CYBERSECURITY (BS)

This major is offered in the traditional format.

Bachelor of Science

The Bachelor of Science degree program in Cybersecurity prepares students for a career in cybersecurity. Through core coursework, students develop an understanding of programming and the technical skills needed to secure an organization's systems. Students choose additional coursework to either deepen their technical skills or to prepare them to manage a cybersecurity operation. Students are exposed to current technologies and best practices, learn teamwork skills, and develop an awareness of ethical and social issues within this field.
Majors will choose either the technical analyst track that further prepares them to implement and maintain a secure infrastructure for an organization, or the policy and management track where they will develop the skills and ethical framework to establish and oversee a secure infrastructure for an organization.

Program Requirements

Code	Title	Credits
Required Courses		
CSC-1700	Introduction to Computer Programming	4
CYB-1100	Foundations of Cybersecurity	4
CSC-2150	Data Structures & Algorithms	4
CSC-2300	Computer Systems and Architecture	4
CSC-2450	Operating Systems Admininstration	4
CSC-3350	Enterprise Networking	4
Required Mathematics		**8**
MTH-2100	Statistics	4
MTH-3270	Discrete Mathematics	4
Select one of the following tracks:		**16**
Policy and Management		
CYB-2100	Communicating, Problem Solving, and Leading in Cybersecurity	
CYB-3100	Cybersecurity Governance	
CYB-3300	Risk Management and Organizational Resilience	
CYB-4500	Cybersecurity Program Development	
Technical Analyst		
CSC-3400	Computer Security	
CYB-3600	Cryptography and Encryption	
CYB-4610	Ethical Hacking	
CYB-4620	Digital Forensics	
Total Credits		**56**

Undergraduate Degree Requirements

A student who graduates from Aurora University with a baccalaureate degree will have met the following requirements:

1. Completion of all requirements for an approved major (with no grades lower than "C").
2. Overall completion of at least 120 semester hours of coursework with a GPA of at least 2.0 on a 4.0 scale (a course may be utilized only once in application toward a degree requirement, unless otherwise noted in the academic regulations). The 120 semester hours of coursework must include:
   - At least 52 semester hours completed at a senior college.
   - Residency Requirement - At least 30 semester hours completed at Aurora University, including the last 24 semester hours in the degree, and including at least 18 semester hours in the major. (Portfolio assessment credit, life and vocational experience credit, off-campus experience credit, examination credit, participation credit, and block credit, shall not count toward the residency requirement).
   - Upper-Division Requirement - A minimum of 30 semester hours numbered 3000 or above. Of these 30 semester hours, 15 semester hours must lie within the major and 15 semester hours must be completed at Aurora University.
3. Completion of all General Education requirements (with no grades lower than "C"), as follows:
   - Quantitative and Formal Reasoning competency requirement (https://catalog.aurora.edu/regulations-policy-catalog/academic-regulations-procedures/general-education/#satisfy-quantitative-reasoning-requirement)
   - ENG-1000 Introduction to Academic Writing
   - IDS-1200 Discover What Matters or IDS-3040 Global Justice
   - IDS-1150 First Year Experience - *Not required for Transfer or AU Online students)*
   - Satisfactory participation in the junior-year mentoring and assessment process designed to guide students to successful completion of their degree and to encourage planning for next steps beyond graduation. (IDS-3500 Junior Mentoring Program I and IDS-3550 Junior Mentoring Program II - *Not required for ADC or AU Online students but may be designated electives for AU Online students admitted with fewer than 15 hours of transfer credit.)*
   - Distribution Requirements
   Students will complete one approved course[1] from each of the following categories:
     - Artistic Literacy
     - Cultural Literacy
     - Human Inquiry
     - Scientific Inquiry

   In addition to the above, ADC and Online students will also complete one approved course[1] from the following category:

     - Discovery and Reflection

[1] Only courses that are approved to meet the distribution requirement can be used toward this requirement. See the list of approved courses (https://catalog.aurora.edu/regulations-policy-catalog/academic-regulations-procedures/general-education/#approved-courses-gen-ed-distribution) for available options. Courses taken to meet distribution requirements are 4 semester hours apiece, with the following exceptions:
   - An approved transfer course of at least 2.50 semester hours can be used to satisfy a distribution requirement.
   - Courses with co-requisite laboratory components may be used to satisfy a distribution requirement, provided that the student successfully complete both the three-credit-hour course and the single-credit-hour lab component.

Learning Outcomes

1. **Problem Solving**
    Students will be able to create and implement well designed computing and cybersecurity problem solutions demonstrating correct, efficient, and well-structured code.
2. **Requirements Fulfillment**
    Students will be able to implement and evaluate a complete, efficient, and correct cybersecurity solution given a set of technical, compliance requirements that solve a real-world cybersecurity problem.
3. **Advanced Technical Knowledge**
    Students will demonstrate an understanding of newer technologies and tools used to secure an organization's systems, recognize their professional responsibility to stay current in the field, and use informed judgements and best practices used in cybersecurity to design or implement solutions.
4. **Teamwork and Communication**
    Students will be able to effectively contribute as a member of a cybersecurity problem-solving team and communicate effectively within a group using best practices commonly used in the cybersecurity field.