Industrial Engineering

IE1090 Senior Design Capstone Course

Sponsor ***A***n ***IN***dustrial engineering ***T***eam

University of Pittsburgh

Overview

Projects

Solve real world problems

Use IE body of knowledge

Duration of one semester

Student Teams

3-6 students per team

Each student commits 10 hours per week

Faculty mentor

Industry Clients

Range of industries

Commit 1-2 hours per week

Donation appreciated

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Benefits

- Cost Savings
- Productivity
- Inventory Management
- On-Time Delivery
- Throughput
- Operation Efficiency
- Analytical Capability
- Identify Talent
- New Toolkits

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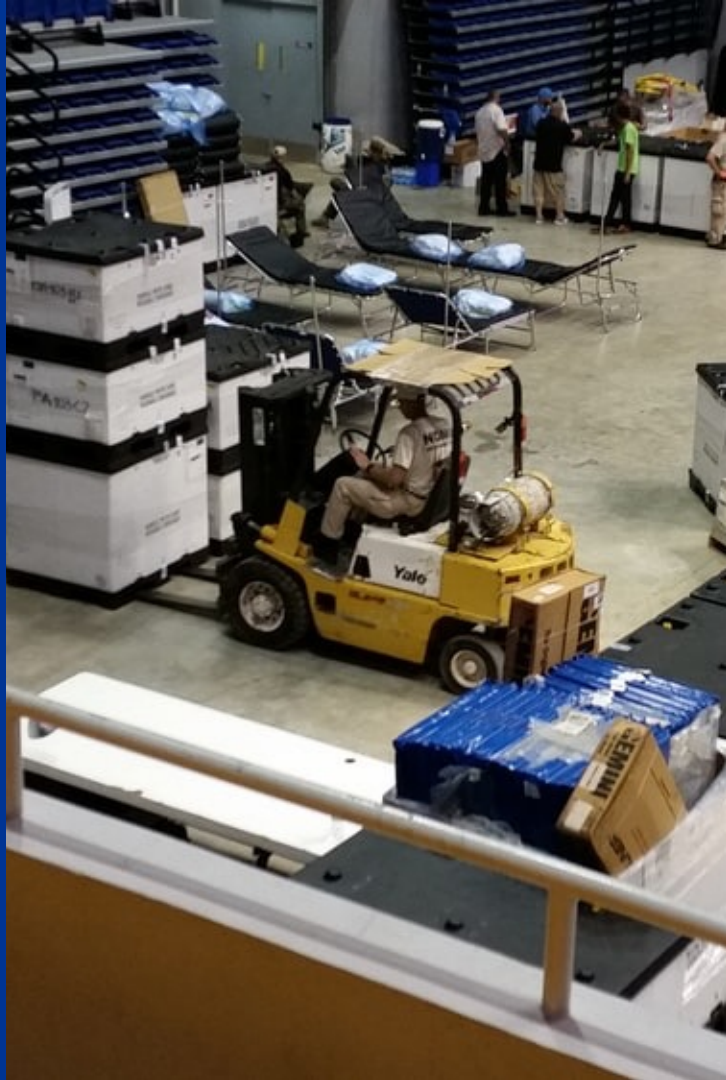

Industrial Engineering

Industrial and systems engineering is concerned with the design, improvement and installation of integrated systems of people, materials, information, equipment and energy. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems. [IISE]

