OPMT (OPMT)

OPMT 350. Project Management. 3 Units.
Project management is concerned with the management and control of a group of interrelated tasks required to be completed in an efficient and timely manner for the successful accomplishment of the objectives of the project. Since each project is usually unique in terms of task structure, risk characteristics and objectives, the management of projects is significantly different from the management of repetitive processes designed to produce a series of similar products or outputs. Large-scale projects are characterized by a significant commitment of organizational and economic resources coupled with a high degree of uncertainty. The objective of this course is to enhance the ability of participants to respond to the challenges of large-scale projects so that they can be more effective as project managers. We study in detail up-to-date concepts, models, and techniques useful for the evaluation, analysis, management, and control of projects. Offered as MSOR 450, OPMT 350 and OPMT 450.

OPMT 377. Enterprise Resource Planning in the Supply Chain. 3 Units.
Enterprise resource planning is the dominant system by which companies translate the needs from their customers into the detailed plans that the company must perform to meet the customer needs, and the resulting support the company will need from its suppliers. As such, it is a central player in the process of supply chain management. In this course, we study both the quantitative and qualitative concepts and techniques to help manage a company’s operations to perform these important translation and planning tasks in order to help the company be successful. The quantitative analysis will be supported by microcomputer software available in the Weatherhead computer lab. Student teams complete a series of integrated case studies from the same company to vividly see the relationships between various planning and control activities. A major emphasis during the course is the design of processes and procedures (algorithms) for solving very complex (wicked) problems as a part of both class discussions and while working on case studies, as well as critiquing the designs so as to clearly understand their limitations. Offered as MSOR 477, OPMT 377 and OPMT 477. Prereq: OPRE 207 and OPRE 301.

OPMT 412. Lean Services Operations. 3 Units.
The course will be delivered over four modules: 1) Service Process Blueprints, 2) Managing Capacity in Service Systems, 3) Mapping the Value Stream (current and future state), and 4) Inventory Management in Service Systems. The topics considered are viewed in the context of healthcare management, financial services, insurance firms, call centers, back-office operations, and other applications. Through these topics, the participants will be trained in tools that help them understand customers’ expectations and needs and to identify service system characteristics that can meet these needs. We will learn how to identify errors in service and troubleshoot these problems by identifying the root causes of errors. Subsequently, we will discuss how one can modify the product or service design so as to prevent defects from occurring. Finally, we will establish performance metrics that help evaluate the effectiveness of the Lean system in place. These efforts will result to improved quality. This course is not oriented toward specialists in service management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with. Then, we will typically discuss some system specifics and emphasize the principles and issues that play key role in their management. Offered as HSMC 412 and OPMT 412.

OPMT 420. Six Sigma and Quality Management. 3 Units.
The Six Sigma process is the standard for quality improvement in organizations around the globe. In this course, we study the details of the five steps in the Six Sigma process: DEFINE, MEASURE, ANALYZE, IMPROVE, and CONTROL (DMAIC). Many tools, concepts, and processes that are often an integral part of Six Sigma projects in companies are included in the course content. They range from the very basic tools of quality (such as cause-and-effect diagrams for brainstorming) to complete processes (such as benchmarking, quality function deployment, failure mode and effects analysis-FMEA). Statistical concepts with software applications that are central to Six Sigma including statistical process control and introduction to design of experiments are also included. Once the Six Sigma process and its various components are understood, we study quality management including quality control, quality planning, quality improvement, strategic quality management, and quality strategy. A major requirement of the course is an action learning component in which the students are assigned in groups to work on unpaid real projects of Six Sigma in local industries. Students meeting the required standards of performance will earn a Green Belt Certification in Six Sigma and Quality Management from the Weatherhead School of Management. Offered as MSOR 420 and OPMT 420. Prereq: (MSOR 406 or MBAP 408 or MBAC 507 or HSMC 412) and (MSOR 433 or OPRE 433 or MBAC 511 or MBAP 403 or HSMC 457) or Requisites Not Met permission.

OPMT 422. Lean Operations. 3 Units.
In this course, students will be taught how to identify inefficiencies associated with overproduction, waiting, transport, extra processing, inventory, motion and defects. One-by-one, areas of inefficiencies are to be identified and improved while educating the workforce towards continual improvement. Similarly, participants will be trained to reduce lead times in areas such as engineering design, order entry, purchasing, order fulfillment, receiving, production, packaging, shipping, invoicing and collection. The above improvements will lead to cost reductions. Students will be trained in costing techniques, target pricing, and cost maintenance. The course will be delivered along the following themes: 1) Mapping the Value Stream (current and future state) 2) Workplace Organization: SS & Safety, 3) Defect Reduction and Error Proofing, 4) Quick Changeover, 5) Standard Operations, 6) Total Productive Maintenance, 7) Visual management, 8) One-piece flow, 9) Lean Metrics. This course is not oriented toward specialists in operations management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with and the key issues in their management. Offered as MSOR 422 and OPMT 422. Prereq: Not available to ORSC-MSM students.

