIL | 1301 |
| Introduction to World Religions | | PHIL | 1304 |
| Introduction to Ethics | | PHIL | 2306 |