



**Bachelor of Engineering (BEng)
Information Engineering Technology**

The curriculum of the BEng in Information Engineering Technology is designed for those engineering students who intend to launch a career in the design, installation, maintenance, and repair of computer networks used for critical data entry, transfer, retrieval, and management. Coursework in the program is practice-orientated and prepares students to work in a variety of computer-intensive environments, such as technical organizations, small or large businesses, product design or manufacturing companies, and data-directed services. The breadth of training in hardware, software, troubleshooting equipment, and other computer tools will enable the graduate to work in a variety of roles in such environments as network designer, network support and administrator, project manager, data applications or computer communications engineer, test and integration manager or technologist in business applications. The graduate of this curriculum will be a computer network specialist, but versed in mathematics, physics, computer science, and business fundamentals.

Students are advised to not attempt upper division coursework (300 and 400-level classes) until you have earned a GPA of 2.50 or better in all IT, CS, and CT coursework taken at the 100 and 200-level. Failure to maintain an overall GPA of 2.00 or better in all coursework will be sufficient cause for being dropped from the program.

GENERAL EDUCATION REQUIREMENTS (47 crs)

**COMPLETED PLANNED TIMELINE
(By Semester)**

Area 1: Communications (9 crs)

- ENG 111 English Composition I (3)
Prerequisite: ENG 109 or adequate score on the Course Placement Evaluation
- ENG 116 Technical Writing (3)
Pre-requisite: ENG 111
- SPCH 130 Public Speaking (3)
Prerequisite: ENG 109 or adequate score on the Course Placement Evaluation

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Area II: Mathematics (11 crs)

- MATH 145 Introduction to Probability and Statistics (3)
Pre-requisite: MATH 130 or adequate score on the Course Placement Evaluation
- MATH 162E Calculus I (4)
Pre-requisite: MATH 155
- MATH 163E Calculus II (4)
Pre-requisite: MATH 162E

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Area III: Laboratory Sciences (8 crs)

- PHYS 215 Engineering Physics I (3)
Pre-requisite: MATH 162; Co-requisite: PHYS 215L
- PHYS 215L Engineering Physics Lab (1)
Co-requisite: PHYS 215
- PHYS 216 Engineering Physics II (3)
Prerequisite: PHYS 161/L; Pre-requisite: MATH 162 Co-requisite: PHYS 216L
- PHYS 216L Engineering Physics II Lab (1)
Pre-requisite: PHYS 215/L; Co-requisite: PHYS 216

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Area IV: Social/Behavioral Sciences (6-9 crs)

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

- ECON 201 Microeconomics (3)
- Elective (3) _____
- Elective (3) _____

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You must select courses from at least one different discipline areas from the following list:

- ANTH 101/L Physical Anthropology w/Lab (4)
- ANTH 102 Intro to Social & Cultural Anthropology (3) (Fall)
- ANTH 111 Language and Culture (3)
- ANTH 207 Cultures of New Mexico (3)
- ANTH 110 Indian Culture of the Southwest
- ECON 200 Macroeconomics (3)
- ECON 201 Microeconomics (3)
- GEOG 111 World Geography (3)
- PSCI 110 The Political World (3)

- PSCI 120 Contemporary Political Issues (3)
- PSCI 200 American Politics (3)
- PSCI 210 State and Local Government (3)
- PSCI 212 The American Presidency (3)
- PSY 105 General Psychology (3)
- PSY 210 Theories of Personality (3)
- PSY 229 Adolescent Psychology (3)
- PSY 230 Psychology of Adjustment (3)
- PSY 232 Abnormal Behavior (3)
- PSY 270 Social Psychology (3)
- PSY 290 Developmental Psychology (3)
- SOC 101 Introduction to Sociology (3)
- SOC 213 Deviant Behavior (3)
- SOC 216 Ethnic and Intercultural Relations (3)
- SOC 220 Social Problems (3)
- SOC 225 Marriage and the Family (3)

