

# M.S. in Information Technology Administration and Security

## Master of Science in Information Technology Administration and Security (MSITAS)

(30 credits)

Code	Title	Credits
<b>Bridge Courses</b>		
IT 120	Introduction to Network Technology	3
IT 220	Wireless Networks	3
IT 230	Computer and Network Security	3
IT 340	Introduction to System Administration	3
IT 420	Computer Systems and Networks	3
IS 331	Database Design Management and Applications	3
CS 505	Programming, Data Structures, and Algorithms	3
<b>Total Credits</b>		<b>21</b>

Code	Title	Credits
<b>Required Courses</b>		
IT 610	Systems Administration	3
IT 620	Wireless Networks Security and Administration	3
IT 635	Database Administration	3
IT 640	Network Services Administration	3
CS 656	Internet and Higher-Layer Protocols <sup>1</sup>	3
or ECE 637	Internet Protocols and their Evolution with Artificial Intelligence	
CS 696	Network Management and Security	3

Code	Title	Credits
<b>Elective Courses</b>		
Select four of the following:		12
CS 608	Cryptography and Security	
CS 643	Cloud Computing	
CS 645	Security and Privacy in Computer Systems	
CS 647	Counter Hacking Techniques	
CS 683	Software Project Management	
CS 631	Data Management System Design	
or IS 631	Enterprise Database Management	
CS 632	Advanced Database System Design	
CS 633	Distributed Systems	
CS 652	Cognitive Cloud Networking - Architectures and Applications <sup>1</sup>	
or ECE 683	Cloud and IoT Networking and Security	
CS 698	Special Emerging Topics:	
EM 636	Project Management	
IS 601	Python for Web API Development	
IS 677	Information System Principles	
IS 678	IT Service Management	
IS 680	Information Systems Auditing	
IS 681	Computer Security Auditing	
IS 682	Forensic Auditing for Computing Security	
ECE 645	Design of Wireless Networks: 5G Architecture and Services	
HRM 601	Managing Organizational Behavior in Technology-Based Organizations	

**Total Credits****30**

- <sup>1</sup> ECE course substitution for CS 652 Cognitive Cloud Networking - Architectures and Applications and CS 656 Internet and Higher-Layer Protocols is only for students with ECE background and upon approval of the graduate advisor.

## Master of Science in Information Technology Administration and Security (MSITAS) Professional Management Option

The objective of the Professional Management Option in the MSITAS degree is to create leaders with both the technical and managerial skills to be of benefit to an organization. Students in this degree program should have both an undergraduate degree in a computing related field and significant experience working in the field.

**CURRICULUM DESIGN**

A student in the MS in Administration & Security (MSITAS) – Professional Management PSM Option must satisfy the following requirements:

- 33 credits are required.
- 5 MSITAS core courses (15 credits) are required.
- Experiential Aspect: A one-semester Graduate Capstone Project (YWCC 691) - 3 credits - is required.
- Electives: To meet the 33 credit requirement, students will take 15 credits of electives, where each elective course is 3 credits.

Code	Title	Credits
<b>MSITAS Core Course Requirements</b>		<b>15</b>
IT 610	Systems Administration	3
IT 620	Wireless Networks Security and Administration	3
IT 635	Database Administration	3
IT 640	Network Services Administration	3
CS 656	Internet and Higher-Layer Protocols <sup>1</sup>	3
<b>Management Electives (5 courses from the following list)</b>		<b>15</b>
ACCT 615	Management Accounting	
FIN 600	Corporate Finance I	
MGMT 620	Strategic Management of Technological Innovation	
MGMT 630	Decision Analysis with Quantitative Modeling	
MGMT 641	Global Project Management	
MGMT 650	Knowledge Management	
MGMT 682	Business Research Methods I	
MGMT 688	Internet Law and Policy Issues	
MGMT 691	Legal and Ethical Issues in a Digital World	
MRKT 620	Global Marketing Management	
MRKT 636	Design and Development of High Technology Products	
MRKT 645	Digital Marketing Strategy	

**Required Experiential Capstone (3 credits)**

Code	Title	Credits
IT Experiential Aspect		3
All Experiential options will be undertaken in collaboration with industry, and evaluated by a faculty member.		
YWCC 691	Graduate Capstone Project	3

The YWCC (<http://catalog.njit.edu/search/?search=ywcc+691>) Graduate Capstone Project provides the student with opportunities to work with industry or faculty sponsored problems that encompass real-world examples of system administration & management in the industry. Projects are completed as a team and range from application or web development, game programming, virtual reality, multimedia or web and network security.

**Project Requirements**

- Before a student pursues the Graduate Capstone Project, the following requirements must be fully satisfied:
  - All assigned bridge courses must be completed. In addition, the student must complete IT 114 as well as IT 610 and IT 635. IT 114 would normally be assigned as bridge if the student did not have an equivalent course completed. IT 610 and 635 are required core courses of the degree.
- Students will be formed into teams and assigned to a relevant project based upon their experience and interests. Projects will be guided by industry or faculty members
- A CS Department tenure-track faculty member or a faculty member who holds a joint appointment in the computer science department will grade the overall project based upon the evaluation of the industry representative(s).
- Proposal preparation must adhere to the existing departmental guidelines; the information and templates are available online.