

**2011-13 Cal Poly Catalog****Industrial & Manufacturing Engineering Department****MS INDUSTRIAL ENGINEERING****General Characteristics**

The Master of Science program in Industrial Engineering has the following objectives:

- To help California industries in meeting their needs with respect to processes of design, optimization, and re-engineering and in competing globally, by educating and training engineers with advanced practical knowledge in the field of Industrial Engineering.
- To attract undergraduate engineers of all majors and provide education in the planning, engineering, optimization, and management of processes using the appropriate tools of Industrial Engineering.
- To further the mission and goals of the College of Engineering at Cal Poly with respect to graduate engineering education by maintaining a balance between undergraduate and graduate educational opportunities in engineering that optimally supports the health of California industry.

Each student is strongly encouraged to work with a particular faculty member in selecting a thesis topic which is of personal interest to the student and the faculty member, and to choose a substantial number of elective courses that supports the issues addressed in the thesis or project.

**Prerequisites**

Students with earned undergraduate degrees in any engineering major are eligible for admission. A minimum grade point average of 3.0 in the last 90-quarter units (60 semester units) is required for admission.

All candidates seeking admission to the MSIE program are required to secure a minimum score in the GRE - General Test, as prescribed by the IME Department.

**Program of Study**

Graduate students must file a formal study plan with their advisor, department, college and the university graduate studies office by no later than the end of the quarter in which the 12th unit of approved courses is completed. The formal program of study must include a minimum of 45 units, of which a) at least 23 units must be at the 500 level; b) at least 24 units must be in the degree major with at least 18 units at the 500 level.

The broad curriculum requirements for the program are:

- a core of 16 units
- a comprehensive written examination (non-thesis option) or an oral defense examination (theses option)
- a minimum of 20 units of advisor approved electives

**Curriculum for MS Industrial Engineering**

	<i>Units</i>
<b>Core Courses</b> .....	25
IME 507 Graduate Seminar (2)(2)	
Select 3 courses from the following:	
IME 503 Applied Statistical Methods in Engineering (4)	
IME 541 Advanced Operations Research (4)	
IME 545 Advanced Topics in Simulation (4)	
IME 556 Technological Project Management (4)	
IME 580 Manufacturing Systems (4)	
IME 599 Design Project (Thesis) (9) <i>or</i> additional 9 units of advisor approved electives (non-thesis option) and Comprehensive Examination	
<b>Advisor approved electives</b> .....	20
<i>Potential electives include:</i>	
IME 409 Economic Decision Systems (3)	
IME 411 Production Systems Analysis (3)	
IME 417 Supply Chain and Logistics Management (4)	
IME 418 Product-Process Design (4)	
IME 427 Process Optimization through Designed Experiments (4)	
IME 430 Quality Engineering (4)	
IME 431 Supplier Quality Engineering (4)	
IME 458 Microelectronics and Electronics Packaging (4)	
IME 500 Individual Study (1-4) <i>(up to a maximum of 6 units)</i>	
IME 503 Applied Stat. Methods in Engineering (4)	
IME 510 Systems Engineering I (4)	
IME 511 Systems Engineering II (4)	
IME 541 Advanced Operations Research (4)	
IME 542 Reliability Engineering II (4)	
IME 543 Advanced Human Factors (4)	
IME 544 Advanced Topics in Engineering Economy (4)	
IME 545 Advanced Topics in Simulation (4)	
IME 556 Technological Project Management (4)	
IME 560 Quality Engineering (4)	
IME 570 Selected Advanced Topics (1-4)	
IME 577 Engineering Entrepreneurship (4)	
IME 580 Manufacturing Systems (4)	