




















COMPUTER SCIENCE, B.S.





 - General Education Course

 - Milestone course: a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at <https://www.marshall.edu/gened/>.

Course Requirements











| Code | Title | Credit Hours |
|---|--|--------------|
| Core Curriculum | | |
| <i>Core 1: Critical Thinking</i> | | |
| FYS 100 | First Yr Sem Critical Thinking | 3 |
| MTH 229  | Calculus/Analytic Geom I (CT) | 5 |
| | Critical Thinking Course | 3 |
| <i>Core 2</i> | | |
| ENG 101  | Beginning Composition | 3 |
| ENG 201  | Advanced Composition | 3 |
| CMM 103  | Fund Speech-Communication | 3 |
|  | | |
| MTH 229   | Calculus/Analytic Geom I (CT) | 5 |
| | Sci w/Lab Core II Physical/Natural Science | 4 |
| | Core II Humanities | 3 |
| | Core II Social Studies | 3 |
| | Core II Fine Arts | 3 |
| <i>Additional University Requirements</i> | | |
| | Writing Intensive | 3 |
| | Writing Intensive | 3 |
| | Multicultural or International | 3 |
| CS 490  | Senior Project | 3 |
| Major-Specific | | |
| MTH 220   | Discrete Structures | 3 |
| MTH 229   | Calculus/Analytic Geom I (CT) | 5 |
| MTH 230  | Calculus/Analytic Geom II | 4 |
| MTH 329 | Elementary Linear Algebra | 3 |
| STA 345 | Applied Prob and Stat | 3 |
| CS 110  | Computer Science I | 3 |
| CS 120  | Computer Science II | 3 |
| CS 210  | Data Structures and Algorithms | 3 |
| CS 215 | Adv Data Struct and Algorithms | 3 |
| CS 300  | Programming Languages | 3 |
| CS 305 | Software Engineering | 3 |
| CS 310 | Software Engineering II | 3 |
| CS 320  | Internetworking | 3 |
| CS 330 | Operating Systems | 3 |
| CS 360 | Automata and Formal Languages | 3 |

| | | |
|---|---------------------------|---|
| CS 402 | Computer Architecture | 3 |
| CS 410 | Database Engineering | 3 |
| CS 430  | Cyber Security | 3 |
| CS 490  | Senior Project | 3 |
| ENGR 221 | Engineering Economy | 3 |
| ENG 354  | Scientific & Tech Writing | 3 |
| MGT 320  | Principles of Management | 3 |

CS Electives

| | | |
|------------------------------|------------------------------|---|
| Select two of the following: | | 6 |
| CS 315 | Software Quality Assurance | |
| CS 370 | Computer Graphics | |
| CS 404 | High Performance Computing | |
| CS 405 | Computing for Bioinformatics | |
| CS 425 | Computational Intelligence | |
| CS 435 | Cyber Risk | |
| CS 440 | Digital Image Processing | |
| CS 455 | Systems Engineering | |
| CS 480 | Special Topics | |
| CS 481 | Special Topics | |
| CS 482 | Special Topics | |
| CS 483 | Special Topics | |

Science w/ Lab

| | | |
|--|---|----|
| Select three of the following with labs: | | 12 |
| BSC 120  | Principles of Biology I | |
| & BSC 120L  | and Principles of Biology I Lab (or above) | |
| CHM 211  | Principles of Chemistry I | |
| & CHM 217  | and Principles of Chem Lab I (or above) | |
| GLY 200  | The Dynamic Earth | |
| & GLY 210L  | and Earth Materials Lab (or above) | |
| PHY 201  | College Physics I | |
| & PHY 202  | and General Physics I Laboratory (or above) | |
| PHY 211  | University Physics I | |
| & PHY 202  | and General Physics I Laboratory (or above) | |

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|---------------|---|
| Free Elective | 3 |
| Free Elective | 3 |
| Free Elective | 2 |

Major Information

- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.
- Coursework listed as "free elective" may vary for each student. Students are encouraged to use elective hours toward a minor or toward prerequisites.
- Course offerings and course attributes are subject to change each semester. Please consult each semester's schedule of courses for availability and attributes.