**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 58 credits required for the major) are prerequisites for the required calculus sequence in the CSCI major.

<table>
<thead>
<tr>
<th>(58 total credits)</th>
<th>Courses (prerequisites)</th>
</tr>
</thead>
</table>
| **Part 1** Required CSCI Courses (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** Required Math Courses (10 credits) | _MAT 204 Discrete Structures (ENG 101, MAT 105)  
_MAT 151 Calculus I (ENG 101, MAT 141 or math placement)  
_MAT 301 Probability & Mathematical Statistics I (ENG 201, MAT 151 or MAT 241) |
| **Part 3A** CSCI Electives 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** Math Electives Choose 1 (3 credits) | _MAT 242 Calculus II (MAT 241 or math placement)  
_MAT 310 Linear Algebra (MAT 151 or 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** Ethics (3 credits) | _PHI 216 Ethics and Information Technology (ENG 101) |
| **Part 5** Required Capstone Courses (6 credits) | _CSCI 400 Capstone Experience in Digital Forensics/Cybersecurity I (CSCI 373)  
_CSCI 401 Capstone Experience in Digital Forensics/Cybersecurity II (CSCI 400) |

*Updated Summer 2021*