

COMPUTER INFORMATION SCIENCES (B.S.)

Degree: Bachelor of Science

Major: Computer Information Sciences

Concentration: None

Total Hours: 120

The Computer Information Sciences program has an overall emphasis on information networking and technology. An interplay of knowledge from areas such as distributed computing, software engineering, expert systems, information retrieval and database management systems define the information technology concept. Information networks are becoming an integral and strategic component of such industries as petrochemicals, transportation, space technology, education, banking and finance, medical applications, manufacturing and retailing. Graduates of this program will possess an integrated set of skills from the fields of engineering, computer science and business.

Students are required to take the ETS Computer Science Field Exam during the semester in which they are graduating. Graduates of this program will be prepared to respond to the varied and changing needs of an information society. Such positions as Database Administrator, Network Manager, and Chief Information Officer are among the careers that are open to graduates in this field.

| Code | Title | Hours |
|---|---|-------|
| General Education Core Curriculum | | |
| <i>Communication</i> | | |
| ENGL 1301 | Composition I | 3 |
| Select one of the following: | | 3 |
| COMM 1315 | Public Speaking I | |
| COMM 1321 | Business and Professional Speech | |
| ENGL 1302 | Composition II | |
| FREN 1311 | Beginning French I | |
| SPAN 1311 | Beginning Spanish I | |
| <i>Mathematics - 3 hours</i> | | |
| MATH 2413 | Calculus and Analytical Geometry I | 4 |
| <i>Life and Physical Sciences - 6 hours</i> | | |
| Select two from the following: | | 6 |
| BIOL 1308 | General Biology (Non-Science Majors) | |
| BIOL 1315 | Plants and Human Society (Non-Majors) | |
| BIOL 2306 | Environmental Science | |
| CHEM 1306 | Chemistry for Allied Health Sciences | |
| CHEM 1308 | Biochemistry for Allied Health Sciences | |
| CHEM 1311 | General Chemistry I | |
| CHEM 1312 | General Chemistry II | |
| GEOL 1390 | Introductory Environmental & Physical Geology | |
| PHYS 1305 | Elementary Physics I Lecture | |
| PHYS 1307 | Elementary Physics II Lecture | |
| PHYS 1311 | Introduction to Astronomy Lecture | |
| SPSC 1301 | Space Exploration | |
| <i>Language, Philosophy and Culture</i> | | |

Select three hours from the following: 3

| | |
|-----------|------------------------------|
| DSDE 1374 | Introduction to Deaf Studies |
| ENGL 2300 | Ethics and Literature |
| ENGL 2322 | British Literature |
| ENGL 2326 | American Literature |
| ENGL 2331 | World Literature |
| ENGL 2376 | African-American Literature |
| FREN 2312 | Intermediate French II |
| PHIL 1370 | Philosophy of Knowledge |
| PHIL 2306 | Ethics |
| SPAN 2312 | Intermediate Spanish II |

Creative Arts

Select three hours from the following: 3

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|-----------|--------------------------------------|
| ARTS 1301 | Art Appreciation |
| ARTS 1303 | Art History I |
| COMM 1375 | Film Appreciation |
| COSC 1324 | The Art of Computer Game Development |
| DANC 2303 | Dance Appreciation |
| MUSI 1306 | Music Appreciation |
| MUSI 1309 | Jazz History and Appreciation |
| MUSI 1310 | History of Rock and Roll |
| PHIL 1330 | Arts and Ideas |
| THEA 1310 | Theatre Appreciation |

American History

Select six hours from the following: 6

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|-----------|---------------------------|
| HIST 1301 | U S History I 1763-1877 |
| HIST 1302 | U S History II Since 1877 |
| HIST 2301 | Texas History |

Government/ Political Science

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|-----------|--------------------------------|---|
| POLS 2301 | Intro to American Government I | 3 |
| POLS 2302 | Intro/American Government II | 3 |

Social and Behavioral Sciences

| | | |
|-----------|-------------------------|---|
| ECON 1301 | Principles and Policies | 3 |
|-----------|-------------------------|---|

Component Area Option

| | | |
|-----------|----------------|---|
| ENGL 1302 | Composition II | 3 |
|-----------|----------------|---|

Required Major Courses

Computer Science Courses

| | | |
|-----------|---------------------------------------|---|
| ACCT 2301 | Introduction to Financial Accounting | 3 |
| ACCT 2302 | Introduction to Managerial Accounting | 3 |
| COSC 1172 | Thinking, Speaking, and Writing | 1 |
| COSC 1173 | Programming Lab | 1 |
| COSC 1174 | Fundamentals of Computing II Lab | 1 |
| COSC 1336 | Programming Fundamentals I | 3 |
| COSC 1337 | Programming Fundamentals II | 3 |
| COSC 2325 | Computer Organization | 3 |
| COSC 2336 | Programming Fundamentals III | 3 |
| COSC 2375 | Discrete Structures | 3 |
| COSC 3304 | Algorithms Design and Analysis | 3 |
| COSC 3325 | Computer Law and Ethics | 3 |
| COSC 4272 | Senior Assessment | 2 |
| COSC 4302 | Operating Systems | 3 |
| CPSC 4315 | Network System Administration | 3 |

