

Industrial Engineering Program

• Objective: To obtain corporate sponsorships for senior design projects for WPI's Industrial Engineering Program.

• WPI's MQP Requirement

- At WPI, all undergraduate students must complete a project in the major field of study, which is called the Major Qualifying Project (MQP). This project focuses on the synthesis of all previous study to solve problems or perform tasks in the major field with confidence, and communicate the results effectively.
- Each MQP is equivalent to three 3-credit courses and can be completed either full time in one term (one term = 7 weeks at WPI), or part time in two to three terms. The best time to start a part-time (2-3-term) project is A term (late August).
- Each project consists of 2-4 students from the same/similar discipline and is advised by at least one faculty member with relevant expertise.

• Projects in Operations & Industrial Engineering

- The OIE faculty group primarily advises students majoring in Industrial Engineering (IE) and Management Engineering (MGE) with concentration in Operations Management;
- OIE is focused on integrating and coordinating supply chains, including such components as people, information, materials, equipment and energy;
- The major OIE disciplinary skills include optimization, simulation, quality control techniques, financial methods, mathematical modeling (Operations Research), production planning and control, lean principles, Six Sigma, process analysis and improvement, facility layout, benchmarking, balance scorecard, human factors, and others;
- Project topics include, but are not limited to, supply chain and logistics management, health care, lean manufacturing/principles, production planning and control, inventory control/materials management, process improvement

• Key Benefits for Project Sponsors

- Establish and maintain close relationships with a center of talents
- Values generated through fresh ideas and creative minds
- New opportunities and suggestions for improving performance
- Finding and training right candidates for future workforce
- Pilot studies for initiatives ranging from strategic to operational

• Primary Responsibilities of Project Sponsors

- Work with project advisor to define the scope and expectations of a topic;
- Designate a liaison to connect with the WPI team and co-advise the project;
- Provide needed information and data related to the selected project;
- Project fee: ≥ \$8,000 paid to WPI, and project-related travel costs

Sample OIE MQPs

- Outbound Network Simulation for Staples
- Identifying Best Practices in Morgan Stanley
- Flu Vaccine Supply Chain Modeling for Novartis
- Lehman Brothers: Risk Reporting and Technology
- Scrap Reduction at Electronic Fusion Device, Inc.
- Six Sigma Analysis: The Design and Implementation
- Benchmarking of Supply Chain Management for Nypro, Inc.
- Material Handling Guidelines to Support Lean Cells in the Bose Production System

Useful Links

- Industrial Engineering Program: http://www.wpi.edu/academics/business/industrial-engineering.html
- School of Business: http://www.wpi.edu/academics/business.html
- WPI Project Program (for sponsoring a project): http://www.wpi.edu/academics/Projects/sponsor.html
- China Project Center: http://wpi-sa.terradotta.com/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=15421
- Wall-Street Project Center: http://wallstreet.wpi.edu/

Project Cycle 2. Problem 1. Problem Identification Statement 4. Project 3. Project Goals & Objectives Methodology 6. Information 5. Literature Review & Data Collection 7. Analysis 8. Recommendations 9. Implementation 10. Presentation or Plan & Report

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