

## The Minor in Industrial Engineering and Operations Research

The minor program is offered through the College of Engineering and is open to all Berkeley undergraduates with a declared major other than IEOR or ORMS. Students must have a minimum overall grade point average (GPA) of 3.0 and a minimum GPA of 3.0 in the minor's prerequisite courses in order to be considered for departmental acceptance into the minor.

### A. Application Process

To be considered for the IEOR minor,

- Students must have a declared major other than IEOR or ORMS and submit the Minor Petition in IEOR. Deadlines are as follows:
  - Students graduating before Spring 19: turn in forms by the last day of instruction of your final semester at Cal.
  - Students graduating Spring 19 or later: must declare their minor 1 (one) semester before graduation (ie fall 18).
- Submit the Petition form (to the IEOR Student Services Office) when you have at least four (4) of the minor requirements completed. Minor petitions are accepted year-round on a rolling basis.

### B. Course Requirements

#### Lower Division Prerequisites

IND ENG 172 Probability and Risk Analysis for Engineers  
or STAT 134 Concepts of Probability

IND ENG 165 Engineering Statistics, Quality Control, and Forecasting  
or STAT 135 Concepts of Statistics

#### Upper Division Requirements

1. **List A:** One course from below
  - a. IND ENG 160 Nonlinear and Discrete Optimization
  - b. IND ENG 162 Linear Programming and Network Flows
2. **List B:** One course from below
  - a. IND ENG 142 Introduction to Machine Learning and Data Analytics
  - b. IND ENG 166 Decision Analytics
  - c. IND ENG 173 Introduction to Stochastic Processes  
or IND ENG 161 Course Not Available
3. **List C:** Two courses from below
  - IND ENG 115 Industrial and Commercial Data Systems
  - IND ENG 130 Methods of Manufacturing Improvement
  - IND ENG 150 Production Systems Analysis
  - IND ENG 151 Service Operations Design and Analysis
  - IND ENG 153 Logistics Network Design and Supply Chain Management
  - IND ENG 170 Industrial Design and Human Factors
  - IND ENG 171 Technology Firm Leadership

### C. Completion of the Minor

Students taking the minor are also required to submit the **IEOR Minor Completion Form** when they are enrolled in their last required course, by the last day of instruction of their final term.

If approved as a minor in the department, it will be annotated in your transcript. For approval of the minor, all the following criteria must be met:

1. All six courses for the minor must be completed with a passing letter grade.
2. A minimum overall grade point average (GPA) of 3.0 and a minimum GPA of 3.0 in the prerequisite courses is required for acceptance into the minor program.
3. The final overall GPA for those (six) required courses must be at least 2.0.
4. You may overlap only one (1) upper division course between your declared major(s) and the IEOR minor.
5. Completion of the minor cannot delay graduation.

### **Upper Division Enrollment Information**

IEOR courses are impacted that IEOR minors do not receive enrollment priority. During adjustment period, the waitlist will no longer prioritize majors and will be processed in order. While we wish we could guarantee completion of the minor, the high demand for upper division IEOR courses means that unfortunately, that is not possible.

### **Frequently Asked Questions**

How do I get a minor in IEOR?

The Industrial Engineering and Operations Research (IEOR) minor requires completion of IND ENG 172 or STAT 134 and IND ENG 165 or STAT 135, as well as 4 upper division IEOR courses.

### **What is the GPA cut-off for the Minor?**

A minimum 3.0 GPA in the pre-required lower division courses is needed to be admitted into the minor. To successfully complete the IEOR minor and receive a notation on your final transcript you must finish with a minimum 2.0 GPA for all the required upper division courses for the program.

### **How do I get into classes?**

At this time, minors do not receive priority for getting into classes.

### **Can I replace IEOR upper division courses?**

The minor requires 4 IEOR upper division courses from the listed courses in the petition form.

Contact

[ieor-student-services@berkeley.edu](mailto:ieor-student-services@berkeley.edu)