

# ENGINEERING TECHNOLOGY - INFORMATION - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

Information Engineering Technology (IET) (<https://et.nmsu.edu/information-engineering-technology/>) focusing on the study related to "Information Engineering" – its principles, technologies, networks, and applications. It is a vibrant discipline that has a tremendous impact on the economy as well as society. Information Engineering covers the following areas:

- applied computer programming and coding,
- solutions involving the creation, use, and administration of database technologies,
- information communications & networking environments,
- web and mobile technologies & applications,
- operating systems technologies,
- incident response and digital forensics,
- information security, and
- system integration.

Given the nature of the content in the IET program, students are expected to be familiar and have access to the following:

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

Graduates of the program can expect to enter the workforce with titles that include, but are not limited to Systems or Network Administrator, Project Manager, Database Administrator, Computer Forensics Examiner, Cloud Systems Administrator, and Systems Engineer.

The Information Engineering Technology program is accredited (<https://et.nmsu.edu/accreditation-and-assessment/degree-accreditation-information/>) by the Engineering Technology Accreditation Commission (ETAC) of ABET [www.abet.org](http://www.abet.org). (<http://www.abet.org/>)

## Engineering Technology - Information (No Concentration)

Students must complete all university degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 121 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.

Prefix	Title	Credits
<b>General Education</b>		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i>		
ENGL 1110G	Composition I	4
<i>English Composition - Level 2</i>		

ENGL 2210G	Professional & Technical Communication (Recommended)	3
<i>Oral Communication</i>		
COMM 1115G	Introduction to Communication	3
<i>Area II: Mathematics</i>		
MATH 1250G	Trigonometry & Pre-Calculus <sup>3</sup>	4
<i>Area III: Laboratory Sciences <sup>1</sup></i>		
Choose two courses with lab from Biology, Chemistry, or Physics <sup>1</sup>		
<i>Area IV: Social/Behavioral Sciences <sup>1</sup></i>		
<i>Area V: Humanities <sup>1</sup></i>		
<i>Area VI: Creative and Fine Arts <sup>1</sup></i>		
<i>General Education Elective</i>		
MATH 1435	Applications of Calculus I	3 - 4
or MATH 1511G	Calculus and Analytic Geometry I	
<b>Viewing A Wider World <sup>1</sup></b>		
<b>6</b>		
<b>Departmental/College Requirements</b>		
A ST 311	Statistical Applications	3
BCIS 350	Information Systems Analysis and Design	3
BCIS 475	Database Management Systems	3
C S 172	Computer Science I	4
C S 278	Discrete Mathematics for Computer Science	3 - 4
or MATH 1531	Introduction to Higher Mathematics	
ET 101	Introduction to Engineering Technology and Geomatics	1
ET 160	Windows Fundamentals for IET	3
ET 182	Introduction to Digital Logic	2
ET 255	Linux System Administration	3
ET 280	Web Design and Multimedia	3
ET 339	Introduction to Digital Forensics and Incident Response	3
ET 344	Microcomputer Systems	3
ET 362	Software Technology II	3
ET 377	Computer Networking I	3
ET 410	Senior Seminar	1
ET 435	Senior Project	3
ET 439	Advanced Digital Forensics and Incident Response	3
ET 458	Web Development and Database Applications	3
ET 463	Enterprise Linux Administration	3
ET 464	Windows Enterprise Administration	3
ET 477	Computer Networking II	3
ENGR 140	Introduction to Programming and Embedded Systems	4
I E 451	Engineering Economy	3
ICT 457	Introduction to Information Security Technology	3
or BCIS 480	E-Commerce Security	
MATH 1440	Applications of Calculus II <sup>2</sup>	3 - 4
or MATH 1521G	Calculus and Analytic Geometry II	
<i>Technical Electives (choose from the list below) <sup>4</sup></i>		
E T 475	Special Topics in Information Technology	
E T 480	Innovation and Product Development	
E T 483	Mobile App Programming and Development	
E T 485	White Hat System Testing	
ICT 320	Introduction to Internet Protocols	
ICT 450	Ethical Hacking	
<b>Second Language: (not required)</b>		

**Electives, to bring the total credits to 120<sup>3</sup>**

<b>Total Credits</b>	<b>121-124</b>
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See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#associatesbachelorsgetext>) section of the catalog for a full list of courses. 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.