* Plus, topic courses with student advisor's approval

Area V: Humanities and Fine Arts (6-9 crs)

Required

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

HUM 100 First year Experience: History and Culture of Northern New Mexico (3) _____

Pre-requisite: ENG 108 or adequate score on the Course Placement Evaluation

Electives (3-6 crs)

You must select courses from at least two different discipline areas

Elective (3) _____

Elective (3) _____

Choose two electives from the following list:

- ART 105 Introduction to Art (3)
- ART 107 History of Art I (3)
- ART 208 History of NM Art & Architecture (3)
- ART 211 History of Art II (3)
- DANC 240 Dance Appreciation (3)
- ENG 270 Children's Literature (3)
- Pre-requisite ENG 111*
- ENG 262 Literature of the Southwest (3)
- Pre-requisite ENG 112*
- ENG 265 Native American Literature 1 (3)
- Pre-requisite ENG 111*
- ENG 266 Native American Literature II (3)
- Pre-requisite: ENG 111*
- ENG 280 Readings in Literature (3)
- Pre-requisite ENG 111*
- ENG 290 Study of Literature
- Pre-requisite ENG 111*
- ENG 294 Mythology (3)
- Pre-requisite ENG 111*
- HIST 101 Western Civilization I (3)
- HIST 102 Western Civilization II (3)
- HIST 161 History of the U.S. to 1877 (3)
- HIST 162 History of the U.S. from 1877 (3)
- HIST 200 History of the World Religions (3)
- HIST 220 Southwestern Women's History (3)
- HIST 230 Chicano Experience in the US (3)
- HIST 250 American Indian History (3)
- HIST 260 History of New Mexico (3)
- HUM 101 Humanities I (3)
- HUM 102 Humanities II (3)
- HUM 105 Humanities of the Southwest (3)
- HUM 311 Why the Social Sciences Matter ** (3)
- HUM 414 Humanity and Creativity ** (3)
- HUM 421 History, Literature, Art & Philosophy ** (3)
- MUS 103 Music History & Literature I (3)
- MUS 105 Music Appreciation (3)

- MUS 218 Music History & Literature II (3)
- PHIL 110 Intro to Philosophical Problems (3)
- PHIL 111 History of Philosophy (3)
- PHIL 150 Critical Thinking (3)
- PHIL 220 Ethics (3)
- PIS 200 Introduction to Pueblo Indian Studies (3)
- THE 120 Introduction to Theatre I (3)
- THE 130 History of Theatre (3)

Plus, topic courses with advisor's approval

* If your major is in the area of the Humanities/Fine Arts, unless otherwise regulated by a given department, you should select 9 hrs from Area V and 6 hrs. from Area IV; if in the Social/Behavioral Sciences, you should select 9 hrs from Area IV and 6 hrs from Area V. Consult your major advisor. In any case, you must complete a minimum spread of 15 hrs between Areas IV and V. .

** Students in associate degree programs are advised that upper-division courses are not covered under financial aid.

Area VI Library Technology, Library Research Skills (1 crs)

LT 101 Library Research Skills (1) _____

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

Area VII Foreign Language (3 crs)

Foreign Language (3) _____

Pre-requisite: None

MAJOR REQUIREMENTS (84 crs)

Computer Science (3 crs)

CS 201 Math Foundations of Computer Science (3) _____

Pre-requisite: EECE 152L

Electrical, Electronic, and Computer Engineering (39)

