Information Technology

Degree

The *MS in IT Administration and Security* degree teaches students how to administer IT systems and networks while ensuring their security. Students gain extensive hands-on experience administering an IT environment. MS ITAS graduates are well prepared for jobs as database, network, security and web services administrators. They are also prepared for successful leadership roles in various IT functions, such as enterprise application administrator, IT administration manager, computer security specialist, and IT department manager.

Admission Requirements

Applicants are expected to have completed an undergraduate degree, preferably in information technology, computer science, computer engineering, information systems, or a related field. Students not satisfying these criteria will be considered for conditional admission on a case-by-case basis and may be required to complete a bridge program outlined in their acceptance letter. Bridge courses are a condition for admission; they do not count towards the 30 credits needed for degree completion.

NJIT Faculty

D

Deek, Maura A., Senior University Lecturer

H

Halper, Michael H., Professor

K

Kettering, Joan M., Senior University Lecturer

S

Senesy, Stanley J., Senior University Lecturer

Sequeira, Marc T., University Lecturer

Statica, Robert, Senior University Lecturer

W

Watrous-deVersterre, Lori L., Senior University Lecturer

- Information Technology and Administration Security - M.S. (http://catalog.njit.edu/graduate/computing-sciences/information-technology/administration-security-ms/)

IT Administration - Cert.

Information Technology Courses

IT 610. Systems Administration. 3 credits, 3 contact hours.
Prerequisite: Completion of the Bridge requirements for the MS in IT Administration and Security (or the equivalent). This course is an introduction to the skills needed for and tasks performed by a System Administrator. The course will cover administration of host and server systems in modern operating system environments. Topics to be covered include: user, configuration, and change management, shell scripting, monitoring and performance analysis, disaster mitigation and recovery, and auditing.

IT 620. Wireless Networks Security and Administration. 3 credits, 3 contact hours.
Prerequisite: Completion of the Bridge requirements for the MS in IT Administration and Security (or the equivalent). This course introduces the fundamentals of wireless network security and administration. Topics include: wireless LAN vulnerabilities, passive and active wireless attacks, enterprise wireless hardware security, secure wireless authentication and communication, wireless intrusion detection and prevention systems, WiFi and cellular network management, location privacy, personal area network administration and security, mobile IP security, GSM, CDPD, 3G and 4G network security. The course provides both a theoretical foundation and hands-on experience in these areas.

IT 635. Database Administration. 3 credits, 3 contact hours.
Prerequisite: IT 610. This course provides a broad overview of the tasks and techniques necessary to function as a Database Administrator (DBA) in a modern relational database environment. Students will learn the duties typically performed by a DBA, which include: user authorization, disaster planning and recovery, monitoring, performance analysis, database tuning, metadata maintenance as well as data modeling, analysis and database design.

IT 640. Network Services Administration. 3 credits, 3 contact hours.
Prerequisites: IT 610 or CS 645. This course provides an introduction to the fundamentals of network services administration. It covers how web-based and domain-services operate, integrate and communicate. Topics include: fundamental technologies that underpin the web services paradigm, key standards necessary for their development, and how other critical domain services should be deployed. This course will enable students to gain skills necessary to plan, install, configure, secure and maintain web servers, DNS servers, email & print servers, resource sharing systems, and domain authentication systems.

IT 696. Network Management and Security. 3 credits, 3 contact hours.
Prerequisites: CS 652 or CS 656 or ECE 637 or ECE 683, Thorough introduction to current network management technology and techniques, and emerging network management standards. In-depth study of the existing network security technology and the various practical techniques that have been implemented for protecting data from disclosure, for guaranteeing authenticity of messages, and for protecting systems from network-based attacks. SNMP family of standards including SNMP, SNMPv2, and RMON (Remote Monitoring), OSI systems management. Various types of security attacks (such as intruders, viruses, and worms). Conventional Encryption and Public Key Cryptology. Various security services and standards (such as Kerberos, Digital Signature Standard, Pretty Good Privacy, SNMPv2 security facility). Same as ECE 638.

IT 725. Independent Study. 3 credits, 3 contact hours.