ENGINEERING

ASSOCIATE DEGREE & CERTIFICATE PROGRAMS

DESCRIPTION

Cuesta's Engineering program provides a foundation of mathematics, chemistry, physics, and engineering courses necessary to transfer to a four-year institution and complete a bachelor's degree in engineering. Students should consult the institution to which they wish to transfer for specific lower division requirements.

People working in the field of engineering and related technical fields “bridge the gap” between scientific principles and the application of these principles to the needs of society. An engineer uses experience and judgment, as well as advanced training in engineering, science, and mathematics, to formulate ideas and designs, and to determine standards, specifications, work orders and schedules so that projects can be economically beneficial to mankind. Engineering offers diverse and exciting job opportunities for people with mathematical, scientific, and technical skills.

ASSOCIATE DEGREE PROGRAM

An Associate Degree, depending on the focus of study, is designed to prepare students for transfer into upper division course work in a bachelor's degree program, or, to prepare students to enter the workforce in a particular vocational field. To qualify for an Associate's Degree, a student must: (1) complete each major-specific course required for the degree with at least a “C” grade or better, (2) complete all Cuesta College general education, graduation and residency requirements, and (3) achieve an overall grade point average of 2.0 for all courses attempted (major, general education, elective).

DEGREES, CERTIFICATES & AWARDS

• Associate in Science (A.S.)

CAREER OPPORTUNITIES

• Drafters
• Engineering Lab Technician
• Mechanical Designers
• Quality Control Technicians
• Research Technicians
• Surveyors

Gainful Employment: Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at Cuesta College. Information for each certificate program can be found by following this link: www.cuesta.edu/student/studentservices/finaid/gainfulemployment

CONTACT

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ASSOCIATE DEGREE PROGRAM

Engineering — Associate in Science

Courses in this program closely mirror the lower division major preparation required of 1st and 2nd year students enrolled in baccalaureate level Engineering programs. All courses in this major are transferable and widely articulated among the CSU and UC systems. The “Required for all Tracks” courses are standard major preparation required for their particular area of engineering study.

Required Courses (36 credits)
CHEM 201A... General College Chemistry I.........................5
MATH 265A... Calculus I ........................................5
MATH 265B... Calculus II ........................................5
MATH 283... Calculus III: Multivariable Calculus .................5
MATH 287... Ordinary Differential Equations And Linear Algebra ....5
PHYS 208A... Principles Of Physics 1.................................5
PHYS 208B... Principles Of Physics 2.................................5
ENGR 248... Introduction To Engineering..........................2

Complete one of the following 4 tracks:

Civil Engineering Track (20-21 credits)
Required for Civil Engineering Track: 13 credits
ENGR 201... Plane Surveying .........................................3
ENGR 210... Computational Methods For Engineers ...............3
ENGR 226... Engineering Drawing ....................................4
ENGR 246... Materials Engineering ....................................2
ENGR 246L... Engineering Materials Lab .........................1
ENGR 250... Engineering Statics ......................................3

Electives for Civil Engineering Track: 7-8 credits
ENGR 217... Circuit Analysis .........................................4
ENGR 251... Engineering Dynamics ..................................3
ENGR 252A... Strength Of Materials I ...............................2
and
ENGR 252B... Strength Of Materials II .............................2
GEOL 210... Physical Geology ....................................4

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Computer Engineering Track (15 credits)

Required for Computer Engineering Track: 12 credits

CIS 231 . . . Fundamentals Of Computer Science I ..................4
CIS 232 . . . Fundamentals Of Computer Science II ..................2
CIS 233 . . . Fundamentals Of Computer Science III ..................2
ENGR 217 . . . Circuit Analysis ...........................................4

Electives for Computer Engineering Track: 3 credits

CIS 241 . . . Discrete Structures ........................................3
ENGR 250 . . . Engineering Statics ....................................3
ENGR 246 . . . Materials Engineering ..................................2
and
ENGR 246L . . . Engineering Materials Lab ..........................1

Electrical Engineering Track (15-16 credits)

Required for Electrical Engineering Track: 12 credits

CIS 231 . . . Fundamentals Of Computer Science I ..................4
ENGR 217 . . . Circuit Analysis ...........................................4
PHYS 208C . . . Modern Physics .........................................4

Electives for Electrical Engineering Track: 3-4 credits

ENGR 250 . . . Engineering Statics ....................................3
ENGR 251 . . . Engineering Dynamics ..................................3
CHEM 211 . . . Introductory Organic/Biochemistry ..................4
BIO 211 . . . Life Science ..................................................3

Mechanical/Aeronautical Engineering/Manufacturing/Industrial Track (23-24 credits)

Required for ME/AERO/MANUF/INDUST Track: 17 credits

ENGR 210 . . . Computational Methods For Engineers ................3
ENGR 217 . . . Circuit Analysis ...........................................4
ENGR 226 . . . Engineering Drawing .....................................4
ENGR 246 . . . Materials Engineering ..................................2
ENGR 246L . . . Engineering Materials Lab ..........................1
ENGR 250 . . . Engineering Statics ....................................3

Electives for ME/AERO/MANUF/INDUST Track: 6-7 credits

BIO 211 . . . Life Science ..................................................3
ENGR 228 . . . Detailed Design With Solidworks ....................3
ENGR 251 . . . Engineering Dynamics ..................................3
ENGR 252A . . . Strength Of Materials I ...............................2
and
ENGR 252B . . . Strength Of Materials II ...............................2
WELD 270A . . . Basic Welding .........................................3

Total Credits .................................................................51-60

Click Here for Program Student Learning Outcomes