OPERATIONS AND INFORMATION MANAGEMENT (OPIM)

Courses

OPIM 6080 (3) Operations Management
Covers demand forecasting, capacity management, scheduling, inventory planning and management, production planning and control, materials requirements planning, just-in-time production systems, product design and process selection, elements of statistical process control, service operations and quantitative techniques for operations decision making.
Equivalent - Duplicate Degree Credit Not Granted: EMEN 5500

OPIM 6820 (3) Special Topics in Systems
Offered irregularly to provide opportunity for investigation into new frontiers in systems.
Repeatable: Repeatable for up to 6.00 total credit hours.

OPIM 6900 (1-3) Independent Study
Requires prior consent of dean and instructor under whose direction study is taken. Intended only for exceptionally well-qualified business seniors who desire to study an advanced topic. Departmental form required.

OPIM 6950 (1-6) Master's Thesis

OPIM 7110 (3) Simulation Modeling and Analysis
Introduces the concepts of simulation modeling. Provides practical experience with real examples using popular commercial simulation packages such as Arena or Extend. Emphasizes discrete event simulation, but also covers topics in Monte Carlo simulation and system dynamics. Practical examples from operations management, manufacturing and services are used to give students an appreciation for the wide scope of application and the robust nature of simulation modeling in the context of decision making.

OPIM 7120 (3) Discrete Optimization
Covers the modeling and solution of discrete problems that arise in business and engineering. Classical techniques such as cutting planes and branch and bound are covered. Emphasizes the application of metaheuristic procedures, such as tabu search and evolutionary approaches, to the solution of practical combinatorial optimization problems.

OPIM 7210 (1-3) Doctoral Seminar: Special Topics in Operations Research
Introduces the fundamental tools and techniques in the field of operations research. Practical examples from operations management, manufacturing, and services are used to give students an appreciation for the wide scope of applications.

OPIM 7220 (1-3) Doctoral Seminar: Special Topics in Optimization
Covers the modeling and solution of discrete problems that arise in business and engineering. Classical techniques such as cutting planes and branch and bound are covered. Emphasizes the application of metaheuristic procedures, such as tabu search and evolutionary approaches, to the solution of practical combinatorial optimization problems.

OPIM 7230 (1-3) Doctoral Seminar: Special Topics in Operations Management
Covers concepts, models, and solution techniques relevant to the management of the processes required to provide goods or services to consumers. Emphasizes supply chain systems topics such as production, inventory, distribution, and scheduling. Management science and operations research methodology is also applied to problems such as facility capacity planning, facility design, and location analysis.

OPIM 7240 (1-3) Doctoral Seminar: Special Topics in Stochastic Optimization
Covers the basic models and solution techniques for stochastic dynamic programs with a finite or infinite number of stages. Application domains include, among others, revenue management and pricing, manufacturing, supply chains, service systems, and economics. Approximate solution techniques for problems involving large state/decision spaces and/or complex dynamics over time will also be discussed.

OPIM 7250 (1-3) Doctoral Seminar: Special Topics in Empirical Methods
Covers empirical research methods for operations management. Topics include statistical and econometric analysis with a wide range of applications, including sustainable operations, supply chain management, and revenue management and pricing.

OPIM 7330 (3) Advanced Operations Management Modeling
Covers concepts, models and solution techniques relevant to the management of the processes required to provide goods or services to consumers. Emphasizes supply chain systems topics such as production, inventory, distribution and scheduling. Management science and operations research methodology is also applied to problems such as facility capacity planning, facility design and location analysis.

OPIM 7400 (3) Stochastic Dynamic Programming with Applications
Covers the basic models and solution techniques for stochastic dynamic programs with finite or infinite number of stages. Application domains include, among other, revenue management and pricing, manufacturing, supply chains, service systems, and economics. Approximate solution techniques for problems involving large state/decision spaces and/or complex dynamics over time will also be discussed.
Requisites: Restricted to graduate students only.
Recommended: Requisite an introductory course in optimization and probability.

OPIM 7800 (3) Doctoral Proseminar in Systems
Provides systems doctoral students with an orientation to current research and the academic discipline in operations and information systems. Familiarizes students with key schools of thought in the field, provides background on reference disciplines, examines significant research streams and helps students begin developing their own area of interest.

OPIM 7805 (3) Foundations of Research in Information Systems
Examines foundations of information systems research, including classic readings in information systems and its reference disciplines, different research approaches, processes of research, and classic and contemporary readings in major topics in information systems.
Requisites: Restricted to graduate students only.

OPIM 7810 (3) Technical Topics in Information Systems Research
Examines in depth a selection of topics in technical areas of information systems. Includes theoretical perspectives for technical topics, critical perspectives on past and current research, appropriate methods for examining technical topics, and development of students' ability to identify and develop research topics in technical areas.
Requisites: Restricted to graduate students only.

OPIM 7815 (3) Behavioral Topics in Information Systems Research
Covers both basic and advanced topics. Develops skill in designing, evaluating, and understanding both quantitative and qualitative research methods. Includes the development of research proposals, making and justifying methodological choices, writing research reports, and understanding how to publish in information systems.
Requisites: Restricted to graduate students only.

OPIM 7820 (3) Advanced Research in Information Systems
Examines advanced topics in information systems research, focusing on the electronic era and ebusiness. Examines foundations of ebusiness, including basic technical, organizational, and behavioral foundations. Covers leading edge research from both topical and methodological perspectives. Focuses on methods appropriate for studying ebusiness and examines future research directions.
Requisites: Restricted to graduate students only.

OPIM 8820 (3) Large-Scale Optimization
Covers computational techniques for solving optimization problems with a large number of variables and/or constraints. The techniques will have many business and engineering applications. With the emphasis on integer programming, we will study Branch-and-Cut, Lagrangian relaxation, column generation and Bender's decomposition, from both a theoretical and practical perspective. Students will learn to formulate and solve large-scale problems and learn how to apply these techniques for their research.

OPIM 8900 (1-3) Independent Study

OPIM 8990 (1-10) Doctoral Dissertation