

Associate in Engineering in SOFTWARE ENGINEERING/2014-2016

The curriculum in the Associate Degree in Engineering (AEng) in Software Engineering is designed for those who intend to launch a career in the testing, installation, and maintenance of computer software modules and systems. Coursework in the program is hands-on oriented and prepares students to work in a variety of computer-intensive environments that involve engineering support: technical organizations, small or large businesses, 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 occupations as software technician, computer systems technician, data applications or computer technician, or as a test and integration assistant. Graduates of this program will be a software engineering technician versed in mathematics, physics, computer science, software development, and business fundamentals.

The program objectives are the following:

1. Graduates will have demonstrated knowledge and skills to pursue an engineering bachelor program.
2. Graduates will have demonstrated involvement in high-level technical roles.

Completion of this program should result in the following student outcomes:

1. An ability to apply knowledge of mathematics, science, and engineering
2. An ability to function on multidisciplinary teams
3. An ability to communicate effectively
4. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
5. A knowledge of contemporary issues
6. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

GENERAL EDUCATION (35 CR)

Area I. Communications (9 cr)

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|------|-----|---------------------------|
| ENG | 111 | English Composition I (3) |
| ENG | 116 | Technical Writing (3) |
| SPCH | 130 | Public Speaking (3) |

Area II. Mathematics (11 cr)

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|------|------|--|
| MATH | 145 | Introduction to Probability & Statistics (3) |
| MATH | 162E | Calculus I (4) |
| MATH | 163E | Calculus II (4) |

Area III. Laboratory Sciences (8 cr)

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|------|-------|-------------------------------------|
| PHYS | 215/L | Engineering Physics I with lab (4) |
| PHYS | 216/L | Engineering Physics II with Lab (4) |

Area IV. Social/Behavioral Sciences (3 cr)

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| ECON | 201 | Microeconomics (3) |
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Area V. Humanities and Fine Arts (3 cr)

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| HUM | 100 | FYE: History and Culture of Northern New Mexico (3) |
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Area VI. Library Technology, Library Research Skills (1 cr)

LT 101 Library Research Skills (1)

PROGRAM REQUIREMENTS (31 CR)

Business (3 cr)

BA Lower-Division Elective (3)

Computer Science (6 cr)

CS 201 Mathematical Foundations of Computer Science (3)

IT 250 Introduction to Databases (3)

Electrical, Electronic, and Computer Engineering (16 cr)

EECE 105L Microcomputer Systems (3)

EECE 132 Computer Networks I (3)

EECE 152L Computer Programming I (4)

EECE 231L Intermediate Programming I (3)

EECE 251L Advanced Programming I (3)

Support Technologies (6 cr)

ENGR 110L Introduction to Engineering (2)

ENGR 120L Introductory Math for Engineering Applications (4)

TOTAL CREDITS: 66

SUGGESTED SEQUENCE OF COURSES

First Semester (17 cr)

ENGR 110L Introduction to Engineering (2)

ENGR 120L Introductory Math for Engineering Applications (4)

EECE 152L Computer Programming I (4)

EECE 105L Microcomputer Systems I (3)

LT 101 Library Research Skills (1)

HUM 100 FYE: History and Culture of Northern New Mexico (3)

Second Semester (16 cr)

EECE 132 Computer Networks I (3)

MATH 162E Calculus I (4)

ECON 201 Microeconomics (3)

EECE 231L Intermediate Programming (3)

ENG 111 English Composition I (3)

Third Semester (17 cr)

PHYS 215/L Engineering Physics I with Lab (4)

IT 250 Introduction to Databases (3)

CS 201 Math Foundations of CS (3)

MATH 163E Calculus II (4)

EECE 251L Advanced Programming (3)

Fourth Semester (16 cr)

SPCH 130 Public Speaking (3)

BA Elective (3)

MATH 145 Introduction to Probability and Statistics (3)

PHYS 216/L Engineering Physics II with Lab (4)

ENG 116 Technical Writing (3)