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Cybersecurity Degree Requirements

The Cybersecurity Specialization allows students to have the necessary background to address myriad cybersecurity issues relevant to government, industry, and academic careers. Students interested in pursuing the cybersecurity specialization take the same foundational courses in computer science, but must complete a set of upper-level elective courses in order to ensure they receive in-depth education in topics such as network and distributed system security, operating systems security, and cryptography.

Students looking to pursue the cybersecurity specialization are required to complete the lower level courses (MATH140, MATH141, CMSC131, CMSC132, CMSC216, CMSC250), the additional required courses (CMSC330, CMSC351, MATH/STATXXX and STAT4xx beyond MATH141), and the upper level concentration. The difference in the specialization is the upper level computer science courses.

Students must fulfill their computer science upper level course requirements from at least 3 areas. Students may fulfill an area requirement under the Upper Level Elective Courses requirement. Courses that fall within each area are listed in the CS Distributive Areas and Electives (/sites/undergrad.cs.umd.edu/files/images/uploads/2022/07/2208%20Computer%20Science%20Distributive%20Areas%20and%20Electives.pc document.

The five areas are:

- Area 1: Systems;
- Area 2: Information Processing;
- Area 3: Software Engineering and Programming Languages;

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Required

CMSC 414 (3) Computer and Network Security

CMSC 456 (3) Cryptology *

Choose four courses from:

CMSC 411 (3) Computer Systems Architecture

CMSC 412 (4) Operating Systems *

CMSC 417 (3) Computer Networks

CMSC 430 (3) Introduction to Compilers

CMSC 433 (3) Programming Language Technologies and Paradigms

CMSC 451 (3) Design and Analysis of Computer Algorithms

Upper Level Elective Course

Students must select 3 credits from CMSC 300- or 400-level coursework (not eligible, CMSC330 and CMSC351)

*Indicates this course has unique prerequisites.

Contact Our Office

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