ENGINEERING, MANAGEMENT AND LEADERSHIP (EML)

EML 501 | INTRODUCTION TO TECHNOLOGY AND ENGINEERING MANAGEMENT
Units: 3 Repeatability: No
Engineering managers often start by managing groups that are staffed with people whose education and experiences are closely related to their own disciplines. Eventually, they are asked to lead diverse functions including, product marketing, product development , program and project management, manufacturing and operations, quality and reliability, and technical sales. This course prepares those who are at the cusp of a vast expansion of their management responsibilities and prepares them for the challenges involved in bringing together opportunities and challenges involved in the development of organizations with diverse functions and skills.

EML 502 | INTRODUCTION TO TECHNOLOGY AND ENGINEERING LEADERSHIP
Units: 3 Repeatability: No
Leading others in a company, or even in a team, calls for knowledge, awareness, and a set of “soft” skills that can bring huge returns. This course is an introduction to leading-- understanding, supporting, motivating, and guiding—technical employees. Class members will have an understanding of culture and leadership models as key differentiators for successful entrepreneurs and intrapreneurs.

EML 520 | EMERGING TECHNOLOGY TRENDS AND STARTUPS
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
This course provides a current view of emerging trends in the eco-system and how business models are pivoting to maximize the desired outcomes. The course highlights and compares early adoption, fast following, and exit strategies. Students will gain a deeper understanding of the technology life cycle and start-up ecosystem. Technology trending through the readiness level and associated capital management through incubation, acceleration, and venture capital routes are evaluated.

EML 525 | TOMORROW'S PLATFORMS, PRODUCTS AND SERVICES
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
This course presents a view of technologies that will emerge in the market over the next decade and cause significant changes in process, efficiency, and automation. Five of the seven modules will be devoted to describing technologies and exploring their impact on customers and markets. At the end of the course, students will select one technology (that may relate to their jobs or interests) and conduct more detailed research on its specific impacts on the market.

EML 530 | COMPETING STRATEGICALLY
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
An Engineer’s career path in business leads to general management— guiding a business internally and externally. It starts with understanding the market structure and evolves into managing competitive performance, or profit-and-loss (P&L). This course covers the fundamentals of competitive strategy, market access, business development, and market positioning. Accounting, finance, performance measures, and decision-making are examined and applied in the context of how to remain competitive.

EML 535 | BUILDING RESILIENT TECHNOLOGY BUSINESSES
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
The impact of the pandemic on businesses has been more widespread and stressed strategy, planning, and execution. This has forced companies to develop new paradigms for absorbing stress, recovering critical functionality, and building back a thriving business in altered circumstances. This course will address the development of strategies and plans that build business and technology resilience for global or regional events (e.g., pandemic, climate change, war) that could last for months, result in extended travel and transport shutdowns, and prompt lasting changes to how a company operates and where its employees work. The course offers a deeper insight on how to be "Future-Ready".

EML 540 | VALUE CHAIN OF ENGINEERING ORGANIZATIONS
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
This course reviews the platform for a company’s operations: the organization's structure and culture. It includes differentiation and integration of tasks, and expectations for the company’s and members’ behavior, values, underlying strategy, and- in some cases- leaders whose conduct is held as exemplary. This course delves into the importance of quality as culture and empowerment obtained through accountability.

EML 545 | SUSTAINABILITY, ETHICS AND COMPLIANCE
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C-
Engineering managers initially manage functions within the business. Leaders must manage their companies in an effective, profitable way for their employees and shareholders. They are also expected to act ethically and consistently within the values of our society. Environmental social governance with sustainability at the forefront of decision-making is a required skill. This course allows students to survey the management decisions that have ethical and social responsibility implications. It emphasizes routine issues where the implications are important but may not be obvious.

EML 590 | DECISION ANALYSIS
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C- and EML 520 with a minimum grade of C- and EML 525 with a minimum grade of C- and EML 530 with a minimum grade of C- and EML 535 with a minimum grade of C- and EML 540 with a minimum grade of C- and EML 545 with a minimum grade of C-
This is an introductory course in Decision Analysis and provides the tools required to make informed and rational business decisions. The course contents are designed to leverage historical company data (and other market data) to enable the application of formal analysis for decision-making and forecasting.

EML 592 | NEW STUDENT ORIENTATION
Units: 0 Repeatability: No
This orientation course introduces students to the University of San Diego and provides important information about the program. Throughout the orientation, students will learn to successfully navigate through the online learning environment and locate helpful resources. Students will practice completing tasks in the online learning environment as preparation for success in their online graduate courses. This orientation course will be available to students as a reference tool throughout the entirety of your program.

EML 595 | CAPSTONE PROJECT EXPERIENCE
Units: 3 Repeatability: No
Prerequisites: EML 501 with a minimum grade of C- and EML 502 with a minimum grade of C- and EML 520 with a minimum grade of C- and EML 525 with a minimum grade of C- and EML 530 with a minimum grade of C- and EML 535 with a minimum grade of C- and EML 540 with a minimum grade of C- and EML 545 with a minimum grade of C-
The Capstone course is the opportunity for students to apply knowledge and skills learned in their courses throughout the program. It is designed to be practical—involving an experience with an actual company, and integrative—drawing on lessons from across all courses in the MS-EML program.