

## Masters Degree – Mechanical Engineering/Engineering Management Progressive Degree Option

### AME Required Courses: (18 units)

Approved graduate-level course work in AME

### ISE Required Courses: (24 units)

#### Required Courses (18-19 Units)

- ISE 500 Statistics for Engineering Managers Units: 3 (Fa, Sp)
- ISE 515 Engineering Project Management Units: 3 (Fa, Sp, Su)
- ISE 544 Leading and Managing Engineering Teams Units: 3 (Fa, Sp, Su)
- ISE 561 Economic Analysis of Engineering Projects Units: 3 (Fa, Sp, Su) (ISE500 pre-requisite)

#### **Analytics Course** *Select one.*

- DSCI 552 Machine Learning for Data Science Units: 4 (Fa, Sp)
- ISE 529 Predictive Analytics Units: 3 (Fa, Sp)
- ISE 530 Optimization Methods for Analytics Units: 3 (Fa, Sp)
- ISE 543 Enterprise Business Intelligence & Systems Analytics (3, Sp)
- ISE 562 Decision Analysis Units: 3 (Fa, Sp)

#### **Technology Course** *Select one.*

- ISE 545 Technology Development and Implementation Units: 3 (Fa)
- ISE 555 Invention and Technology Development Units: 3
- ISE 585 Strategic Management of Technology Units: 3 (Fa, Sp)

### Select One Course from One of the Following Tracks (3-4 units)

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#### **Management Track**

- CE 502 Construction Accounting, Finance and Strategy Units: 4 (Fa, Sp)
- ISE 506 Lean Operations Units: 3 (Fa, Sp)
- ISE 527 Quality Management for Engineers Units: 3 (Fa, Sp)
- ISE 585 Strategic Management of Technology Units: 3 (Fa, Sp)
- MOR 557 Strategy and Organization Consulting Units: 3 (Fa, Sp)

#### **Analytics Track**

- DSCI 552 Machine Learning for Data Science Units: 4 (Fa, Sp)
- ISE 529 Predictive Analytics Units: 3 (Fa, Sp)
- ISE 530 Optimization Methods for Analytics Units: 3 (Fa, Sp)
- ISE 533 Integrative Analytics Units: 3 (Sp) (ISE529 & ISE530 pre-requisites)
- ISE 534 Data Analytics Consulting (3, Fa) (ISE529 & ISE530 pre-requisites)
- ISE 543 Enterprise Business Intelligence & Systems Analytics (3, Sp)
- ISE 562 Decision Analysis Units: 3 (Fa, Sp)

### **Innovation and Technology Commercialization Track**

- BAEP 556 Technology Feasibility Units: 3 (Fa)
- BAEP 557 Technology Commercialization Units: 3 (Sp\_)
- ISE 545 Technology Development and Implementation Units: 3 (Fa)
- CE-576 Invention and Technology Development Units: 3
- ISE 585 Strategic Management of Technology Units: 3 (Fa, Sp)

### **Supply Chain and Operations Track**

- DSO 581 Supply Chain Management Units: 3 (Fa, Sp)
- DSO 583 Operations Consulting Units: 3 (Sp)
- ISE 513 Inventory Systems Units: 3 (Sp)
- ISE 514 Advanced Production Planning and Scheduling Units: 3 (Fa, Sp)
- ISE 583 Enterprise Wide Information Systems Units: 3 (Fa, Sp, Su)

### **Custom Track**

Select one course from Industrial and Systems Engineering or Business in consultation with an adviser.

### **Select One ISE Elective**

**Total ISE units required for the degree: 24**

**\*\*Courses cannot be double counted\*\***

(term offerings in parenthesis are expected but not guaranteed)

**Total Units Required for the Dual PDP degree: 42**

