

COMPUTER SCIENCE AND INFORMATION SECURITY MAJOR CHECKLIST

Description. The major in Computer Science and Information Security offers the computing, quantitative and analytical expertise public and private organizations need to advance the practice of digital forensics and cybersecurity. The program provides the foundational background in computing that is needed to thwart the abuse and misuse of computers, data networks, information systems and information infrastructures, in the environment of ever advancing digital technology. The courses in the Computer Science and Information Security major prepare students for direct entry into the profession as well as entry into graduate and professional programs that rely on computing and quantitative methods, especially in areas related to digital forensics and cybersecurity.

Prerequisites. MAT 105 and MAT 141 (does not count towards the 57 credits required for the major) are prerequisites for the required calculus sequence in the CSCI major.

| (57 total credits) | Courses (prerequisites) |
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| Part 1 <i>Required CSCI Courses</i> (33 credits) | ___ CSCI 271 Introduction to Computer Science (ENG 101 & MAT 105) ___ CSCI 272 Object-Oriented Programming (ENG 101 & CSCI 271) ___ CSCI 274 Computer Architecture (ENG 101, corequisite CSCI 271) ___ CSCI 360 Cryptography and Cryptanalysis (ENG 201, MAT 204, CSCI 272) ___ CSCI 373 Advanced Data Structures (ENG 201, CSCI 272) ___ CSCI 374 Programming Languages (ENG 201, CSCI 272) ___ CSCI 375 Operating Systems (ENG 201, CSCI 272) ___ CSCI 377 Computer Algorithms (ENG 201, CSCI 272) ___ CSCI 379 Computer Networking (ENG 201, CSCI 272) ___ CSCI 411 Computer Security and Forensics (CSCI 360, CSCI 375) ___ CSCI 412 Network Security and Forensics (ENG 201, CSCI 360, CSCI 379) |
| Part 2 <i>Required Math Courses</i> (9 credits) | ___ MAT 204 Discrete Structures (ENG 101, MAT 105) ___ MAT 241 Calculus I (ENG 101, MAT 141 or math placement score) ___ MAT 301 Probability & Mathematical Statistics I (ENG 201, MAT 241) |
| Part 3A <i>CSCI Electives</i> Choose 1 (3 credits) | ___ CSCI 362 Databases and Data Mining (ENG 201, CSCI 373) ___ CSCI 376 Artificial Intelligence (ENG 201, CSCI 272) ___ CSCI 380 Selected Topics in Computer Science (ENG 201, CSCI 272) ___ CSCI 404 Internship in Management Information Systems (CSCI 400) |
| Part 3B <i>Math Electives</i> Choose 1 (3 credits) | ___ MAT 242 Calculus II (MAT 241 or placement exam score) ___ MAT 310 Linear Algebra (MAT 241) ___ MAT 351 Introduction to Ordinary Differential Equations (MAT 242) ___ MAT 371 Numerical Analysis (MAT 242) ___ MAT 380 Selected Topics in Mathematics (Permission of the Instructor) |
| Part 4 <i>Ethics</i> (3 credits) | ___ PHI 216 Ethics and Information Technology (ENG 101) |
| Part 5 <i>Required Capstone Courses</i> (6 credits) | ___ CSCI 400 Capstone Experience in Digital Forensics/Cybersecurity I (CSCI 373) ___ CSCI 401 Capstone Experience in Digital Forensics/Cybersecurity II (CSCI 400) |