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| CPSC 4317 | Computer Networks | 3 |
| CPSC 4340 | Database Design | 3 |
| CPSC 4360 | Software Engineering | 3 |
| FINC 3310 | Principles of Finance | 3 |
| MATH 2318 | Linear Algebra | 3 |
| MGMT 3310 | Principles of Organizational Behavior and Management | 3 |
| MGMT 3320 | Production Management | 3 |
| Electives | | |
| Select three hours from the following: | | 3 |
| MATH 1342 | Elementary Statistical Methods | |
| MATH 3370 | Introduction to the Theory of Statistical Inference | |
| BUAL 2305 | Business Statistics | |
| COSC 4319 | Computer Graphics | 3 |
| or CPSC 4330 | Multimedia Processing | |
| Select three hours from the following: | | 3 |
| COSC 4345 | Cybersecurity Networks | |
| CPSC 4361 | Secure Software Engineering | |
| CPSC 4363 | Cybersecurity: Systems | |
| Select six hours from the following: | | 6 |
| COSC 3302 | Intro to Computer Theory | |
| COSC 3306 | UNIX/C++ | |
| COSC 3308 | Design Programming Languages | |
| COSC 3325 | Computer Law and Ethics | |
| COSC 4301 | Special Topics | |
| COSC 4310 | Introduction to Computer Architecture | |
| COSC 4319 | Computer Graphics | |
| COSC 4324 | Computer Game Development I | |
| COSC 4345 | Cybersecurity Networks | |
| CPSC 4330 | Multimedia Processing | |
| CPSC 4361 | Secure Software Engineering | |
| CPSC 4363 | Cybersecurity: Systems | |
| CPSC 4370 | Artificial Intelligence | |
| Select six hours of general electives (any course) | | 6 |

Total Hours **120**

| Course | Title | Hours |
|-------------------|------------------------------------|-----------|
| First Year | | |
| Fall | | |
| COSC 1172 | Thinking, Speaking, and Writing | 1 |
| COSC 1173 | Programming Lab | 1 |
| COSC 1336 | Programming Fundamentals I | 3 |
| HIST 1301 | U S History I 1763-1877 | 3 |
| Communication | | 3 |
| MATH 2413 | Calculus and Analytical Geometry I | 4 |
| Hours | | 15 |
| Spring | | |
| ENGL 1301 | Composition I | 3 |
| COSC 1337 | Programming Fundamentals II | 3 |
| ECON 1301 | Principles and Policies | 3 |
| COSC 2375 | Discrete Structures | 3 |
| COSC 1174 | Fundamentals of Computing II Lab | 1 |
| HIST 1302 | U S History II Since 1877 | 3 |
| Hours | | 16 |

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| Second Year | | |
| Fall | | |
| ENGL 1302 | Composition II | 3 |
| COSC 2336 | Programming Fundamentals III | 3 |
| Academic Elective | | 3 |
| Lab Science | | 3 |
| | | 3 |
| Hours | | |
| BUAL 2310 | | |
| MATH 1342 | Elementary Statistical Methods | |
| MATH 3370 | Introduction to the Theory of Statistical Inference | |
| Hours | | 15 |
| Spring | | |
| Language, Philosophy & Culture | | 3 |
| COSC 2325 | Computer Organization | 3 |
| COSC 3304 | Algorithms Design and Analysis | 3 |
| MATH 2318 | Linear Algebra | 3 |
| Lab Science | | 3 |
| Hours | | 15 |
| Third Year | | |
| Fall | | |
| CPSC 4317 | Computer Networks | 3 |
| CPSC 4340 | Database Design | 3 |
| POLS 2301 | Intro to American Government I | 3 |
| ACCT 2301 | Introduction to Financial Accounting | 3 |
| COSC 3325 | Computer Law and Ethics | 3 |
| Hours | | 15 |
| Spring | | |
| Select one of the following: | | 3 |
| CPSC 4363 | Cybersecurity: Systems | |
| COSC 4345 | Cybersecurity Networks | |
| CPSC 4361 | Secure Software Engineering | |
| CPSC 4315 | Network System Administration | 3 |
| POLS 2302 | Intro/American Government II | 3 |
| MGMT 3310 | Principles of Organizational Behavior and Management | 3 |
| Academic Elective | | 3 |
| Hours | | 15 |
| Fourth Year | | |
| Fall | | |
| CPSC 4330 | Multimedia Processing | 3 |
| or COSC 4319 | or Computer Graphics | |
| COSC or CPSC elective | | 3 |
| ACCT 2302 | Introduction to Managerial Accounting | 3 |
| FINC 3310 | Principles of Finance | 3 |
| Creative Arts | | 3 |
| Hours | | 15 |
| Spring | | |
| CPSC 4360 | Software Engineering | 3 |
| COSC 4302 | Operating Systems | 3 |
| COSC/CPSC Elective | | 3 |
| COSC 4272 | Senior Assessment | 2 |
| MGMT 3320 | Production Management | 3 |
| Hours | | 14 |
| Total Hours | | 120 |