

Information Assurance (INFAS)

Courses primarily for undergraduates:

INFAS 131. Introduction to Computer Security Literacy.

(Cross-listed with CPR E). (1-0) Cr. 1.

Basic concepts of practical computer and Internet security: passwords, firewalls, antivirus software, malware, social networking, surfing the Internet, phishing, and wireless networks. This class is intended for students with little or no background in information technology or security. Basic knowledge of word processing required. Offered on a satisfactory-fail basis only.

Courses primarily for graduate students, open to qualified undergraduates:

INFAS 530. Advanced Protocols and Network Security.

(Cross-listed with CPR E). (3-0) Cr. 3. *Prereq: CPR E 381*

Detailed examination of networking standards, protocols, and their implementation. TCP/IP protocol suite, network application protocols, IP routing, network security issues. Emphasis on laboratory experiments.

INFAS 531. Information System Security.

(Cross-listed with CPR E). (3-0) Cr. 3. *Prereq: CPR E 489 or CPR E 530 or COM S 586 or MIS 535*

Computer and network security: basic cryptography, security policies, multilevel security models, attack and protection mechanisms, legal and ethical issues.

INFAS 532. Information Warfare.

(Cross-listed with CPR E). (3-0) Cr. 3. S. *Prereq: CPR E 531*

Computer system and network security: implementation, configuration, testing of security software and hardware, network monitoring. Authentication, firewalls, vulnerabilities, exploits, countermeasures. Ethics in information assurance. Emphasis on laboratory experiments.

INFAS 533. Cryptography.

(Cross-listed with CPR E, MATH). (3-0) Cr. 3. S. *Prereq: MATH 301 or CPR E 310 or COM S 330*

Basic concepts of secure communication, DES and AES, public-key cryptosystems, elliptic curves, hash algorithms, digital signatures, applications. Relevant material on number theory and finite fields.

INFAS 534. Legal and Ethical Issues in Information Assurance.

(Cross-listed with CPR E, POL S). (3-0) Cr. 3. S. *Prereq: Graduate classification; CPR E 531 or INFAS 531*

Legal and ethical issues in computer security. State and local codes and regulations. Privacy issues.

INFAS 535. Steganography and Digital Image Forensics.

(Cross-listed with CPR E, MATH). (3-0) Cr. 3. S. *Prereq: E E 524 or MATH 307 or COM S 330*

Basic principles of covert communication, steganalysis, and forensic analysis for digital images. Steganographic security and capacity, matrix embedding, blind attacks, image forensic detection and device identification techniques. Related material on coding theory, statistics, image processing, pattern recognition.

INFAS 536. Computer and Network Forensics.

(Cross-listed with CPR E). (3-0) Cr. 3. *Prereq: CPR E 381 and CPR E 489 or CPR E 530*

Fundamentals of computer and network forensics, forensic duplication and analysis, network surveillance, intrusion detection and response, incident response, anonymity and pseudonymity, privacy-protection techniques, cyber law, computer security policies and guidelines, court testimony and report writing, and case studies. Emphasis on hands-on experiments.

INFAS 592. Seminar in Information Assurance.

Cr. 1-3. Repeatable. *Prereq: Permission of instructor*

Projects or seminar in Information Assurance.

Courses for graduate students:

INFAS 632. Information Assurance Capstone Design.

(Cross-listed with CPR E). (3-0) Cr. 3. *Prereq: INFAS 531, INFAS 532, INFAS 534*

Capstone design course which integrates the security design process. Design of a security policy. Creation of a security plan. Implementation of the security plan. The students will attach each other's secure environments in an effort to defeat the security systems. Students evaluate the security plans and the performance of the plans. Social, political and ethics issues. Student self-evaluation, journaling, final written report, and an oral report.

INFAS 697. Information Assurance Summer Internship.

Cr. R. *Prereq: Permission of department, graduate classification*

One semester and one summer maximum per academic year professional work period. Offered on a satisfactory-fail basis only.