

# ENGINEERING WITH EMPHASIS IN CHEMICAL AND MATERIAL ENGINEERING APPLICATIONS - LEVEL 1 (CERTIFICATE T0830)

## Natural Sciences Division Certificate T0830

The Engineering with Emphasis in Chemical and Materials Engineering Applications program concentrates on the application of chemistry in an industrial setting through the study of design principles, contextualized problem-solving, engineering materials, applied mechanics and industry standard tools. This degree program is for job seekers interested in chemical engineering, materials engineering, chemical engineering technology and materials engineering technology; as well as students interested in university programs in material engineering technology, chemical engineering technology, chemical engineering and materials engineering.

The Engineering with Emphasis in Chemical and Materials Engineering Applications - Level 1 certificate incorporates the engineering, science, and communications skills needed by an entry-level chemical engineering technology and materials engineering technology employee. Completion of this certificate will prepare graduates for multiple terminal technologist positions, including quality control technician, lab technician, engineering technician, project analyst, engineering assistant. Through this program, students will develop proficiency with data acquisition, mechanical systems, Microsoft Excel, oral communication, functional analysis, project management, developing presentations, laboratory analysis, materials testing, and technical reporting. Completion of this certificate may facilitate transfer into B.S. programs in Engineering Technology, Chemical Engineering, Materials Engineering or other related programs.

## Required Courses

Course Prefix	Course Name	Units
Completion of Engineering Fundamentals coursework		16-17
PLUS		
Completion of Engineering with Emphasis in Chemical and Material Engineering Applications - Level 1 coursework		13
<b>Total Units</b>		<b>29-30</b>

Course Prefix	Course Name	Units
<b>Engineering Fundamentals Coursework</b>		
ENGL C1000	Academic Reading and Writing	4
or ENGL C1000H	Academic Reading and Writing - Honors	
or AMLA 1A	College Composition for Non-Native English Speakers	
ENGR 1	Introduction to Engineering	2
ENGR 1C	Engineering Critical Thinking	3
MATH 150	Trigonometry	3
or MATH 160	Precalculus Mathematics	
or MATH 180	Calculus and Analytic Geometry I	
PHYS 2AG	General Physics	4
<b>Total Units</b>		<b>16-17</b>

Course Prefix	Course Name	Units
<b>Engineering with Emphasis in Chemical and Material Engineering Applications - Level 1 Coursework</b>		
CHEM 50	General Chemistry I	5
or CHEM 50H	General Chemistry I - Honors	
or CHEM 55	Chemistry for Engineers	
COMM C1000	Introduction to Public Speaking	4
or COMM C1000H	Introduction to Public Speaking - Honors	
ENGR 8	Properties of Materials	4
<b>Total Units</b>		<b>13</b>

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.