

Sample 4-Year plan for B.A. in Computer Science

B.S. in Computer Science with General Emphasis

First-Year Fall (14 hours)

COR 1002 Gateway Seminar in Christian Scholarship

EGL 1013 English I

MTH 1134 Calculus I

EN 1112 CS/Engineering Concepts

CS 1113 Introduction to Computing

First-Year Spring (15 hours)

BBL 1013 Old Testament

BBL 1023 New Testament

EGL 1023 English II

Statistics Elective (3 hours)

MTH 1153 Linear Algebra

Sophomore Fall (15 hours)

HIST 2013 Integrated Humanities I

Science Elective I (3 hours)

MTH 2213 Discrete Mathematics

CS 3423 Mobile/Web Applications (College Consortium)

CS 3533 Software Engineering (College Consortium)

Sophomore Spring (15 hours)

HIST 2023 Integrated Humanities II

Science Elective II (3 hours)

General Elective (3 hours)

Social and Behavioral Science Elective (3 hours)

CS 3243 Data Structures (College Consortium)

Junior Fall (16 hours)

BBL 2013 Essentials of Evangelical Theology

Whole Person Wellness (2 hours)

General Elective (2 hours)

General Elective (3 hours)

CS 2233 Object-Oriented Programming

CS 3213 Computer Architecture

Junior Spring (15 hours)

BBL 2022 Essentials of Christian Formation

General Elective (2 hours)

General Elective (3 hours)

CS 3363 Database Design (College Consortium)

CS 3613 Operating Systems
EN 3222 Collaborative Design Lab
Senior Fall (15 hours)
Intercultural Engagement Elective (3 hours)
Arts and Humanities (3 hours)
General Elective (3 hours)
CS 4513 CS Capstone I
Technical Elective (3 hours)
Senior Spring (15 hours)
Arts and Humanities or Social and Behavioral Science Elective (3 hours)
General Elective (3 hours)
CS 3323 Algorithm/Computing Theory
CS 4523 CS Capstone II
Technical Elective (3 hours)
Total semester-credit-hours: 120

Specific Requirements for other Emphases options in Computer Science

General Emphasis – 12 hours

Technical Electives: 12 hours from the following

- CS 4xx3 Selected Topic (New)
- CYB 7103 Cybersecurity Foundations
- CYB 8313 Secure Software Design
- EN 3233 Advanced Computer Programming
- EE 4173 Computer Networking
- EE 3123 Embedded Systems
- MTH 3173 Mathematical Modeling and Simulation

Mathematics Emphasis – 13 hours

Required Courses: 13 hours

- (Choose MTH 1134 Calculus I for the Mathematics Core Curriculum elective.)
- (Choose MTH 3183 Probability and Statistics for the Statistics elective.)
- MTH 1144 Calculus II
- MTH 2123 Vector Calculus
- MTH 3103 Foundations of Mathematics
- MTH 3173 Mathematical Modeling and Simulation

Cybersecurity Emphasis – 12 hours

Technical Electives: 12 hours from the following

- CYB 7103 Cybersecurity Foundations
- CYB 7113 Legal Issues and Ethics
- CYB 7133 Digital Forensics
- CYB 7213 Network Security
- CYB 7233 Information Technology Risk Management
- CYB 8113 Security Policies and Privacy
- CYB 8233 Ethical Hacking and Incident Response
- CYB 8313 Secure Software Design
- CYB 8913 Advanced Topics in Cybersecurity

Computer Engineering Emphasis – 12 hours

Required Courses: 9 hours

- (Choose MTH 1134 Calculus I for the Mathematics Core Curriculum elective.)
- EN 1323 Concepts in Electrical Engineering
- EE 2213 Digital Electronics
- EE 3123 Embedded Systems

Technical Elective: 3 hours from the following

- CS 4xx3 Selected Topic (New)
- EN 3233 Advanced Computer Programming
- EE 4173 Computer Networking
- MTH 3173 Mathematical Modeling and Simulation

Business Analytics Emphasis – 12 hours

Required Courses: 12 hours

- BUS 3xx3 Introduction to Data Science (New)
- MGT 3xx3 Applied Management Science (New)
- BUS 4xx3 Business Decision Modeling & Predictive Analysis (New)
- BUS 4xx3 Data Visualization (New)

Marketing Analytics Emphasis – 12 hours

Required Courses: 12 hours

- BUS 3xx3 Introduction to Data Science (New)
- BUS 4xx3 Business Decision Modeling & Predictive Analysis (New)
- BUS 4xx3 Data Visualization (New)
- MKT 4133 Marketing Analytics

Bioinformatics Emphasis – 12 hours

Required Courses: 8 hours

(Choose CHM 1124 General Chemistry I and BIO 1124 Cell Biology for the Natural Science Core Curriculum electives.)

- BIO 2174 Genetics
- BIO 3314 Molecular Genetics

Elective: 4 hours from the following

- BIO 3174 Molecular Cell Biology
- BIO 3334 Microbiology

Gaming/Web Development Emphasis – 12 hours

Required Courses: 9 hours from the following

- ART 2273 3D Modeling
- ART 3223 Advanced 3D Modeling
- ART 3503 Motion Graphics
- ART 4113 Visual FX 1
- ART 4423 Visual FX 2

Technical Elective: 3 hours from the following

- CS 4xx3 Selected Topic (New)
- EN 3233 Advanced Computer Programming

EE 4173 Computer Networking
CYB 7103 Cybersecurity Foundations
CYB 7113 Legal Issues and Ethics
CYB 8313 Secure Software Design