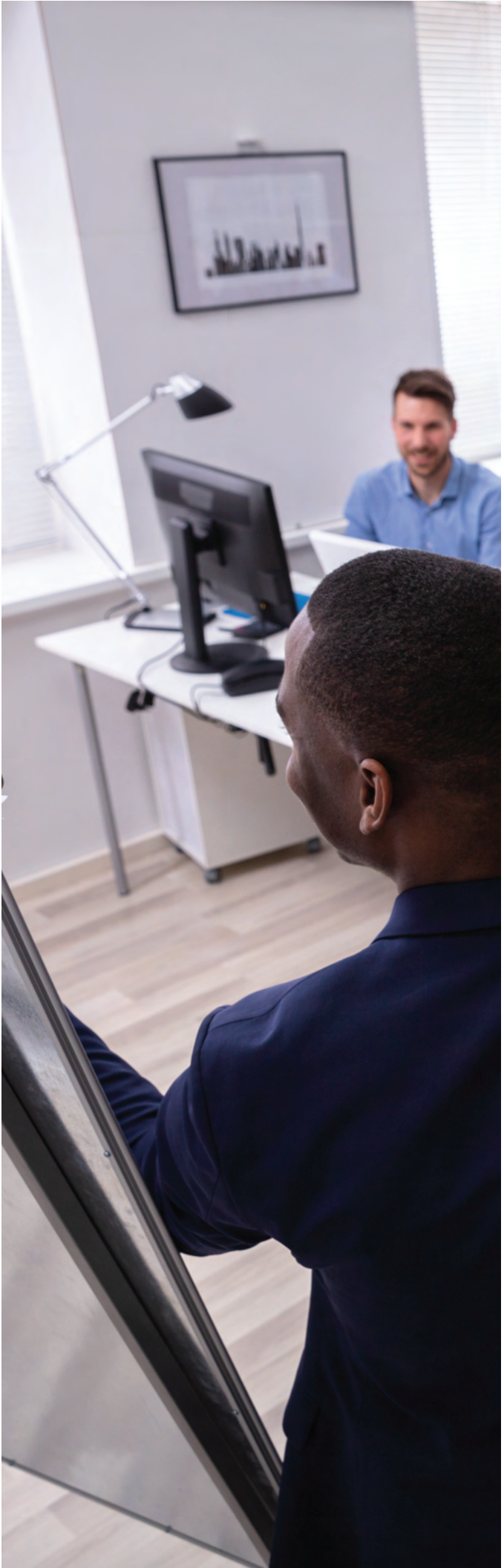

UNIVERSITY OF THE PACIFIC

# Engineering Management

The Bachelor of Science program in Engineering Management consists of a minimum of 120 units of academic work and (except for exempt foreign students) a minimum of 32 units of Cooperative Education credit. This program is designed to provide flexibility to students. Students take a full year of upper division engineering courses and then specialize in the area of their choice by choosing engineering electives.

You may choose to complete all the requirements for the degree in 4 years to 5 years depending on your high school preparedness, desired semester workload and motivation. Contact the EMGT department for further details.

## COOPERATIVE EDUCATION PROGRAM (CO-OP)

Practical work experience (cooperative education or CO-OP) is an integral part of engineering management education at University of the Pacific. All students who are U.S. citizens are required to complete 32 units of CO-OP, which entails a seven month work period. Experience gained during CO-OP gives Pacific engineering management graduates a significant advantage when they seek employment after graduation.

## ENGINEERING MANAGEMENT OBJECTIVES

The Engineering Management Program at University of the Pacific seeks to graduate engineers ready to enter professional practice or pursue graduate level studies. The objectives of the Engineering Management Program are to graduate engineers that:

+ Are ready to enter professional practice or pursue graduate level studies
+ Use engineering knowledge as a base for solving problems requiring business and analytical skills
+ Are able to work in a wide array of different industries, positions and projects
+ Seek continual professional development and lifelong learning

## ENGINEERING MANAGEMENT CAREER PATHS:

+ Construction management
+ Technical marketing
+ Manufacturing engineering
+ Global engineering
+ Environmental studies
+ Product development
+ Biotech industries

For more information, contact:
Dr. Abel Fernandez, Professor and Program Director
afernandez@pacific.edu | 209.946.3061 | Chambers 226

