

# ENGINEERING TECHNOLOGY

The Engineering Technology program provides students with the fundamentals of manufacturing and engineering technology. The courses are designed for the purpose of creating technical talent to meet tomorrow's needs in a highly competitive and automated industrial workforce. Students will have the necessary manufacturing and engineering technical skills, knowledge, and attitude to succeed in this rapidly changing field. The program has three specializations; aerospace, industrial and electrical technologies. Aerospace Engineering Technology, teaches the fundamentals of engineering design, manufacturing for the aerospace industry, and engineering design for the production of new technologies. Industrial Engineering Technology teaches the fundamentals of engineering design, machine tool technology, and advanced metal fabrication technologies. Electrical Engineering Technology teaches the fundamentals of engineering design, electronics and electrical automation.

## Associate in Science Degrees

- Engineering Technology - Associate in Science (<https://lbcc-public.courseleaf.com/degrees-certificates/engineering-technology/engineering-technology-as/>)

## Certificates of Achievement

- Engineering Automation Technology - Certificate of Achievement (<https://lbcc-public.courseleaf.com/degrees-certificates/engineering-technology/engineering-automation-technology-certificate-achievement/>)
- Engineering Technology - Certificate of Achievement (<https://lbcc-public.courseleaf.com/degrees-certificates/engineering-technology/engineering-technology-certificate-achievement/>)
- Engineering Technology Advanced - Certificate of Achievement (<https://lbcc-public.courseleaf.com/degrees-certificates/engineering-technology/engineering-technology-advanced-certificate-achievement/>)

### EETC 10 2 units

#### Introduction to Engineering Technology

**36 hours lecture**

Grading: letter grade or pass/no pass.

Formerly TEC 10. This course explores the varied branches of engineering technology profession, the functions of an engineer technologist, and the differences between a traditional academic engineering pathway and an academic engineering technology pathway. Students will explore industries in which an engineering technologist would be employed and explore effective strategies for students to reach their full academic potential. The course will cover an introduction to the methods and tools of engineering technology, problem solving, design, current issues in society, ethics, a respect for diversity and inclusion as related to the engineering technology profession. Students will be introduced to communication skills pertinent to engineering technology professions. Transferable to both UC and CSU; see counselor for limitations

### EETC 20 3 units

#### Introduction to Engineering and Design

**36 hours lecture, 72 hours laboratory**

Grading: letter grade or pass/no pass.

Formerly TEC 20. In this course, students will gain a basic understanding of the design process used in engineering fields and the application of computer modeling software. Emphasis is placed on the design process, geometric relationships, multi-view drawings and assembly drawings per American Society of Mechanical Engineers Y14.5 (ASME Y14.5) standards, drawings for production and various manufacturing processes, modeling, 3D printing and packaging.

Transferable to both UC and CSU; see counselor for limitations

### EETC 30 3 units

#### Principles of Engineering Technology

**36 hours lecture, 72 hours laboratory**

Recommended Preparation: MATH 110 or MATH 110B.

Grading: letter grade or pass/no pass.

Formerly TEC 30. This course introduces the student to principles of engineering technology by the use of activity-based learning, project-based learning, and problem-based learning. The student will learn about the design process, communication and documentation, engineering systems, statics and strength of materials, properties of materials and materials testing, reliability, and kinematics.

Transferable to both UC and CSU; see counselor for limitations

### EETC 40 3 units

#### Electronics for Engineering Technology

**36 hours lecture, 72 hours laboratory**

Recommended Preparation: MATH 110 or 110B.

Grading: letter grade or pass/no pass.

Formerly TEC 40. In this course, students are introduced to the applications in electronics in engineering technology. The topics include safety, Ohm's Law, engineering notation, direct current circuits, capacitance, inductance, impedance, analog and digital waveforms, basic motors, number systems, logic gates, Boolean algebra, flip-flops, shift registers, and micro-processors. Techniques in computer simulation and electrical measurements will be stressed. \*This is a non-math based course that transfers to an Engineering Technology program.

Transferable to CSU Only

### EETC 60 3 units

#### Material Science for Engineering Tech

**54 hours lecture**

Grading: letter grade or pass/no pass.

This course is a study of the chemical, physical and mechanical properties of industrial materials including metals, ceramics, polymers, and composites. The course emphasizes the processes and tests used with different industrial materials during the manufacturing cycles. It also discusses function and structure as they relate to specific design considerations. This course is designed for students who are currently working in a manufacturing plant or pursuing a career in the engineering technology field.

Transferable to CSU Only