2

For students wishing to pursue a technical master's degree, MATH 1511G Calculus and Analytic Geometry I and MATH 1521G Calculus and Analytic Geometry II are recommended and will satisfy both the Area II and General Education Elective requirements.

Students who take MATH 1435 Applications of Calculus I and MATH 1440 Applications of Calculus II, will need to have an exception made for their degree audit. *\*students may need to take any prerequisites needed to enter the class(es) first.*

3

Elective credit may vary based on Math course selection, 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.

4

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

**A Suggested Plan of Study for Students**

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. 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**

<b>Fall</b>		<b>Credits</b>
C S 172	Computer Science I	4
ET 101	Introduction to Engineering Technology and Geomatics	1
ET 160	Windows Fundamentals for IET	3
ENGL 1110G	Composition I (Area I) <sup>1</sup>	4
MATH 1250G	Trigonometry & Pre-Calculus (Area II) <sup>1,3</sup>	4
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
Area IV: Social/Behavioral Sciences <sup>1</sup>		3
ET 182	Introduction to Digital Logic	2
ENGL 2210G	Professional & Technical Communication (Area I) <sup>1</sup>	3
ENGR 140	Introduction to Programming and Embedded Systems	4

MATH 1435 or MATH 1511G	Applications of Calculus I <sup>2</sup> or Calculus and Analytic Geometry I	3 - 4
<b>Credits</b>		<b>15-16</b>

**Second Year****Fall**

Area V: Humanities <sup>1</sup>		3
COMM 1115G	Introduction to Communication (Area I) <sup>1</sup>	3
ET 255	Linux System Administration	3
ET 280	Web Design and Multimedia	3
MATH 1440 or MATH 1521G	Applications of Calculus II <sup>2</sup> or Calculus and Analytic Geometry II	3 - 4
<b>Credits</b>		<b>15-16</b>

**Spring**

Area III: Laboratory Sciences (Biology, Chemistry or Physics) <sup>1</sup>		4
Area VI: Creative and Fine Arts <sup>1</sup>		3
C S 278 or MATH 1531	Discrete Mathematics for Computer Science or Introduction to Higher Mathematics	3 - 4
ET 344	Microcomputer Systems	3
ET 362	Software Technology II	3
<b>Credits</b>		<b>16-17</b>

**Third Year****Fall**

Area III: Laboratory Sciences (Biology, Chemistry or Physics) <sup>1</sup>		4
BCIS 350	Information Systems Analysis and Design	3
ET 339	Introduction to Digital Forensics and Incident Response	3
ET 377	Computer Networking I	3
Technical Elective <sup>4</sup>		3
<b>Credits</b>		<b>16</b>

**Spring**

BCIS 475	Database Management Systems	3
ET 439	Advanced Digital Forensics and Incident Response	3
ET 477	Computer Networking II	3
Technical Elective <sup>4</sup>		3
Viewing a Wider World <sup>1</sup>		3
<b>Credits</b>		<b>15</b>

**Fourth Year****Fall**

A ST 311	Statistical Applications	3
ET 464	Windows Enterprise Administration	3
I E 451	Engineering Economy	3
Technical Elective <sup>4</sup>		3
Viewing a Wider World Course <sup>1</sup>		3
<b>Credits</b>		<b>15</b>

**Spring**

ET 410	Senior Seminar	1
ET 435	Senior Project	3
ET 458	Web Development and Database Applications	3
ET 463	Enterprise Linux Administration	3
ICT 457 or BCIS 480	Introduction to Information Security Technology or E-Commerce Security	3
<b>Credits</b>		<b>13</b>

**Total Credits****121-124**

1

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