EECE 105L Microcomputer Systems (3) _____

Pre-requisite: ENG 109 or adequate score on the Course Placement Evaluation

EECE 132 Computer Networks I (3) _____

Prerequisite: None

EECE 152L Computer Programming I (4) _____

Pre-requisite: None

EECE 231L Intermediate Programming I (3) _____

Pre-requisite: EECE 152L

EECE 238L Computer Logic Design (4) _____

Pre-requisite: MATH 150, EECE 152

EECE 251L Advanced Programming I (3) _____

Pre-requisite: EECE 231L

EECE 329 Human Computer Interaction (3) _____

Pre-requisite: EECE 231L

EECE 330 Computer Networks II (3) _____

Pre-requisite: EECE 132

EECE 342 Wireless and Mobile Computing (3) _____

Pre-requisite: EECE 132

EECE 355 Web Engineering (4) _____

Pre-requisite: EECE 231L and IT 250

EECE 435 Software Engineering (3) _____

Pre-requisite: EECE 231L and IT 250

EECE 440 Advanced Computer Networks (3) _____

Pre-requisite: EECE 330, EECE 342

Information Technology (17 crs)

IT 250 Introduction to Databases (3) _____

Pre-requisite: EECE 152L

IT 350 Database Management (3) _____

Pre-requisite: IT 250

IT 410 Information Assurance/Security (3) _____

Pre-requisite: IT 355 and IT 350

IT 490 Capstone I (4) _____

Pre-requisite: EECE 152L, Senior Standing

IT 491 Capstone II (4) _____

Pre-requisite: EECE 152L, Senior Standing

Business (9 crs)

ENGR 474 Engineering Project Management (3) _____

Pre-requisite: ENG 111, with Senior standing recommended
Electives in ENGR at 4xx-level (6)

Support Technologies (16 crs)

EECE 110 Introduction to Engineering (2)

Pre-requisites: None

ENGR 120 Introductory Math for Engineering Applications (4)

Pre-requisites: MATH 130

EECE 203L Circuit Analysis I (4)

Pre-requisites: PHYS 216/L

Upper-division electives from EECE/CS/IT/MATH (6)

TOTAL CREDIT HOURS 131

SUGGESTED SEQUENCE OF COURSES

First Semester (17 cr)

- LT 101 Library Research Skills (1)
- HUM 100 First Year Exp: Hist. Cult. NNMC (3)
- EECE 152L Computer Programming I (4)
- EECE 132 Computer Networks I (3)
- ENGR 110L Introduction to Engineering (2)
- ENGR 120L Introductory Math for Engineering Applications (4)

Second Semester (16 cr)

- MATH 162E Calculus I (4)
- EECE 330 Computer Networks II (3)
- EECE 231 Intermediate Programming (3)
- EECE 105L Microcomputer Systems (3)
- ENG 111 English Composition I (3)

Third Semester (17 cr)

- MATH 163E Calculus II (4)
- PHYS 215/L Engineering Physics I with lab (4)
- EECE 342 Wireless and Mobile Computing (3)
- IT 250 Introduction to Databases (3)
- EECE 251L Advanced Programming (3)

Fourth Semester (16 cr)

- PHYS 216/L Engineering Physics II with lab (4)
- CS 201 Math Foundations of CS (3)
- FOR/LA Foreign Language (3)
- MATH 145 Introduction to Probability and Statistics (3)
- ENG 116 Technical Writing (3)

Fifth Semester (17 cr)

- EECE 238L Computer Logic Design (4)
- EECE 329 Human Computer Interaction (3)
- EECE 203L Circuit Analysis I (4)
- ECON 201 Microeconomics (3)
- SPCH 130 Public Speaking (3)

Sixth Semester (16 cr)

- IT 350 Database Management (3)
- EECE 440 Advanced Computer Networks (3)
- ENGR 474 Engineering Project Management (3)
- EECE 355 Web Engineering (4)
- EECE 435 Software Engineering (3)

Seventh Semester (16 cr)

IT 410 Information Assurance/Security (3)

IT 490 Capstone I (4)

EECE/CS/IT/MATH Elective 3XX/4XX (3)

ENGR 4XX Elective (3)

HUM/SOC Elective (3)

Eighth Semester (16 cr)

IT 491 Capstone II (4)

EECE/CS/IT/MATH Elective 3XX/4XX (3)

ENGR 4XX Elective (3)

HFA/SBS Elective (3)

HUM/SOC Elective (3)