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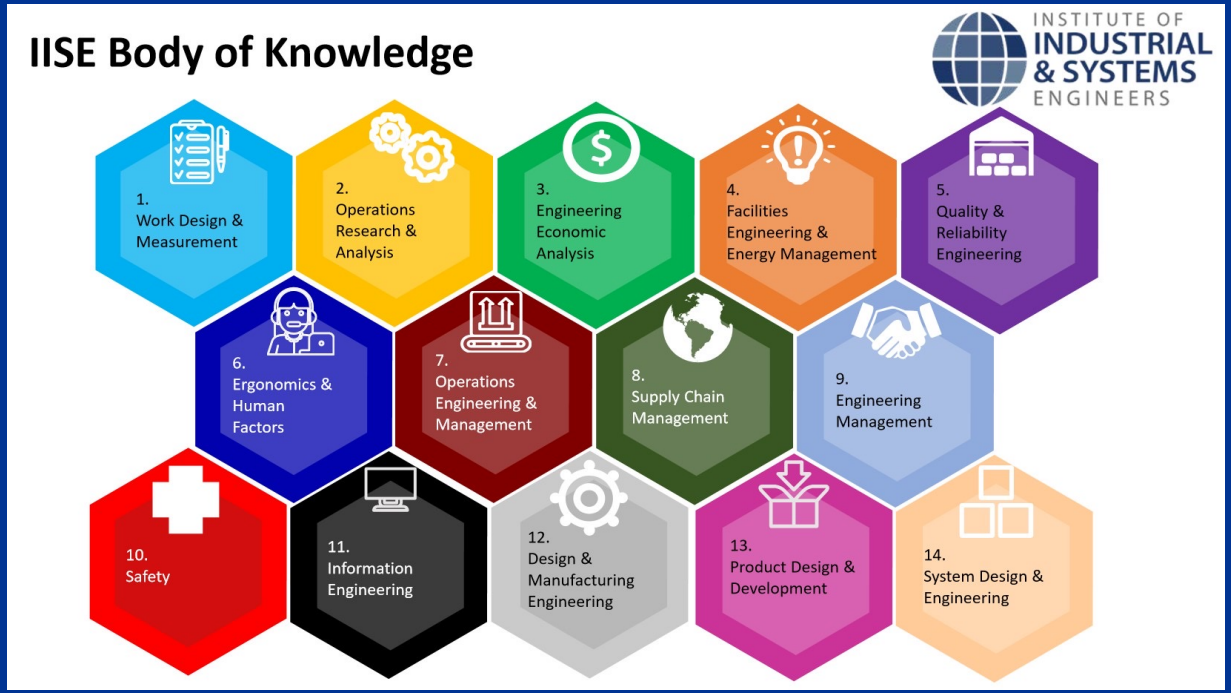
Industrial Engineering



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Aligned with ABET Criteria

ABET Accreditation Board for Engineering and Technology

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

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Types of Projects

- Inventory Management
- Process Improvement
- Simulation Modeling
- Lean Production
- Manufacturing Modernization
- Project Management
- Production Planning
- Economic Analysis
- Data Analysis
- Facility Layout
- Supply Chain
- Logistics
- Service Operations
- Data Analytics
- Human Factors Analysis
- Quality Management
- Scheduling Procedures

