Online Master of Engineering Management

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Courses

Visit online course listings to view semester offerings for T95 EMGT (https://courses.wustl.edu/CourseInfo.aspx?sch=T&dept=T95&crslvl=5:8).

T95 EMGT 604 Engineering Management & Financial Intelligence

Discover the full picture of how business works within the organization. This course walks the student through the complete business cycle -- the roles the various functions play in a business operation as well as how information is used to make business decisions (e.g. financial data, marketing data, production data, economic data). To bring these learnings to life, this course also uses management simulation games and classroom competitions. Includes strategy, product planning and management, sales and support, research and development, manufacturing and supply chain, with particular emphasis on accounting, finance and the use of financial statements.
Credit 3 units.

T95 EMGT 606 Technology Strategy & Marketing

Learn the art and science of technology-rich strategy and marketing. Every business rises and falls on the value it brings to the customer and the value it simultaneously brings to the business itself. The engineer that understands and can communicate strategy and marketing is powerful! Business, technology and research budgets are allocated based on this value proposition, whether the commercialization or operationalization of the technology is 1 year out or 10 years out.
Prerequisite: T55 ETEM 504.
Credit 3 units.

T95 EMGT 610 Understanding Emerging & Disruptive Technologies

We live in an era of rapid technology innovation and disruption. Blockbuster was the darling of Wall Street in 2004 and filed for bankruptcy in 2010. Blockbuster CEO in 2008: "Neither Redbox nor Netflix are even on the radar screen in terms of competition." Blockbuster is not alone in their blindness. Microsoft laughed off the first iPhone, and laughed off Google. IBM laughed off the first personal computer. These should be a horrible warning to all business leaders. Numerous technologies are threatening disruption today: block chain, Internet of Things (IoT), artificial intelligence, autonomous vehicles, unmanned aerial vehicles (UAVs), 3D Printing, 5G wireless networks, gene editing. Understanding what they are and how they might disrupt will make or break countless companies in the coming years.
Credit 3 units.

T95 EMGT 620 Intro to Innovation & Entrepreneurship

What exactly is innovation, and what is entrepreneurship? How do they drive business and society? Where do good ideas come from? Can anyone learn to be innovative or be an entrepreneur, and does "thinking like an engineer" help or hinder this process? What does an innovative organization look and act like? What barriers exist to innovation/entrepreneurship, and can they be overcome? This course introduces important frameworks and concepts, offers the student hands-on individual and team learning, includes numerous guest lecturers, and cultivates essential communication skills, all with the goal of fostering an understanding of, and confidence in, innovation and entrepreneurship -- both for the individual as well as for the organization.
Credit 3 units.

T95 EMGT 625 Innovating for Defense

This interdisciplinary entrepreneurial course gives students the unique opportunity to solve real problems facing the U.S. Department of Defense (DoD) and the U.S. Intelligence Community (IC). This course is open to all students who want to solve real problems for real customers in real time. Students will form their own interdisciplinary teams. Each team chooses their own DoD problems from those available to the class. Each problem has a dedicated DoD problem sponsor who will be regularly engaged with the team. Student teams learn and use the Lean Startup methodology and the Mission Model Canvas made famous by Stanford University to iteratively cut through the complexity of the problem. Teams develop a keen understanding of the problem, craft a business model and solution, and develop a prototype. Note: This course is sponsored by the U.S. DoD. It was originally developed at Stanford University and is now taught at 30+ U.S. universities. A student does NOT have to be a citizen of the United States to take this course; none of the DoD problems are classified. Recommended completion of T55 ETEM 520.
Credit 3 units.

T95 EMGT 630 Project Planning Methodologies

Build your expertise with today's critical project management methodologies in our fast-paced world. Variations of waterfall are widely used in industry, but new uses of agile are being discovered every day, both inside and outside of software-based organizations. This course exposes the student to the fundamental and emerging techniques and tools used to manage successful projects of various sizes and complexity -- managing cost, schedule, quality, risk, solution and requirements -- while adapting to today's fast-paced and uncertain business environment. The primary focus of this course is on agile.
Credit 3 units.

