Description

The applied cybersecurity certificate program is designed to build competencies in security operations, risk assessment, network security, and governmental and regulatory compliance in an interdisciplinary learning setting.

Building upon core skills that students bring with them from their majors, students practice dealing with cyber threats and resolving issues from multiple perspectives. This certificate is an ideal supplement for students interested in careers in cybersecurity in both the private sector and within government agencies (FBI, Homeland Security, NSA, DOD) in positions such as:

- chief information security officer
- cyber risk analyst
- information security engineer
- network security engineer
- security operations center analyst

The program is offered through a collaboration between the New College of Interdisciplinary Arts and Science, the Ira A. Fulton Schools of Engineering and the W. P. Carey School of Business.

At a Glance

- **College/School:** New College of Interdisciplinary Arts and Sciences
Program Requirements

Certificate Map (Archives)

2019 - 2020 Certificate Map

The certificate in applied cybersecurity consists of a minimum of 15 upper-division credit hours earned at ASU. Six credit hours must be unique and not count towards a student's undergraduate degree. All courses used to satisfy requirements for the certificate must be passed with a "C" (2.00) or better. Students must select courses from more than one prefix to fulfill certificate requirements.

Students must take CSE 365 or IFT 302 and one course each from groups A, B or C, and D; then one course from Group E for a total of five courses or 15 credit hours. It is recommended that the Group A course be taken concurrently with CSE 365 or IFT 302. The Group B or C and D courses must be taken after successful completion of CSE 365 or IFT 302. Group A through D courses must be completed successfully before enrolling in the Group E required course.

Required Courses -- 3 credit hours

CSE 365: Information Assurance or IFT 302: Foundations of Information and Computer System Security (3)

Electives -- 9 credit hours

Group A - Security Operations and Risk Management -- 3 credit hours

ACO 461: Security Operations (3)
CIS 401: Managing Cyber Risks in Enterprise Business Processes (3)
IFT 481: Information System Security (3)

Group B - Systems and Network Security OR Group C - Forensics/Cyber Crime -- 3 credit hours

Group B - Systems and Network Security:
ACO 431: Network Security (3)
CSE 466: Computer Systems Security (3)
CSE 468: Computer Network Security (3)
IFT 458: Middleware Programming and Database Security (3)
IFT 475: Security Analysis (3)

Group C - Forensics/Cyber Crime:
ACO 350: Systems Programming (CS) (3)
CSE 469: Computer and Network Forensics (3)
IFT 482: Network Forensics (3)
Group D - Policy -- 3 credit hours

ACO 351: Governance, Risk and Compliance (3)
CIS 402: Privacy, Ethics and Compliance Issues (3)
CSE 467: Data and Information Security (3)
IFT 483: Developing Security Policy (3)

Group E - Project -- 3 credit hours

Students may take more than one semester of Applied Project but only three credit hours will count towards the certificate.

ACO 484: Internship or ACO 499: Individualized Instruction (3)
CIS 440: Capstone in Information Systems (L) (3)
CSE 485: Computer Science Capstone Project I (L) or CSE 486: Computer Science Capstone Project II (L) (3)
IFT 401: Information Technology Capstone Project I or IFT 402: Information Technology Capstone Project II (3)

Depending on a student's undergraduate program of study, prerequisite courses may be needed in order to complete the requirements of this certificate.

Enrollment Requirements

To enroll in this certificate program, students should have completed at least 45 credit hours in their declared majors and have a cumulative GPA of 2.00 or better.

Students should pay attention to the prerequisites needed for required certificate courses and make sure to complete prerequisite courses prior to enrolling in the certificate program.

CSE 365 Information Assurance has prerequisites of CIS 235, CSE 220 or CSE 240.
Prerequisites for CIS 235: CIS 105, 200 or 220; MAT 210, 211, 270 or 271
Prerequisites for CSE 220: CSE 205
Prerequisites for CSE 240: ACO 102 or CSE 205 or a GIS major with GIS 222

IFT 302 Foundations of Information and Computer System Security has prerequisites of IFT 259, and HSE 230, PSY 230 or STP 226.
Prerequisites for HSE 230: MAT 117 or higher, and HSE 101 or PSY 101
Prerequisites for PSY 230: PSY 101 and MAT 119 or higher
Prerequisites for STP 226: MAT 117 or higher
Prerequisites for IFT 259: IFT 201
Prerequisites for IFT 201: IFT 101, as well as pre- or co-requisites of MAT 243, and IFT 102 or SER 200
A student pursuing an undergraduate certificate must be enrolled as a degree-seeking student at ASU. Undergraduate certificates are not awarded prior to the award of an undergraduate degree. A student already holding an undergraduate degree may pursue an undergraduate certificate as a nondegree-seeking graduate student.

**Contact Information**

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