Lower-Division Requirements

32 credit hours. Courses taken graded:

- CIS 210, 211, 212 – Computer Science I, II, III
- Math 231, 232 – Discrete Mathematics I, II
- Math 251, 252, 253 - Calculus I, II, III OR Math 261, 262, 263 - Honors Calculus I, II, III

Students must earn no grade below C for automatic advancement to the upper-division courses. Any grade below C will require advisor approval to register.

Major Requirements – Computer & Information Science Core

40 total credit hours (includes 12 credits lower-division CIS courses) – courses taken Graded:

- CIS 313 - Intermediate Data Structures
- CIS 314 - Computer Organization
- CIS 315 - Introduction to Algorithms
- CIS 425 - Principles of Programming Languages
- ONE from the following list:
  - CIS 330 - C/++ and Unix
  - CIS 420 - Automata Theory
  - CIS 422 - Software Methodology I

Two additional 4-credit upper-division CIS courses (8 credits total) are required and may be taken Pass/No Pass or graded.

Major Requirements - Mathematics Core

44 total credit hours (includes 20 credits lower-division math courses). The following core courses are required and must be taken graded:

- Math 315 - Elementary Analysis
- Math 341, 342 - Elementary Linear Algebra

One other upper-division mathematics course excluding Math 425, 426, and 427.

Additional MACS Requirements

Continued on back
Major Requirements — Writing

In addition to the university’s writing requirement, take one from the following (may be taken Pass/No Pass or graded):

- WR 320 - Technical Writing
- WR 321 - Business Communications

Major Requirements — Science

Take 12 credits in one of the following options; these classes may be taken Pass/No Pass or graded:

- **Physics**: PH 201, 202, 203 - General Physics OR PH 251, 252, 253 - Foundations of Physics
- **Chemistry**: CH 221, 222, 223 - General Chemistry OR CH 224H, 225H, 226H - Honors General Chemistry
- **Biology**: CH 111 - Introduction to Chemical Principles OR CH 113 - The Chemistry of Sustainability OR CH 221 - General Chemistry OR CH 224 - Honors General Chemistry, BI 211 - General Biology, and BI 212 - General Biology OR BI 213 - General Biology
- **Psychology**: PSY 201 - Mind & Brain, PSY 202 - Mind & Society, and PSY 304 - Biopsychology OR PSY 330 - Thinking OR PSY 348 - Music & the Brain
- **Geography**: GEOG 141 - The Natural Environment, and two from GEOG 321 - Climatology, GEOG 322 - Geomorphology, or GEOG 323 - Biogeography
- **Geological Sciences**: GEOL 201 - Earth’s Interior Heat & Dynamics, GEOL 202 - Earth Surface & Environmental Geology, GEOL 203 - Evolution of the Earth

Note: Students are encouraged to complete the accompanying lab courses.

Major Requirements — Major Progress Review Form

Each MACS major must meet with his or her advisor and file the Major Progress Review form after completion of 12 credits of the upper-division core - Math 315, 341, 342; CIS 313, 314, 315, 425, 422 (or 441 or 445) - including at least one course from each department.

A student who receives two grades below C- in the upper-division core may be removed from the major.