INFORMATION TECHNOLOGY (CYBER DEFENSE) - MASTER OF INFORMATION TECHNOLOGY (ONLINE)

The objective of this professional Masters of Information Technology (M-IT) program is to provide opportunities for working professionals and traditional technology students to increase their knowledge and skillsets in the growing field of Information Technology. This M-IT degree is a non-thesis, 100% online, professional development degree offered by the Department of Engineering Technology and Surveying Engineering (ETSE) in the NMSU College of Engineering. This degree is designed for working IT professionals and students interested in pursuing an advanced technology degree. Topics include system architecture, computer networking, development and application of software tools, cybersecurity, and virtual systems in the context of enterprise IT decision-making.

Advanced Information Technology topics are also included and differently emphasized according to the selected degree concentration:

- **No Concentration** - provides the ability to choose from various advanced IT-related topics
- **Cyber Defense Concentration (this option)** - focused on cybersecurity topics to prepare students for roles in protecting and defending digital systems.
- **Enterprise Management Concentration** - focuses on advanced enterprise management topics to prepare students for roles in designing, implementing, and overseeing large-scale IT systems and services.

Prefix	Title	Credits
Program Course List		
Common-Core Required Courses		**9**
E T 551	Enterprise Architecture I	
E T 552	Enterprise Architecture II	
E T 595	Capstone Projects in Information Technology	
Cyber Defense Concentration Required Courses		**12**
E T 515	AI and Cybersecurity Risk in Critical Infrastructure Systems	
E T 539	Advanced Enterprise Security	
E T 540	Risk Management for IT Managers	
E T 585	White Hat System Testing	
Elective Courses (Choose 3) [1]		**9**
Recommended Electives:		
E T 505	Special Topics in Information Technology	
E T 555	Virtualization	
E T 562	Development and Operations	
E T 577	Advanced Computer Networking	
E T 583	Mobile App Programming and Development	
Other Pre-Approved Electives: [1]		
BCIS 550	Information Systems Analysis and Design	
BCIS 575	Database Management Systems	
BCIS 561	Business Analytics I	
BCIS 566	Business Analytics II	
CSCI 5140	Database Management Systems I	
CSCI 5310	Bioinformatics Programming	
CSCI 5405	Artificial Intelligence I	
CSCI 5415	Introduction to Data Mining	
CSCI 5420	Applied Machine Learning I	
I E 523	Advanced Engineering Economy	
I E 563	Topics in Engineering Administration	
I E 571	Advanced Quality Control	
Total Credits		**30**

1 For guidance on selecting elective courses outside the department or college, or to request consideration of additional electives, please contact your faculty advisor.

The plan of study below was created with working professionals in mind. You will find guidelines for part-time students taking two courses per semester, including summer. Please note that the Masters of Information Technology program can be completed as a full-time student in one calendar year if that is your preference. Contact the program director or faculty advisor for other plans of study options and for further information. The program website is located at https://engr.nmsu.edu/Academics/pmp-it.html.

First Year		
Fall		**Credits**
E T 551	Enterprise Architecture I [1]	3
E T 539	Advanced Enterprise Security [2]	3
	Credits	**6**
Spring		
E T 515	AI and Cybersecurity Risk in Critical Infrastructure Systems [2]	3
E T 562	Development and Operations [3, 4]	3
	Credits	**6**
Summer		
E T 585	White Hat System Testing [2]	3
E T 595	Capstone Projects in Information Technology [1]	3
	Credits	**6**
Second Year		
Fall		
E T 552	Enterprise Architecture II [1]	3
E T 555	Virtualization [3, 4]	3
	Credits	**6**
Spring		
E T 540	Risk Management for IT Managers [2]	3
E T 577	Advanced Computer Networking [3, 4]	3
	Credits	**6**
	Total Credits	**30**

1 Masters of Information Technology required core course
2 Cyber Defense Concentration Required Course
3 Recommended Elective
4 Refer to the list of other pre-approved electives. For guidance on selecting elective courses outside the department or college, or to request consideration of additional electives, please contact your faculty advisor.

New Mexico State University's Master's Accelerated Program (MAP) provides **the opportunity for academically qualified undergraduate students** to begin working on a master's degree **during their junior and**

senior years while completing a bachelor's degree. Typically, a bachelor's degree requires four years to complete, and a master's degree requires an additional two years. The master's accelerated programs allow students the opportunity to complete a graduate program in an accelerated manner. You can also check NMSU's catalog for additional information about our programs.

Please talk to a faculty advisor about your MAP plan and develop a course plan in consultation with the advisor. The faculty advisor should preferably be from the area of your interest.

MAP Requirements

- The Graduate School allows qualified junior or senior students to substitute its graduate courses for required or elective courses in an undergraduate degree program and then subsequently count those same courses as fulfilling graduate requirements in a related graduate program.
- Undergraduate students may apply for acceptance to the accelerated master's program after completing 60 semester hours of undergraduate coursework, of which a minimum of 25 semester credit hours must be completed at NMSU.
- The grade point average must be at a minimum of 2.75.
- Students must receive a grade of B or higher in this coursework to be counted for graduate credit. If a grade of B- or lower is earned, it will not count toward the graduate degree.

Accepted MAP Courses

The following pre-approved courses are accepted for use in the MAP program. Additional technical or field-related courses numbered 450+ (old numbering) or 4500+ (new numbering) may be considered with advisor approval. To apply such courses toward both the undergraduate and graduate degrees, an exception must be made in the degree audit process.

Prefix	Title	Credits
ICT 450	Ethical Hacking	3
ICT 457	Information Security Principles	3
ICT 458	Web Development and Database Applications	3
ICT 460	Advanced Software Development Concepts	3
ICT 463	Enterprise Linux Network Administration Tools	3
ICT 467	Communication Network Security	3
ICT 477	Computer Networking II	3
ICT 487	Data Security	3