

CYBER FORENSICS AND SECURITY (CFS)

 - General Education Course

CFS 200 Introduction to CFS **3 Credit hours**

This course teaches student how information is recovered from electronic devices and the forensic techniques used to perform forensic examinations. In addition, legal issues regarding electronic data will be discussed.

Grade Mode: Normal Grading Mode

CFS 261 Introduction to Linux **3 Credit hours**

An introductory course for the Linux operating system, focusing on its application in information assurance and the digital forensics.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 305 Open Source Intelligence **3 Credit hours**

This course identifies and demonstrates free online resources that can aid investigators in searching the Internet for resources that can be applied to domestic and international investigations.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 357 Network Penetration and Attack **4 Credit hours**

Students will explore tools and techniques used to penetrate, exploit and exfiltrate data from computers and networks.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 400 Intro to Cyber Forensics **3 Credit hours**

This course teaches students how information is recovering from electronic devices and the forensic techniques used to perform forensic examinations. In addition, legal issues regarding electronic data will be discussed.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 405 OSINT Practicum **3 Credit hours**

Grade Mode: Normal Grading Mode

CFS 406 OSINT Practicum II **3 Credit hours**

Grade Mode: Normal Grading Mode

CFS 410 Collegiate Cyber Competition I **3 Credit hours**

Pre-req: CFS 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 411 Collegiate Cyber Comp II **3 Credit hours**

Pre-req: CFS 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 420 Incident Response **3 Credit hours**

This course examines forensic and investigative aspects of a network intrusion. Topics include pre-incident preparation, developing leads, scoping an incident, forensic data collection, evidence from hosts, networks, and enterprise environments.

Pre-req: CFS 400 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 430 Exploit Development **3 Credit hours**

Students will learn the skills required to reverse-engineer 32-bit and 64-bit applications, perform remote user application, analyze patches for 1-day exploits, and write complex modern software and operating systems.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 440 Digital Evidence **4 Credit hours**

Concepts of computer forensics, including handling digital evidence, case preparation, forensic imaging, data recovery, password cracking, e-mail analysis, and report writing. Proper usage of difference forensic tools is emphasized.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 445 Mobile & Web Pen Testing **3 Credit hours**

This course is designed to teach students the advanced skills and techniques required to test mobile and web applications.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 448 Multimedia Forensics **3 Credit hours**

Course will introduce principles of multimedia forensics and their application to digital forensics. Practical forensics enhancements and analysis techniques, including how to prepare forensically-sound exhibits are covered.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 454 Network Defense **4 Credit hours**

An in-depth examination of the principles, strategies, and tools used to defend, detect, and respond to a variety of common network attacks.

Pre-req: CFS 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 460 Applied Cyber Forensics **4 Credit hours**

Introduction to the principles, practices and tools of digital forensics and electronic discovery. Hands-on exercises in a simulated real-world environment are a critical component of the course.

Pre-req: CFS 400 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 461 Cyber Warfare 3 Credit hours

Broad examination of this new form of conflict including the role of nation states, the challenge of attribution, potential impact on the physical world, and current government policy and doctrine.

Pre-req: CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or IST 280 with a minimum grade of D or DFIA 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 462 Network Forensics 4 Credit hours

Examination of techniques and tools used to investigate, search, collect, analyze, and report on network based breaches and events.

Pre-req: (CFS 200 with a minimum grade of D or IST 264 with a minimum grade of D or DFIA 200 with a minimum grade of D) and CFS 400 with a minimum grade of D and CFS 261 with a minimum grade of D and CIT 352 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 464 Network Security 3 Credit hours

Addresses security issues for TCP/IP-based networks, Access Control and Communications are covered as well as Internet security in areas of cryptography, protocols, applications, encryption, hash functions digital signatures, etc.

Pre-req: CFS 200 with a minimum grade of D.

Grade Mode: Normal Grading Mode

CFS 467 Mobile Device Forensics 4 Credit hours

Identification, preservation, collection, analysis, and reporting techniques and tools used in the forensics examination of mobile devices such as cell phones and GPS units.

Pre-req: CFS 400 with a minimum grade of D and (CFS 200 with a minimum grade of D or DFIA 200 with a minimum grade of D or IST 264 with a minimum grade of D).

Grade Mode: Normal Grading Mode

CFS 470 Internship 3 Credit hours

Grade Mode: Normal Grading Mode

CFS 480 Special Topics 3 Credit hours

Grade Mode: Normal Grading Mode

CFS 485 Independent Study 3-6 Credit hours

Grade Mode: Normal Grading Mode

CFS 490  Capstone 3 Credit hours

This course reinforces assesses the student's ability to apply core digital forensics and information assurance knowledge and skills in a series of realistic practical exercises.

Pre-req: CFS 357 with a minimum grade of D and CFS 460 with a minimum grade of D and CFS 467 with a minimum grade of D.

Attributes: Capstone Course

Grade Mode: Normal Grading Mode

CFS 491 Research 3-6 Credit hours

Students will explore and apply common research methods used in digital forensics and information assurance. Students will complete a research project including a paper or poster during the semester.

Grade Mode: Normal Grading Mode