

# MACS Curriculum Overview (Sample Path)

Preparation may be covered by high school courses and/or programming experience.

**Prepare Before Entering Program:**

**Complete one or more of the following:**  
 CIS 105 Explorations in Computing and/or  
 CIS 111 Intro to Web Programming and/or  
 CIS 115 Multimedia Web Programming and/or  
 CIS 122 Programming and Problem Solving (recommended)

MATH 112  
 Elementary Functions

Students may begin the introductory MACS sequences during Fall or Winter of their first or second year. This chart is a suggestion for moving through the curriculum requirements. Other course orders are possible.

## Year 1 or 2: Introduction to Computer Science

CIS 210 Computer Science I	CIS 211 Computer Science II	CIS 212 Computer Science III
MATH 231 Discrete Math I	MATH 232 Discrete Math II	(Math Elective)
MATH 251 Calculus I	MATH 252 Calculus II	MATH 253 Calculus III

## Year 2 or 3: Systems, Theory and Software Development

CIS 313 Data Structures	CIS 315 Algorithms	CIS 425 Programming Languages
MATH 315 Elementary Analysis	MATH 341 Elem. Linear Algebra I	MATH 342 Elem. Linear Algebra II
Three-term Laboratory Science Sequence in Biology, Chemistry, Physics, Geological Sciences, Geography or Psychology (see list on reverse side)		

Summer Internship  
 or Research Opportunity

## Year 3 or 4: Tracks and Electives

CIS 314 or CIS 420	CIS 314 or CIS 330 or CIS 422	CIS Elective
MATH 351 or 461	MATH 352 or 462	CIS Elective
MATH Elective or WR 320 or 321	MATH Elective or WR 320 or 321	(CIS or MATH Elective)

## Math Core Requirements

MATH Elective

MACS majors must take an upper-division MATH elective, excluding 425, 426, or 427.

## Laboratory Science Requirements

Students must complete one three-term sequence chosen from the following:

Science Course 1

Science Course 2

Science Course 3

- General Physics: PHYS 201, 202, 203
- Foundations of Physics: PHYS 251, 252, 253
- General Chemistry: CH 221, 222, 223
- Honors General Chemistry: CH 224H, 225H, 226H
- Geological Sciences: GEOL 201, 202, 203
- Geography: GEOG 141, *choose 2: [GEOG 321, GEOG 322, GEOG 323]*
- Biology: *choose 1:[CH 111, CH 113, CH114, CH 221, CH 224H],*  
*BI 211, then choose 1:[BI 212, BI 213]*
- Psychology: PSY 201, PSY 202, *choose 1: [PSY 304, PSY 330, PSY 348]*