Introduction

The Department of Industrial Engineering and Operations Research (IEOR) offers a five-year combined Bachelor’s-Master's program for IEOR and Operations Research and Management Science (ORMS) undergraduates to broaden their educational experiences at Berkeley.

The five-year Bachelor’s-Master’s program is designed for a small number of students with outstanding performance to allow the students to obtain both degrees in five years. Admission to this program will be more selective than the standard admission to the MS program. The IEOR Master’s program typically takes two or three semesters to complete. The five-year Bachelor’s-Master’s program will allow well-prepared students to start taking graduate-level courses early. Courses taken during the last semester of the undergraduate program that are not required for completion of the bachelor’s program may be eligible to be counted toward the M.S degree. All other requirements for the IEOR M.S. degree and all other College of Engineering and Graduate Division rules must be satisfied.

The combined Bachelor’s-Master’s program has two features that distinguish it from the existing IEOR M.S. program. First, each student in the combined Bachelor’s-Master’s program must complete three courses within his/her selected area of concentration, one of which may be an upper division or graduate course from outside the department that is aligned with his/her concentration. Although courses within the concentration may be used to satisfy the usual M.S. requirement, the structure of the concentrations is such that most students will need to take one additional IEOR graduate course beyond the minimum required for the M.S. degree among the courses taken for the 24-unit requirement. (The regular M.S. degree requires a minimum of 12 units of graduate-level coursework in IEOR, which translates to a minimum of four courses. For the 5-Year program, most students will need to take five graduate-level courses in IEOR to satisfy the degree requirements.)

Second, each student in the Five-Year program must complete an individual or small-group project as part of the program via at least 2 units of either Master’s-level independent study units or a Master’s-level project-based course, to gain experience in applying IEOR methodology to real-world problems. Students can fulfill both of these requirements without taking courses or units beyond those required for the Master’s degree by carefully planning their course of study. Students who complete an individual project need not take the M.S. Comprehensive Exam.
**Admission Process**

The admission process has three steps:

1. Applicants complete the Departmental Application in the Fall semester of the senior year (including Statement of Purpose, Draft Course of Study Plan, current transcript, two Letters of Recommendation).

2. The Department Graduate Admissions committee selects a subset of applicants for interviews. Only a subset of those interviewed will be admitted by the Department.

3. Students admitted by the Department are required to submit a regular application (including three letters of recommendation) to the Graduate Division for the M.S. degree by the advertised deadline in December of their senior year for entry in the fall semester of the following academic year (for May or August bachelor’s graduates). Students who are planning to complete their Bachelor’s requirements in December should apply to the Five-Year program 14 months prior to graduation. Such applicants will be screened at that time, but will need to go through a special process to arrange for Spring (January) admission to the graduate program. Graduate Division admission is contingent on maintaining good progress (including a minimum GPA of 3.0, successful receipt of a bachelor’s degree, and incurring no disciplinary actions).

Admission to this program is highly competitive. Requirements include:

1. Outstanding performance in the current program (preferred minimum cumulative 3.5 GPA in upper division courses at UC Berkeley).
2. A well-written and compelling personal essay explaining the student's rationale for entering such a program.
3. A successful interview in which faculty will assess the student's technical background, life experiences, and ability to communicate orally.
4. Two letters of recommendation from faculty members who know the applicant well and can provide both an evaluation of the student’s technical skills and evidence that he or she can benefit significantly from a program of this kind. (Three letters of recommendation are required for the official M.S. application. Students may ask the recommenders who wrote the two initial letters to submit their recommendations as part of the online application process.)
5. A non-binding "draft" course of study plan, demonstrating that the applicant has carefully considered the area of concentration that he/she wishes to pursue.
Application Deadlines and Documents

Tentative Deadlines:

Students apply to the Department according to the schedule specified in (3) above, and are provisionally admitted to the program based on the criteria above. The Department will render its decision in sufficient time so students can plan their senior year programs to take advantage of the flexibility gained by the program. The admissions schedule is:

- October 15: Department application and supporting documents are due
- Late October: Applicant interviews
- Early November: Admission decisions

IEOR Application Documents:

Required forms and supporting documents for the application are to be submitted in a single envelope to the IEOR department. Incomplete applications will be automatically rejected.

1. Departmental Application
2. Draft Course of Study Plan
3. Statement of Purpose
4. Unofficial Transcripts (Note: If admitted to this program, official transcripts will be required when applying to Graduate Division.)
5. Two Letters of Recommendation. Please see the application form for instructions.

NOTE: For Berkeley students admitted to the five-year program, the normal departmental requirement of the GRE is waived when applying for the Master’s program.

Students selected for the program are required to meet all of the normal requirements for applying for an M.S. degree during their senior year, with the understanding that as long as they maintain good performance in their courses and have incurred no disciplinary actions, their admission recommendation to the Graduate Division should be pro forma.