OPMT 450. Project Management. 3 Units.
Project management is concerned with the management and control of a group of interrelated tasks required to be completed in an efficient and timely manner for the successful accomplishment of the objectives of the project. Since each project is usually unique in terms of task structure, risk characteristics and objectives, the management of projects is significantly different from the management of repetitive processes designed to produce a series of similar products or outputs. Large-scale projects are characterized by a significant commitment of organizational and economic resources coupled with a high degree of uncertainty. The objective of this course is to enhance the ability of participants to respond to the challenges of large-scale projects so that they can be more effective as project managers. We study in detail up-to-date concepts, models, and techniques useful for the evaluation, analysis, management, and control of projects. Offered as MSOR 450, OPMT 350 and OPMT 450. Coreq: MBAC 511 or MBAP 403 or HSMC 457 or HSMC 412 or Requisites Not Met permission.
OPMT 451. Project Quality Management. 3 Units.
This course examines various methods used to ensure the project meets the stakeholder needs for which it was undertaken, including quality planning, quality assurance, and quality control. The coursework integrates the project requirements with the project plan, the reporting of its performance, and marking its closure. The Project Planning Process clarifies the project’s objectives and plans as well as all of the activities necessary in order to meet the project’s objectives and scope. It includes the Change Management Plan, Communications Management Plan, Configuration Management Plan, Cost Management Plan, Human Resource Plan such as roles charts, how resources will be acquired, time when each resource will be needed and any specialized training requirements. Project assurance includes the processes that ensure continual project improvement and learning throughout the organization. It includes the steps for analyzing processes with the purpose of improving the process by setting boundaries, process configuration, process metrics and targets for improved performance. Continuous improvement in projects requires determining Relationship Management, Requirements Management, Risk Management and Scope Management Plans. By having a customer management plan you and your customer can have a proven approach to the relationship. Requirements and Risk management plans are necessary to ensure project success as changes take place during the project lifetime. And Scope Management Plans are needs to align scope expectations with project success. The Project Control Group includes the processes to ensure that the project is managed and executed according to the Project Plan. Project Controlling includes tracking, reviewing and managing the progress and performance of the project along with managing changes when required. The use of Project Status Reports and Root Cause Analysis help identify and resolve problems during project execution. Upon project completion, the Project Closing Process group consists of the processes to formally closeout the project. Once the closing process is completed the project manager receives acceptance from the project sponsor, conducts a post project review, documents the lessons learned and archives all project related documents. A Post-project Review provides a 30,000 feet view of the projects; actual versus planned performance and is meaningful input to future projects. Offered as OPMT 451 and MSOR 451.

OPMT 475. Supply Chain Logistics. 3 Units.
The focus of this course is on the effective management of a firm’s downstream processes in the supply chain that deliver goods and services to customers. Concepts, methods, and strategies are presented that can lower supply chain costs while maintaining or improving customer service. In addition, ideas for using the supply chain for competitive advantage leading to revenue enhancement are discussed. Adding value for customers is the objective. Key topics include transportation planning, inventory management, network design, and customer service goal setting. Offered as MSOR 475 and OPMT 475.
Prereq: (MBAP 408 or MBAC 507) and (MBAC 511 or MBAP 403) or Requisites Not Met permission.

OPMT 476. Strategic Sourcing. 3 Units.
The primary purpose of the course is to provide a comprehensive introduction to supply issues in manufacturing and service organizations. Procurement and supply management has evolved as a strategic function across various industries. Recent volatility in commodity prices has further enhanced the challenges in procurement. This course explores sourcing strategies in global supply chains to reduce cost and enhance the competitiveness of the firm. This course will provide you with a framework for thinking about strategic sourcing and tools to procure commodities and services efficiently. Offered as MSOR 476 and OPMT 476.
Prereq: Not available to Operations Research MSM students.

OPMT 477. Enterprise Resource Planning in the Supply Chain. 3 Units.
Enterprise resource planning is the dominant system by which companies translate the needs from their customers into the detailed plans that the company must perform to meet the customer needs, and the resulting support the company will need from its suppliers. As such, it is a central player in the process of supply chain management. In this course, we study both the quantitative and qualitative concepts and techniques to help manage a company’s operations to perform these important translation and planning tasks in order to help the company be successful. The quantitative analysis will be supported by microcomputer software available in the Weatherhead computer lab. Student teams complete a series of integrated case studies from the same company to vividly see the relationships between various planning and control activities. A major emphasis during the course is the design of processes and procedures (algorithms) for solving very complex (wicked) problems as a part of both class discussions and while working on case studies, as well as critiquing the designs so as to clearly understand their limitations. Offered as MSOR 477, OPMT 377 and OPMT 477.
Prereq: MBAC 511 or MBAP 403 or requisites not met permission.

OPMT 490. Independent Study in Operations Management. 1 - 15 Units.
This course is offered, with permission, to students undertaking reading in a field of special interest.

OPMT 501. Special Problems and Topics. 1 - 18 Units.
This course is offered, with permission, to students undertaking reading in a field of special interest.