

INFORMATION AND COMMUNICATION TECHNOLOGY (CYBER DEFENSE) - BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY (ONLINE)

(120 credits)

Information and Communication Technology (ICT) (<https://et.nmsu.edu/academics%20/information-communication-technology.html>) is a **distance education degree completion program**. The program focuses on the knowledge and experience that is required to design, implement and manage a variety of information systems. The curriculum includes the study of:

- Cybersecurity including Ethical Hacking and Digital Forensics,
- Computer Network design, configuration, and security,
- Operating Systems, System Integration, and Cloud Technologies,
- Applied computer programming and coding.

Graduates of the program can expect to enter the workforce with titles that include Systems or Network Administrator, Project Manager, Database Administrator, and Computer Support Specialist.

The ICT program is a distance education program and does not require any on-campus visits. Students who are successful in distance education programs typically are self-motivated, do not rely heavily on face-to-face instruction, work independently, and can remain on schedule. Students must have familiarity with and access to:

- a high-speed Internet connection,
- a sound card, 12G of RAM minimum,
- a microphone/Webcam,
- Microsoft Operating System 8.1 or newer and Office @.

This program was not designed to be an engineering or engineering technology program, although there is a significant overlap with the engineering technology IET program offered by the department. Thus, the ICT program differs from all other baccalaureate programs offered by departments in the College of Engineering. The ICT program is accredited under NMSU's umbrella accreditation by the Higher Learning Commission (<https://accreditation.nmsu.edu/>) of the North Central Association of Colleges and Schools.

The program is designed to be a two-year degree completion educational path to a baccalaureate degree for graduates of computer and technology-related associate degree programs from community colleges or other two-year institutions. It is also a viable degree path for students who have completed the freshmen and sophomore years of computer or technology-related programs at four-year institutions including New Mexico State University.

Students must complete all university degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework. The General Education requirements may be completed with transfer credits from any previous institutions.

Prefix	Title	Credits
General Education ¹		
<i>Area I: Communications ¹</i>		10
	<i>English Composition - Level 1</i>	
	<i>English Composition - Level 2</i>	
	<i>Oral Communications</i>	
<i>Area II: Mathematics</i>		3 - 4
MATH 1220G	College Algebra ((equivalent or higher)) ¹	
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences ¹</i>		10-11
<i>Area V: Humanities ¹</i>		3
<i>Area VI: Creative and Fine Arts ¹</i>		3
<i>General Education Elective ¹</i>		3-4
Viewing A Wider World ²		6
Departmental/College Requirements		
OECS 185	PC Maintenance and Repair I	3
or E T 160	Windows Fundamentals for IET	
Choose one Structured Programming course from the following:		3
C S 152	Java Programming	
C S 172	Computer Science I	
ENGR 140	Introduction to Programming and Embedded Systems	
ICT 352	Software Technology I (Recommended)	
OECS 195	Java Programming I	
<i>Program-Specific Requirements</i>		
ICT 320	Introduction to Internet Protocols	3
ICT 350V	Introduction to Personal Computer Security and Privacy	3
ICT 355	Linux System Administration	3
ICT 360	Operating Systems for ICT	3
ICT 362	Software Technology II	3
ICT 364	Windows Enterprise Administration	3
ICT 377	Computer Networking I	3
ICT 435	Senior Project	3
ICT 450	Ethical Hacking	3
ICT 457	Introduction to Information Security Technology	3
<i>Concentration/Tech Electives</i>		
E T 400	Special Topics (Data Security) ⁵	3
E T 400	Special Topics (Communication Network Security) ⁵	3
ICT 339	Introduction to Digital Forensics and Incident Response	3
ICT 439	Advanced Digital Forensics and Incident Response	3
Second Language: (not required)		
Electives, to bring the total credits to 120 ⁴		34-31
Select 33 credits from typical content courses from an A S or AAS ^{2,3}		
Total Credits		120

1

See the General Education (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses. NOTE: Students may need to take any prerequisites needed to enter MATH 1220G College Algebra.

2

See the Viewing a Wider World (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses. Viewing a Wider World (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) courses will form part of the required 48 upper-level credit hours taken as part of the ICT program at NMSU.

3

Concentrations are *optional* educational sequences that students may choose to focus on particular areas related to . Concentrations may often be done without additional credits by **judicious use of electives** and other optional course requirements.

4

Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However, students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

5

Special Topics courses will include various topics and will require the instructor's consent. Students pursuing an ICT concentration will need prior faculty advisor approval to ensure the topics covered in that specific term will count towards the desired ICT concentration.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra. The contents and order of this roadmap may vary depending on initial student placement in mathematics and previous English coursework that was transferred in. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		Credits
Elective Credits (include General Education credits) ⁴		30
Credits		30
Second Year		Credits
Elective Credits (include General Education credits) ⁴		33
Credits		33
Third Year		Credits
Fall		
Structured Programming Course (from pre-approved list)		3
ICT 360	Operating Systems for ICT	3
ICT 377	Computer Networking I	3
MATH 1220G	College Algebra ¹	3
OECS 185 or E T 160	PC Maintenance and Repair I or Windows Fundamentals for IET	3
Credits		15
Spring		
ICT 320	Introduction to Internet Protocols	3

ICT 339	Introduction to Digital Forensics and Incident Response	3
ICT 350V	Introduction to Personal Computer Security and Privacy	3
ICT 355	Linux System Administration	3
ICT 364	Windows Enterprise Administration	3
Credits		15
Fourth Year		
Fall		
E T 400	Special Topics (Data Security) ⁵	3
ICT 362	Software Technology II	3
ICT 435	Senior Project	3
ICT 439	Advanced Digital Forensics and Incident Response	3
ICT 450	Ethical Hacking	3
Credits		15
Spring		
E T 400	Special Topics (Comm. Network Security)	3
ICT 457	Introduction to Information Security Technology	3
Viewing a Wider World ²		6
Credits		12
Total Credits		120

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