Requirements for the MS Degree within the 5-Year Program

Course Requirements

In addition to the course requirements that all M.S. students must complete (see http://www.ieor.berkeley.edu/AcademicPrograms/Grad/index.htm for details), each student must complete three courses in his or her area of concentration. Applicants will find it helpful to consider the following areas of concentration when preparing their course of study plan. Potential IEOR courses in each area are listed below. Students should consult their faculty advisors for potential courses in other departments.
Operations Research

IEOR 231, 261, 262B, 263B, 264, 265, 266, 267, 268, 269

Production, Logistics and Service Operations

IEOR 215, 220, 248, 250, 251, 252, 253, 254

Financial Engineering

IEOR 215, 221, 222, 223, 290A, 290R

Plan II capstone

--oral comprehensive exam or master’s project (a project report and oral examination by a committee of two faculty members).
Other Requirements

Procedure to request backdating of graduate standing:

Berkeley undergraduates who take graduate coursework during their last undergraduate semester that is not required for their bachelor’s degree may petition to backdate graduate standing in order to receive graduate credit for those “extra” courses. Graduate standing may be backdated for only one semester, and students may petition for credit only for the coursework taken in the FINAL undergraduate semester that was not previously used to satisfy requirements for another degree and/or honors program at Berkeley or at any other institution. This request must be submitted to the Head Graduate Adviser in a memo. It can be submitted either before or when a student applies for advancement to candidacy. The memo must specify the units and courses taken in the FINAL undergraduate semester to be backdated and must be accompanied by a written statement from the student’s undergraduate college confirming that the coursework was not utilized to fulfill an undergraduate degree requirement. No single course may be used to satisfy more than one category. Courses in the 300 series or higher do not count toward the unit requirements for Master’s degree.

Academic Residence Requirement for a Master’s Degree

A Master’s degree requires a minimum of two semesters of academic residence. Academic residence is defined as payment of registration fees, and enrollment in at least 4 units in 100 or 200 series courses each semester of academic residence.

Advancement to Candidacy

A student who has been advanced to candidacy has been officially recognized by the university as a candidate for the degree. In order to be advanced to candidacy a student must have an approved Course of Study Plan on file, completed a minimum number of units, and have a minimum GPA of 3.0. Students are required to submit their Advanced to Candidacy form before the third week of their second semester.

If approved for advancement to candidacy, the student becomes eligible to complete the comprehensive exam or master’s project (a project report and oral examination by a committee of two faculty members – Plan B).
Frequently Asked Questions

How does this program differ from the existing M.S. program?

The combined Bachelor’s/Master’s program is targeted toward students who wish to design a coherent program in an area of concentration, combining IEOR courses with a course(s) outside the department, and to apply their education in a real-world project.

What is the application process and what are the requirements?

The application process consists of three steps: (1) Apply to the IEOR Department during Fall semester of the Senior year; (2) if selected, be interviewed by faculty for admission approval; (3) if accepted, apply to the Graduate Division during the Fall semester of the senior year (deadline is early-December), which will make the final offer of admission if all minimum requirements have been met; the student must remain in good academic standing through the senior year.

IEOR admission requirements expect the student to have at least 90 semester units by the end of his/her junior year and a preferred cumulative GPA of 3.5 or better in upper division courses. Please note that an upper division GPA of 3.5 or better is not a guarantee of admission.

I don't quite meet the GPA requirement of 3.5. Will exceptional applicants be considered with an upper division GPA of less than 3.5?

Chances of admission are not good with an upper division GPA of less than 3.5. However, demonstrated strengths that are consistent with the applicant’s planned course of study could compensate for a slightly lower upper division GPA.

I don't have any research experience. How important is this for my application?

Undergraduate research is definitely a plus, but is not required for the application.

When are participants admitted?

Typically, students will apply and be provisionally admitted by the Department near the end of the Fall semester of the Senior year. Students in the final semester of their undergraduate program are not eligible to apply.

I'd like to take some time off between completing my bachelor's degree and starting the master's degree. Is this possible?

No. This program will not accommodate leaves of absence. Admitted students are expected to transition immediately from the undergrad program to the grad program in order to complete the entire program in five consecutive years. If you wish to take some time off, you are encouraged to apply to the regular graduate program.

I recently graduated from UC Berkeley IEOR/ORMS undergraduate program. Can I apply for
this program?

No. Applications will be accepted only from students currently enrolled in our undergraduate degree programs. Other students, including IEOR/ORMS graduates, are encouraged to apply to the regular graduate program.

Can 5th Year Students Receive Assistantship Support?

In principle, the answer is yes, but in practice the answer is very likely to be no. Completing the requirements for the MS program in two semesters beyond completion of the BS requirements will be very challenging and time consuming (unless the student can transfer units from the final semester of his or her undergraduate study that were not counted toward his or her Bachelor’s degree requirements), and the student will not have time to commit to teaching or research. However, if a faculty member wishes to support a 5th year student to complete his or her MS program within two semesters, then that is the decision of the individual professor.

Am I allowed to apply to this program and, if not admitted, apply to the regular M.S./Ph.D. program later?

Yes.

What are the other requirements for the MS degree?

MS degree requirements can be found at

http://www.ieor.berkeley.edu/AcademicPrograms/Grad/index.htm

If you have any other questions, please email gradadm@ieor.berkeley.edu or stop by the Student Services Office located at 4145 Etcheverry Hall.

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