UNIVERSITY OF THE PACIFIC | School of Engineering and Computer Science

# BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT - PROGRAM CURRICULUM

## Sample Curriculum for the Bachelor of Science in Engineering Management

| | | |
|---|---|---|
| 1ST YEAR | FALL | MATH 51 - GE Quantitative Reasoning<br>GE Language and Narratives<br>ENGR 10<br>CORE 1 - Problem Solving<br>ENGR Elective<br>Total units - 16 |
| | SPRING | MATH 53<br>PHYS 53 - Scientific Inquiry<br>ENGR 19<br>CORE 2 - Writing and Critical Thinking<br>Total units - 16 |
| 2ND YEAR | FALL | MATH 55<br>ENGR 20<br>EMGT/BUSI Elective<br>MATH 37<br>Total units - 15 |
| | SPRING | MATH 57<br>EMGT/BUSI Elective<br>Engineering Science Elective<br>Math/Science Elective<br>ENGR 25<br>Total units - 17 |
| | SUMMER | CO-OP<br>Total units - 16 |
| 3RD YEAR | FALL | CO-OP<br>Total units - 16 |
| | SPRING | EMGT 142<br>EMGT 174<br>ENGR 30 - World Perspectives & Ethics<br>Math/Science Elective<br>Total Units - 15 |
| | SUMMER | GE Social Inquiry<br>GE Artistic Process & Creation<br>GE Civic & Global Responsibility<br>Total Units - 12 |
| 4TH YEAR | FALL | EMGT 162<br>EMGT 170<br>EMGT 176<br>ENGR Elective<br>Total units - 15 |
| | SPRING | ENGR Elective<br>ENGR Elective<br>ENGR Elective<br>EMGT 195<br>Total Units - 16 |

**UNIT BREAKDOWN - 120 UNITS MINIMUM**
MATH/SCIENCE - 32 UNITS, MINIMUM
GE COURSES - 28 TO 34 UNITS
ENGINEERING COURSES - 45 UNITS, MINIMUM

**MATHEMATICS & BASIC SCIENCE**
MATH 051 [4] CALCULUS I (COUNTS AS GE QUANTITATIVE REASONING)
MATH 053 [4] CALCULUS II
MATH 055 [4] CALCULUS III
MATH 057 [4] DIFFERENTIAL EQUATIONS
MATH 037 [4] INTRO TO STATISTICS AND PROBABILITY
PHYS 053 [5] PHYSICS I (COUNTS AS GE SCIENTIFIC REASONING)
MATH/SCIENCE ELECTIVE [8]

**GENERAL EDUCATION**
CORE 1 [3] PROBLEM SOLVING AND ORAL COMMUNICATIONS
CORE 2 [4] WRITING AND CRITICAL THINKING
ARTISTIC PROCESS AND CREATION [3-5]
SOCIAL INQUIRY [3-5]
LANGUAGE AND NARRATIVES [3-5]
WORLD PERSPECTIVES & ETHICS [3] - ENGR 030
QUANTITATIVE REASONING [4] - MATH 51
SCIENTIFIC INQUIRY [5] - PHYS 53

**ENGINEERING - 45 UNITS MINIMUM**

**ENGINEERING SCIENCE:**
ENGR 010 [1] DEAN'S SEMINAR
ENGR 019 [3] COMPUTER APPLICATIONS IN ENGINEERING
ENGR 020 [3] ENGINEERING MECHANICS (STATICS)
ENGINEERING SCIENCE ELECTIVES [6-8]

**ENGINEERING MANAGEMENT CORE:**
EMGT 142 [3] DESIGN AND INNOVATION
EMGT 142L [1] DESIGN AND INNOVATION LAB
EMGT 162 [3] INTRO TO DATA ANALYTICS FOR ENGINEERS & COMP SCI
EMGT 170 [4] PROJECT DECISION MAKING
EMGT 174 [3] ENGINEERING PROJECT MANAGEMENT
EMGT 176 [4] SYSTEMS ENGINEERING MANAGEMENT
BUSI/EMGT ELECTIVES (CHOOSE TWO COURSES)
ENGR 025 [1] PROFESSIONAL PRACTICE SEMINAR ENGINEERING SCIENCE

**ENGINEERING DISCIPLINE:**
ENGINEERING ELECTIVES (SUFFICIENT TO MEET 45 ENGINEERING UNITS)
EMGT 195 [4] ENGINEERING MANAGEMENT SENIOR PROJECT

**PROFESSIONAL PRACTICE (CO-OP):**
ENGR 181-183 (32 UNITS OF CO-OP ARE REQUIRED TO GRADUATE, OPTIONAL FOR NON - U.S. CITIZENS.