

Industrial Engineering Courses

Courses

IE 5195. Graduate Seminar.

Graduate Seminar (1-0) Lectures and discussions of various topics in industrial engineering by faculty, graduate students, and speakers from industry and other institutions. Required for all non-thesis graduate students each semester in the graduate program. This seminar will be counted only once towards graduate degree requirements.

Department: Industrial Engineering

1 Credit Hour

1 Total Contact Hour

0 Lab Hours

1 Lecture Hour

0 Other Hours

IE 5341. Adv Production/Inven Control.

Advanced Production and Inventory Control (3-0) This course emphasizes inventory management for production planning and includes topics in inventory control, forecasting, lot sizing, dispatching, scheduling, releasing, kitting, MRP and just-in-time models. Strong emphasis on the solution and research of existing production and inventory control problems.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5351. Linear and Combin Optimiz Meth.

Linear and Combinatorial Optimization Methods (3-0) Deterministic operations research techniques such as linear programming and its extensions, duality theory, sensitivity analysis, network related models, integer programming, and dynamic programming. Applications include production planning and project networks such as PERT/CPM.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5352. Design/Analysis Indust Exprmnt.

Design and Analysis of Industrial Experiments (3-0) Investigation of statistical sampling methods, hypothesis testing procedures, and design of experiments. Both parametric and non-parametric procedures are included. Prerequisite: IE 4385.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

Prerequisite(s): (IE 4385 w/C or better)

IE 5357. Computer Simulation Appli.

Computer Simulation Applications (3-0) An introduction to the concepts of simulation methodology as applied to the design and analysis of industrial systems. Specialized computer simulation language is applied to an industrial analysis or design term project.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5358. Industrial Data Analytics.

This course introduces the concepts, algorithm, techniques, and systems of data mining, including (1) an introduction to data analytics, (2) data preprocessing, (3) mining frequent patterns and correlation, (4) classification, (5) cluster analysis, and (6) learning about the software used in data mining and (7) demonstration of how to apply data analytics techniques using python. Keywords: Data Analytics, Industrial Analytics, Industrial data.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

Prerequisite(s): (IE 3373 w/C or better)

IE 5377. Adv Ergonomics/Process Design.

Advanced Ergonomics and Process Design (3-0) This course emphasizes the tools, techniques, concepts, and theories of ergonomics and human performance criteria for work in the manufacturing environment. Emphasis is on the design and evaluation of workstations, man-machine systems and processes. Prerequisite: Department approval.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5385. Advanced Quality Control.

Advanced Quality Control (3-0) This course covers current advances in quality control. The emphasis of the course is on continuous quality improvement. The course will concentrate on advanced quality control topics including, but not limited to, process, capability analysis, philosophies of quality management, advanced statistical process control, quality costs and automated quality control.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5387. Quality Engineering.

Quality Engineering (3-0) Topics such as quality organization, quality assurance, quality policies and objectives, quality information systems, metrology, inspection and testing, quality planning, quality function development and supplier quality assurance. Quality standards and legal issues with respect to quality such as torts, negligence, contracts will also be addressed. A semester project is an integral part of this course. Prerequisite: Department approval.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5390. Special Topics Industrial Engr.

Special Topics in Industrial Engineering (3-0) Advanced topics of contemporary interest in industrial engineering. May be repeated for credit when topic varies. Prerequisite: Department approval.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5391. Individual Studies.

Individual Studies (3-0) Individual variable-credit research, design or analysis on advanced phases of industrial engineering problems conducted under the direct supervision of a faculty member. A maximum of 3 credit hours may be applied towards the M.S. degree. Prerequisite: Department approval.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

3 Lecture Hours

0 Other Hours

IE 5398. Thesis.

Thesis (0-0-3)

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

0 Lecture Hours

3 Other Hours

IE 5399. Thesis.

Thesis (0-0-3) Prerequisite: IE 5398.

Department: Industrial Engineering

3 Credit Hours

3 Total Contact Hours

0 Lab Hours

0 Lecture Hours

3 Other Hours

Prerequisite(s): (IE 5398 w/P or better)