Computer Science (120 Hours)

Freshman
- CIS 115 (3)  Intro. Comp. Sci
  PR: CIS 111, or 115 or ECE 241
- CIS 200 (4)  Programming Fund.
  PR/CIS 110, or 115 or ECE 241
- CIS 300 (3)  Data & Pgm Strutures
  PR: CIS 200
- CIS 300 (3)  LOG. Found of Prog.
  PR: CIS 200
- Math 220 (4)  Calculus I
  PR: Math 110
- ENGL 100 (3)  Writing 1
  PR: Math 220
- ECON 110 (3)  Princ. of Mac. Econ
- COMM 105 (2) / COMM 105 (3)  Public Speaking
- CIS 015 (0)  Undergrad Seminar

Sophomore
- CIS 308 (1)  C/C++ Lang. Lab
  PR: CIS 200
- CIS 415 (3)  Ethics & Conduct
  PR: CIS 300
- CIS 450 (3)  Comp. Arch & Ops
  PR: ECE 241
- CIS 501 (3)  SW Arch. & Design
  PR: CIS 300
- CIS 505 (3)  intro to Programming Languages

Junior
- CIS 510 (3)  Intro to Alg. Analysis
  PR: CIS 300 and 301
- CIS 575 (3)  Object-Oriented Design, Imp. & Testing
  PR: CIS 300
- CIS 520 (3)  CIS 625 (3)
  *CIS 520 is offered in Spring & CIS 625 in the Fall
- CIS 560 (3)  Database System
  PR: CIS 300, 301
- CIS 550 (3)  Advanced OOP & Design
  PR: CIS 300

Senior
- CIS 505 (3)  CIS 625 (3)
  *CIS 520 is offered in Spring & CIS 625 in the Fall
- CIS 510 (3)  Intro to Alg. Analysis
  PR: CIS 300 and 301
- CIS 575 (3)  Object-Oriented Design, Imp. & Testing
  PR: CIS 300
- CIS 520 (3)  CIS 625 (3)
  *CIS 520 is offered in Spring & CIS 625 in the Fall
- CIS 560 (3)  Database System
  PR: CIS 300, 301
- CIS 550 (3)  Advanced OOP & Design
  PR: CIS 300

* 018 required every sem.

This course is part of the Pre-Professional Program

This course is part of the Prof. Program
### Natural Science Sequence

One of the following two-semester sequences must be included:

- **BIOL 198 and 401** (9 Hours)
- **CHM 210 and 230** (8 hours)
- **PHYS 213 and 214** (10 Hours)
- **PHYS 223 and 224** (10 Hours)

### Math/Science Electives

All remaining hours, choose from the following:

- **BIOCH 625 Intro.Organic & Biochemistry** (5)
- **BIOCH 521 General Biochemistry** (3)
- **BIOL 198 Principles of Biology** (4)
- **BIOL 201 Organismic Biology** (5)
- **BIOL 450 Modern Genetics** (4)
- **BIOL 455 General Microbiology** (4)
- **CHM 210 Chemistry I** (4)
- **CHM 230 Chemistry II** (4)
- **CHM 350 General Organic Chemistry** (3)
- **CHM 371 Chemical Analysis** (4)
- **CHM 531 Organic Chemistry I** (3)
- **CHM 550 Organic Chemistry II** (3)
- **GEOL 100 Earth in Action** (3)
- **GEOL 102 Earth in Time** (3)
- **GEOL 103 Geology Laboratory** (1)
- **GEOL 502 Mineralogy** (3)
- **STAT 511 Intro. Probability and Stat. II** (3)
- **MATH 222 Analytic Geometry and Calculus III** (4)
- **MATH 340 Elementary Diff. Equations** (4)
- **MATH 506 Introduction to Nmbr Theory** (3)
- **MATH 511 Introduction to Algebraic Sys.** (3)
- **MATH 512 Introduction to Modern Alg.** (3)
- **MATH 515 Introduction to Linear Alg.** (3)
- **MATH 551 Applied Matrix Theory** (3)
- **MATH 572 Foundations of Geometry** (3)
- **MATH 633 Advanced Calculus I** (3)
- **STAT 511 Introductory Probability and Stat. II** (3)
- **PHYS 113 General Physics** (4)
- **PHYS 114 General Physics II** (4)
- **PHYS 213 Engineering Physics I** (5)
- **PHYS 214 Engineering Physics II** (5)
- **PHYS 223 Physics I, Mech., & Thermodynamics** (5)
- **PHYS 224 Physics II, Electromag. & Sound** (5)
- **PHYS 325 Physics III, Relativity, and Quant. Phys.** (4)

### Communications Elective Choices

Options:

- **COMM 322 Interpersonal Communications** (9)
- **COMM 526 Small Group Discussion Methods** (3)
- **MANGT 420 Principles of Management** (3)
- **THTRE 261 Fundamentals of Acting** (3)
- **THTRE 265 Fundamentals of Improvisation** (3)

### Humanities/Social Science Electives

Suggestions:

- **ARCH 301 Appreciation of Architecture** (3)
- **COMM 323 Nonverbal Communication** (3)
- **ENGL 270 American Literature** (3)
- **GWSS 350 Gender in American Film** (3)
- **GWSS 550 Women and Popular Culture** (3)
- **MUSIC 170 History of Rock and Roll** (3)

### BCS Tech Electives

Any 12 hours of Tech Electives are required.

- **Required Tech Elective: 3 hours**
  - **CIS 520 Operating Systems I** (spring course only)
  - **CIS 625 Parallel Programming** (fall course only)

- **Capstone Experience: 9hrs**
  - Students get the choice between two different pathways for capstone. They need 9 hours total.

**Individual Project Path:**
- **CIS 598 Computer Science Project** (3)
- **Additional Tech Elective** (3)
- **Additional Tech Elective** (3)

**OR**

**Dual Group Project Path:**
- **CIS 642 Software Engineering Project I** (3) (fall course only)
- **CIS 643 Software Engineering Project II** (3) (spring course only)
- **Additional Tech Elective** (3)

**Additional Tech Elective Courses (3-6 hours, depending on which capstone sequence was selected). These may be any CIS course at the 500-level or above, or any of the following:**

- **ECE 542 Computer Networking**
- **GEOG 602 Computer Mapping and Geographic Visualization**
- **MATH 615 Digital Image Processing**
- **MATH 655 Elementary Numerical Analysis I**
- **MATH 656 Elementary Numerical Analysis II**
- **MATH 725 The Mathematics of Data and Networks I**
- **MATH 726 The Mathematics of Data and Networks II**
- **MIS 670 Social Media Analytics and Web Mining**