CYBERSECURITY AND INFORMATION TECHNOLOGY (CIT)

CIT 310. Enterprise System Administration
Credits: 3
Prerequisite: CIS 216.
Typically Offered: ONDEMAND
This class focuses on performing systems administration in an enterprise environment. Server and client security policy, imaging, remote administration, terminal services, and fault tolerance are among the topics covered.

CIT 320. Disaster Recovery & Incident Response
Credits: 3
Typically Offered: SPRING
This class focuses on methods, policies and procedures needed to maintain systems availability. Response and mitigation to an incident will be explored as well as determining its root cause.

CIT 330. Data Center Virtualization Fundamentals
Credits: 3
Prerequisite: CIS 165 or instructor approval.
Typically Offered: SPRING
This course focuses on implementation, support, and maintenance of a virtualized data center infrastructure. Topics include virtual servers and clients, virtual machine storage and storage area network technologies, and virtual networking. In addition, students will use hands-on tools to learn about these virtualization topics.

CIT 340. IT Policies and Procedures
Credits: 3
Typically Offered: FALL
This course introduces the writing of information security policies and procedures. Their contents and organization will be examined in detail. Students will learn to write effective documents for the governance of IT and cybersecurity operations.

CIT 341. Mobile Forensics Fundamentals
Credits: 3
Prerequisite: CIS 241.
Typically Offered: FALL
This course introduces students to the application of digital forensics methods for mobile devices, as well as additional tools and techniques specific to forensics of mobile devices.

CIT 342. Memory Forensics Fundamentals
Credits: 3
Prerequisite: CIS 241.
Typically Offered: FALL
This course introduces students to the application of digital forensics methods to retrieving memory artifacts from devices, as well as additional tools and techniques specific to forensics of device memory.

CIT 345. Cybersecurity Governance
Credits: 3
Prerequisite: CIT 340.
Typically Offered: SPRING
This course explores the frameworks used to provide oversight and accountability for information technology and cybersecurity programs.

CIT 350. Software Security
Credits: 3
Prerequisite: CSCI 174.
Typically Offered: FALL
This course examines how hackers exploit poorly designed code for their benefit. It also shows students how to secure their code from these attacks.

CIT 355. Software Reverse Engineering
Credits: 3
Prerequisite: CSCI 250.
Typically Offered: FALL
This course examines executable software code to understand how it works and what it does.

CIT 364. Network Defenses
Credits: 3
Prerequisite: CIS 165.
Typically Offered: ONDEMAND
In this course, students learn to design and configure a secure network environment using Virtual Private Networks, Intrusion Detection Systems, firewalls, and other network security technologies.

CIT 367. Cybersecurity Infrastructure Configuration
Credits: 3
Prerequisite: CIS 165 or instructor approval.
Typically Offered: FALL
This course provides students an understanding of how to install, configure, and manage firewalls for defense of enterprise network architectures. Students will learn the theory and configuration steps for setting up the security, networking, threat prevention, logging, and reporting features of next generation firewall technologies. In addition to gaining practical Next Generation Firewall experience, this course helps to prepare students for the Palo Alto Networks Certified Network Security Administrator (PCNSA) certification exam.

CIT 368. Cybersecurity Prevention & Countermeasures
Credits: 3
Prerequisite: CIT 367 or Instructor approval.
Typically Offered: SPRING
This course provides students with advanced information in installing, configuring, and managing firewalls for defense of enterprise network architecture. Students will learn the theory and extended configuration features necessary to set up traffic handling, advanced content/user identification, quality of service, global protect, monitoring/reporting and high availability of next generation firewall technologies. In addition to gaining practical next generation firewall experience, this course helps to prepare students for the Palo Alto Networks Certified Network Security Administrator (PCNSA) certification exam.

CIT 380. Network Forensics
Credits: 3
Prerequisite: CIS 165.
Typically Offered: SPRING
This course introduces the tools and techniques used to investigate and locate evidence of network attacks.

CIT 381. IT Project Management
Credits: 3
Typically Offered: SPRING
An investigation of the project management techniques and appropriate software used to effectively manage projects. This course covers the knowledge areas and other topics as defined by the Project Management Body of Knowledge (PMBOK).

CIT 410. Wireless Networking and Mobile Security
Credits: 3
Prerequisite: CIS 165 or instructor approval.
Typically Offered: FALL
This course examines the role wireless communication plays in business communications. It also explores enterprise management of wireless and mobile devices.

CIT 430. Cloud Computing & Security
Credits: 3
Prerequisite: CIS 165 or Instructor approval.
Typically Offered: FALL
This course introduces the use and administration of cloud computing platforms, as well as their security. Students gain experience using common cloud providers, such as Amazon Web Services and Azure.

CIT 440. Cybersecurity Program Fundamentals
Credits: 3
Typically Offered: SPRING
This course examines the topics used to successfully build an organizations cybersecurity program. Students will learn about a wide range of security concepts, tools, and techniques. This course provides foundational knowledge required for the Certified Information Systems Security Professional (CISSP) certification.

CIT 445. Information Assurance and Risk Management
Credits: 3
Prerequisite: CIT 440.
Typically Offered: SPRING
This course teaches students to architect and engineer secure solutions for enterprise environments. Topics include security architecture, security operations, risk & compliance, as well as security engineering.

CIT 450. Database and Web Application Security
Credits: 3
Prerequisites: CIS 204 and CSCI 160 or instructor approval.
Typically Offered: FALL
This course explores the vulnerabilities found in database servers and web applications. It also provides techniques for securing them.

CIT 455. Malware Analysis
Credits: 3
Prerequisite: CIT 355.
Typically Offered: SPRING
This course examines the behavior of malicious software, providing insight into how it is written and how to protect against it.

CIT 460. Operating System Concepts
Credits: 3
Typically Offered: ONDEMAND
This course provides an overview of various operating system concepts. Topics covered include processes, interrupts, interprocess communication, virtual memory management, CPU scheduling and deadlocks.

CIT 469. Cybersecurity & Information Technology Capstone
Credits: 3
Typically Offered: ONDEMAND
A capstone course for the Cybersecurity and Information Technology BAS program. In this class students will complete a security based final project that reflects upon what they've learned in the program. Students will be asked to present their final project upon completion to the class. The final projects will be examined by their fellow classmates who will try to determine if the project is secure or not.

CIT 470. Penetration Testing
Credits: 3
Prerequisite: CIS 255.
Typically Offered: SPRING
This course provides theoretical and practical aspects of network and web application penetration testing. The course uses a hands-on approach to the different phases of penetration testing. Students will learn tools and methodologies typically used to exploit vulnerabilities.

CIT 475. Emerging Threats and Defenses
Credits: 3
Prerequisites: CIS 216, CIS 226 and CIS 255 or instructor approval.
Typically Offered: SPRING
In this course, students learn to implement a variety of tools, strategies, and techniques to defend and administer an IT infrastructure. Role based scenarios and challenges will be presented, allowing students to practice and apply their cybersecurity defense skills. Trending topics in cybersecurity will also be examined.

CIT 480. Cyber Threat Hunting
Credits: 3
Prerequisite: CIT 380.
Typically Offered: FALL
This course introduces the terminology, tools, and techniques to search for evidence of threat actor activities in networked devices.