

ENGINEERING/ENGINEERING TECHNOLOGY

PROGRAM DESCRIPTION:

The Engineering Associate Degree curriculum provides students with sufficient understanding of engineering concepts and skills for attainment of upper-division status in engineering in a four-year college or university. For the non-transfer student, this curriculum should be of value in attaining employment at the level of technician. The California Engineering Liaison Committee urges transfer students to remain in the community college until completion of lower-division requirements in mathematics, chemistry, physics, and engineering, insofar as those courses are offered.

The Engineering Technology Associate Degree program prepares student for employment in technical fields or to transfer to university engineering technology programs. By completing the degree or certificate requirements, students acquire a foundation in the principles of engineering, engineering design, computer aided design, electronics, manufacturing processes, manufacturing automation, and the application of math and science in technical fields. Careers in engineering technology involve high level technical work in the creation, manufacture, production, utilization, and distribution of industrial materials, products and processes.

The Engineering Technology Certificate of Achievement provides students the fundamental skills needed for employment in technical positions in the design and manufacturing workplace. By completing the certificate requirements, students acquire a foundation in math, chemistry, physics, drafting, computer-aided design (CAD), engineering principles and design, manufacturing processes, and electronics, and can apply the associated concepts and tools in technical fields.

CAREER AT A GLANCE:

HOW DO I KNOW IF THIS MAJOR IS FOR ME?

- You enjoy working outside
- You like to organize and analyze data
- You like to work alone or with a team
- You like to think critically
- You are a problem solver
- You like math and science
- You like to draft and interpret dimensional drawings
- You like to inspect reports and plans

Use Focus2Career on your MyChaffey portal to learn more about careers and majors that fit you best.

WHERE CAN I WORK?

Power Plants	Construction Sites
Industrial Plants	Traveling Overseas
Local Government	Colleges/Universities
Laboratories	Utility Companies

For more information visit: www.labormarketinfo.edd.ca.gov/OccGuides

HOW DO I GET STARTED?

- Start taking introductory engineering courses
- Apply for entry level positions in reception, data entry, or customer service with employers where you would like to promote
- Job shadow and network with engineering professionals
- Practice interpersonal and small group communication skills
- Update resume with technical and classroom experiences

WHAT CAN I DO WITH THIS CERTIFICATE AND/OR ASSOCIATE DEGREE?

<i>Position Title</i>	<i>CA Median Salary</i>
Civil Engineering Technician	\$62,680
Design Technician	\$62,680
Engineering Assistant	\$64,890
Electrical/Electronic Equipment Assembler	\$32,620
Industrial Engineering Technician	\$65,010
Mechanical Engineering Technician	\$69,070
Traffic Technician	\$61,760
Building Inspection	\$87,790
Constructions Technician	\$87,790

WHAT CAN I DO WITH HIGHER EDUCATION AND ADDITIONAL TRAINING?

<i>Position Title</i>	<i>CA Median Salary</i>
Civil Engineer	\$105,540
Transportation Engineer	\$105,540
Mechanical Engineer	\$98,260
Industrial Engineer	\$101,420
Water/Wastewater Engineer	\$102,110
Architect	\$59,860
Energy Engineer	\$107,150
Fire Protection Engineer	\$109,840
Environmental Engineer	\$102,110
Hydrologist	\$101,230

For more information about careers, education and training requirements, salary data, and job outlooks visit www.onetonline.org.

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MAJOR AND COURSE REQUIREMENTS:

LEGEND: G=Grade IP=In Progress N=Need **Bold: Prerequisites** Plain Text: No Prerequisites

Major Requirements for the Associate in Science Degree: (S165)

		Grade	IP	Need	Units
CHEM 24A	General Chemistry I				5
ENGIN 11	Introduction to Engineering				2
MATH 65A	Calculus I				4
MATH 65B	Calculus II				4
PHYS 45	Physics for Scientists and Engineers I				5
PHYS 46	Physics for Scientists and Engineers II				5
PHYS 47	Physics for Scientists and Engineers III				5

Student Name: _____

ID#: _____

Date: _____

Counselor: _____

Plus three courses from the following:

		Grade	IP	Need	Units
ENGIN 26	Engineering Graphics and CAD				3
ENGIN 30	Engineering Application and Digital Computation				3
ENGIN 50	Engineering Statics				3
ENGIN 52	Engineering Dynamics				3
ENGIN 60	Materials of Engineering				3
ENGIN 71	Circuit Analysis				4

Strongly Recommended:

		Grade	IP	Need	Units
CHEM 24B	General Chemistry II				5
DRAFT 43	Advanced CAD Modeling and Applications				3
MATH 75	Calculus III				5
MATH 81	Linear Algebra				4
MATH 85	Differential Equations				4
STAT 10	Elementary Statistics				4

COUNSELOR NOTES:

\$46 per unit for CA Residents

In addition to completion of the MAJOR, there are other requirements for the degree, refer to the Chaffey College Graduation Requirement Sheet or see a counselor in the Counseling Center. All courses required for a certificate must be completed with a minimum grade of C.

ENGINEERING/ENGINEERING TECHNOLOGY

MAJOR AND COURSE REQUIREMENTS:

LEGEND: G=Grade IP=In Progress N=Need **Bold: Prerequisites** Plain Text: No Prerequisites

Major Requirements for the Associate in Science Degree: (S166)

		Grade	IP	Need	Units
CHEM 24A	General Chemistry I				5
EGTECH 10	Introduction to Engineering Design				4
EGTECH 12	Principles of Engineering				4
EGTECH 14	Electronics for Engineering Technologists I				3
EGTECH 16	Computer Integrated Manufacturing-CNC Material Removal				3
PHYS 20A	Algebra/Trigonometry College Physics I				4

Student Name: _____

ID#: _____

Date: _____

Counselor: _____

Plus two courses from the following:

		Grade	IP	Need	Units
DRAFT 20	Computer-Aided Drafting and Design				4
DRAFT 21	Mechanical Design I				3
DRAFT 41	Mechanical Design and Drafting II				4
DRAFT 43	Advanced CAD Modeling and Applications				3
DRAFT 78	Advanced Mechanical Design Applications				4

COUNSELOR NOTES:

Requirements for the Engineering Technology Certificate: (L166)

		Grade	IP	Need	Units
CHEM 10	Introductory Chemistry (or CHEM 24A, General Chemistry I, 5)				4
EGTECH 10	Introduction to Engineering Design				4
EGTECH 12	Principles of Engineering				4
EGTECH 14	Electronics for Engineering Technologists I				3
EGTECH 16	Computer Integrated Manufacturing-CNC Material Removal				3
PHYS 5*	The Ideas of Physics (*PHYS 20A, Algebra/Trigonometry College Physics I may substitute)				3
PHYS 6*	The Ideas of Physics Laboratory				1

\$46 per unit for CA Residents

Plus two courses from the following:

		Grade	IP	Need	Units
DRAFT 20	Computer-Aided Drafting and Design				4
DRAFT 21	Mechanical Design I				3
DRAFT 41	Mechanical Design and Drafting II				4
DRAFT 43	Advanced CAD Modeling and Applications				3
DRAFT 78	Advanced Mechanical Design Applications				4

In addition to completion of the MAJOR, there are other requirements for the degree, refer to the Chaffey College Graduation Requirement Sheet or see a counselor in the Counseling Center.
 All courses required for a certificate must be completed with a minimum grade of C.