

LUNA COMMUNITY COLLEGE
DEPARTMENT OF SCIENCE, MATH & ENGINEERING TECHNOLOGY

PROGRAM GOALS

Department Mission Statement:

The Mission of the Department is to provide all students with the best possible education in the SM&ET disciplines to ensure their success in the workforce or in transfer to a four-year institution.

PROGRAM GOALS:

Associate of Science Programs

Alternative and Sustainable Energy: upon completion of the program the student will be prepared to:

1. apply scientific principles, sound engineering design, and current regulations in the National Electric Code when installing alternative energy systems
2. complete the capstone course in ASE and demonstrate mastery of the program material
3. demonstrate knowledge and skills in alternative energy systems to transfer to a four-year electrical engineering program

General Engineering: upon completion of the program the student will be prepared to:

1. demonstrate knowledge of the theory and application involved in the engineering design process
2. demonstrate knowledge of the theory and application of mathematics and physics as applied in the engineering field
3. transfer to a four-year program in engineering at the university level

Life Science: upon completion of the program the student will be prepared to:

1. take a conceptual idea or hypothesis and develop a rigorous scientific experiment – demonstrate and communicate a working knowledge the scientific method
2. demonstrate a theoretical knowledge of the concepts in microevolution and macroevolution
3. demonstrate competent laboratory skills
4. transfer to a four-year university program in biology or related field with freshman and sophomore requirements achieved

Physical Science: upon completion of the program the student will be prepared to:

1. take a conceptual idea or hypothesis and develop a rigorous scientific experiment – demonstrate and communicate a working knowledge the scientific method
2. demonstrate theoretical knowledge of physical phenomena found in the natural world
3. demonstrate competent laboratory skills
4. transfer to a four-year university program in physics, chemistry, geology, meteorology, or oceanography with freshman and sophomore requirements achieved

Mathematics: upon completion of the program students will be prepared to:

1. take a conceptual idea and develop a rigorous mathematical proof
2. demonstrate theoretical knowledge of mathematical principals through calculus
3. communicate effectively the theory and application of mathematics
4. transfer to a four-year university program in mathematics or a related field with freshman and sophomore requirements achieved

Associate of Applied Science Programs

Computer Science: upon completion of the program students will be prepared to:

1. pass industry and webmaster certification exams
2. demonstrate knowledge of the theory and application of computer science principles in operating systems, networking, and programming
3. enter into the workforce as a beginning programmer with specific skills in one of the focus areas of artificial intelligence, robotics, or web programming (capstone courses)
4. transfer to a four-year institution computer science program

Drafting Technology: upon completion of the program the student will be prepared to:

1. demonstrate a comprehensive working knowledge of AutoCAD software and its applications
2. apply the principles of plane surveying techniques
3. take a conceptual idea to a finalized blueprint plan in AutoCAD and perform construction layout mathematical computations
4. pass industry certification exams
5. enter the workforce as an entry level architectural drafting assistant or continue education at four-year institution

Electronics Engineering Technology: upon completion of the program the student will be prepared to:

1. demonstrate a theoretical knowledge of circuit analysis and design
2. take a conceptual idea, develop a schematic, and design a functioning circuit
3. read electrical schematics and perform electrical mathematical computations
4. pass industry certification exams
5. enter the workforce as an entry level electronics technician or transfer to a four-year institution to pursue an electronics engineering bachelors degree

Video Game Design and Development: upon completion the student will be prepared to:

1. enter the workforce as an entry level programmer in the video gaming or film animation fields
2. take a conceptual idea and develop it into an executable video game
3. read and understand programming languages used in video game design
4. present a functioning video game to peers and faculty in the final project course