T95 EMGT 632 The Art & Science of Risk Management

This course focuses on why many project managers miss requirements for schedule, budget or even both. The course concentrates on key risk management techniques practiced by leading project and program managers and taught through fact-filled lectures, case work and project execution as applied to information systems, engineering, financial, product/process and design projects/programs in today's fast-moving environment. Students will take away key value propositions, including risk identification, risk quantification, risk monitoring, risk control and risk mitigation. This course will enable the student to address common scope, schedule, quality and cost risk events that occur on complex projects. Project risk management examines the types of risk, with a focus on understanding the process of risk identification, assessment, prevention, mitigation, and recovery; governance, auditing, and control of confidentiality; integrity; and availability of data. Using common

operational, strategic, tactical, and technological scenarios, the course work provides a comprehensive approach to the challenges faced by managers when global data is readily available, risk is pervasive, regulations are ever-increasing, and the threat of disruption from potential crises is real.
Credit 3 units.

T95 EMGT 681 Leading in a Technology-Rich World

Leadership has fundamentally changed from top-down, autocratic and task-focused to collaborative and people-focused in just a few generations. Great senior leaders now get their people to do the greatest things. They must constantly learn, think innovatively, move and adapt very quickly, and collaborate over short and long distances. Students will learn new leadership skills, explore their individual leadership styles, and discuss the senior leadership challenges in an evolving tech-rich world.
Credit 3 units.

T95 EMGT 682 Human Performance in the Organization

Have you ever wondered why some careers soar and others stall? Why you find it easy to build relationships with some people - but not others? Why some teams function well and consistently outperform others? Are you curious about what kind of manager you are, or will be? Do you want to know more about how organizations decide who to hire and who to promote? Human Performance in the Organization is designed to help you answer these questions. The content is a mix of relevant theory, personal reflection, and practical application. Our goal is to understand human performance at all levels of the organization. Topics include performance and career management; negotiation and influence; power and politics; mentoring and coaching; high-performance teams; conflict management; talent development and succession planning; and change management.
Credit 3 units.

T95 EMGT 685 MEM Capstone

The MEM capstone course is the culmination of the Master of Engineering Management degree program. Taken at the end of the program, the capstone course gives each student (as part of a team) an opportunity to apply a cross-section of knowledge and skills gained toward a current challenge/project from industry, government or nonprofit organization. Student teams are encouraged to interface with the sponsoring organization throughout the semester. Prerequisite: Completion or co-enrollment in all Required MEM courses.
Credit 3 units.

T95 EMGT 686 Cross-Cultural Negotiation

This course introduces students to and gives them practice with principle-based tools and techniques to reach agreements across varied cultures. Best practices from the most famous negotiators of ancient history (i.e., the Phoenicians) are studied and used as a methodology that includes the role of a third party in resolving conflict. The cross-cultural elements are based on multicultural experiences, research studies and the real-life experiences of the instructor. The course is highly interactive (about 70% of the course work). Participants learn through role plays and simulation as well as through readings and case-study analysis.
Credit 3 units.

T95 EMGT 687 Communication Excellence for Influential Leadership

Exceptional communicators become extraordinary leaders. This course will guide students to learn to exceptionally communicate their message by applying refined nuances that inspire and transform those with whom they converse. Through a proven communicative process, students will acquire skills necessary to differentiate them as leaders. Students will learn how to communicate across a variety of settings using strategies that result in clear, vivid, and engaging exchanges. Students will practice: storytelling; creating and using clear visuals; engaging listeners; demonstrating passion when speaking; responding to questions with clarity and brevity, and, using their distinctive voice as a leadership asset. Each student will learn how to assess his or her own communication capabilities, adjust to different listeners, and how to evaluate speaker effectiveness and provide valuable feedback to others. Video recordings will be used to demonstrate incremental communicative changes throughout the course, and to show how these strategies bring about outstanding leadership.
Credit 3 units.

T95 EMGT 699 Applied Research Study

Applied Research Study (ARS) is an advanced, project-based course designed to allow students to develop in-depth knowledge and further their education building on the education offered in the Programs. Applied research is a type of examination looking to find practical solutions for existing problems. These can include challenges in the workplace, education, and society. Students collaborate with an adjunct faculty advisor to collect data. Findings are applicable and may be implemented upon completion of a study. Applied research focuses on answering one specific applied research question for a client or sponsor. Applied Research Study must have prior approval of a faculty sponsor and the Program Director.
Credit 3 units.