

ENGINEERING WITH EMPHASIS IN CIVIL ENGINEERING APPLICATIONS (AS DEGREE S0832)

Natural Science Division Degree S0832

Engineering with Emphasis in Civil Engineering Applications program prepares the students for an entry-level career working as a technician under the direction of civil engineers, surveyors, contractors and architects through project-based learning activities. This degree program is for job seekers interested in civil engineering and civil engineering technology; as well as students interested in university programs in civil engineering and civil engineering technology.

Engineering with Emphasis in Civil Engineering Applications degree incorporates the engineering, science, and communications skills needed by an entry-level civil engineering technology employee. Completion of this degree will prepare graduates for multiple terminal technologist positions, including engineering technician, civil engineering technician, project engineer, engineering assistant, and designer. Through this program students will develop proficiency with mechanical systems, Microsoft Excel, oral communication, functional analysis, project management, developing presentations, laboratory analysis, land surveying, mapping, computer aided design, geometric dimensioning and tolerances, programming, numerical methods and technical reporting. Completion of this degree may facilitate transfer into B.S. programs in Civil Engineering, Construction Engineering, and Construction Engineering Management related programs.

Required Courses

Course Prefix	Course Name	Units
Required Core		36 - 37
ENGR 1	Introduction to Engineering	2
ENGR 1C	Engineering Critical Thinking	3
ENGR 6	Introduction to Engineering Programming Concepts and Methodologies	4
or ENGR 7	Programming Applications for Engineers	
ENGR 8	Properties of Materials	4
ENGR 24	Engineering Graphics	4
CHEM 50	General Chemistry I	5
or CHEM 50H	General Chemistry I - Honors	
or CHEM 55	Chemistry for Engineers	
MATH 180	Calculus and Analytic Geometry I	4
or MATH 181	Calculus and Analytic Geometry II	
PHYS 2AG	General Physics	4
or PHYS 4A	Engineering Physics	
SURV 1A	Surveying	3
SURV 1B	Surveying	3
Required Electives		
Choose a minimum of 10 units		10
ENGR 18	Introduction to Engineering Graphics	
ENGR 40	Statics	
ENGR 40T	Applied Statics	
ENGR 41	Dynamics	
ENGR 42	Mechanics of Materials	

ENGR 50A	Robotics Team Project Development	
ENGR 50B	Intermediate Robotics Team Project Development	
ENGR 285	Differential Equations and Linear Algebra for Engineers	
PHYS 2BG	General Physics	
PHYS 4B	Engineering Physics	
Total Units		46 - 47

Please see the Mt. San Antonio College Engineering, Engineering Technology and Surveying Program Website (<https://www.mtsac.edu/engineering/>) for updated information on program courses, transfer help, extracurricular activities, faculty contact information and more.

Program Learning Outcomes

Review Student Learning Outcomes (SLOs) (<http://www.mtsac.edu/instruction/outcomes/sloinfo.html>) for this program.