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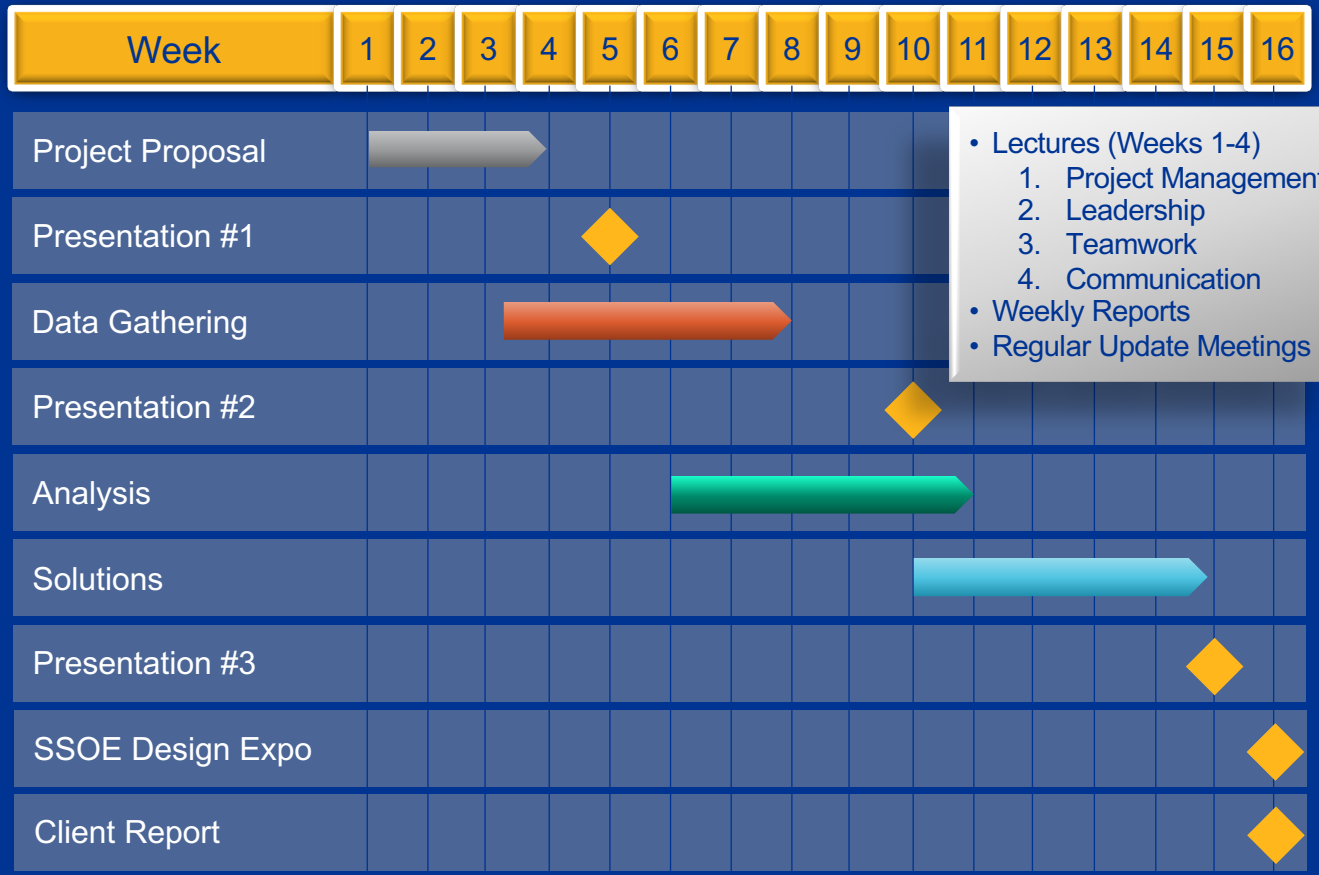
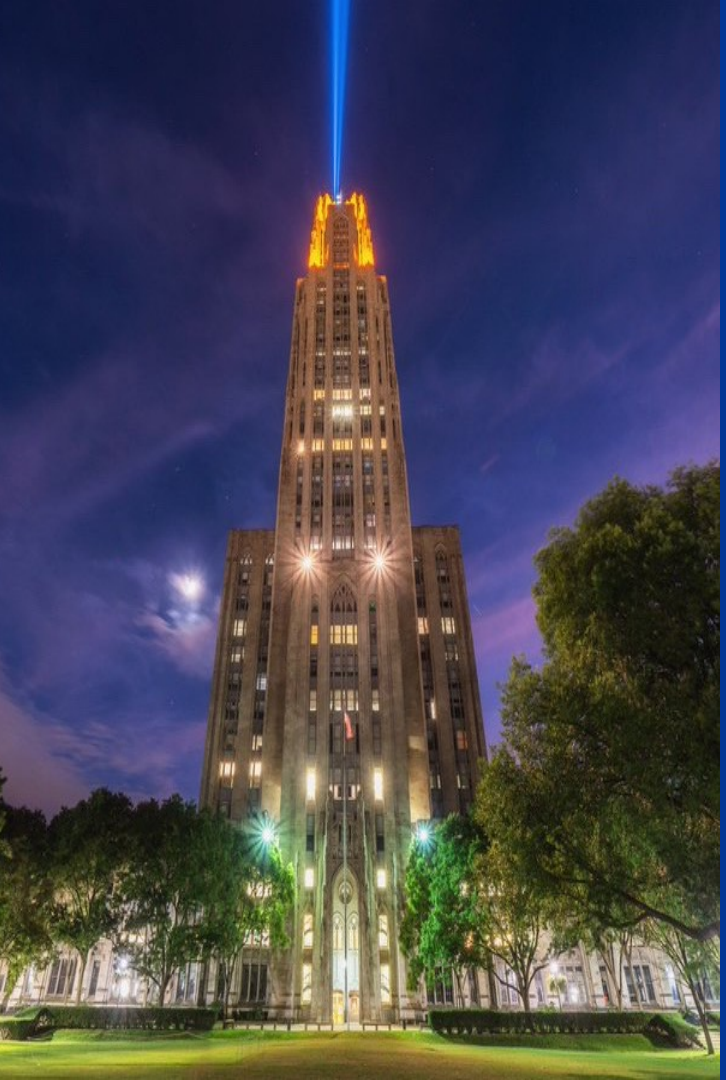
Timeline


Week
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Project Proposal
Presentation #1
Data Gathering
Presentation #2
Analysis
Solutions
Presentation #3
SSOE Design Expo
Client Report
• Lectures (Weeks 1-4)
1. Project Management
2. Leadership
3. Teamwork
4. Communication
• Weekly Reports
• Regular Update Meetings

Past Sponsors



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