

# MANAGEMENT

Edward P. Evans Hall, Rm. 5125A, 203.432.6002  
<https://som.yale.edu/programs/phd>  
 M.A., M.Phil., Ph.D.

## Dean

Kerwin Charles

## Director of Graduate Studies

Matthew Spiegel (Evans Hall, Room 4526, 203.432.6017, [matthew.spiegel@yale.edu](mailto:matthew.spiegel@yale.edu))

**Professors** Rick Antle, Nicholas Barberis, James Baron, Lorenzo Caliendo, Judith Chevalier, James Choi, Ravi Dhar, Julia DiBenigno, Shane Frederick, Stefano Giglio, William Goetzmann, Gary Gorton, Edward Kaplan, Bryan Kelly, Sang-Hyun Kim, Balázs Kovács, Song Ma, Vahideh Manshadi, Andrew Metrick, A. Mushfiq Mobarak, Tobias Moskowitz, Barry Nalebuff, Nathan Novemsky, Edieal Pinker, K. Geert Rouwenhorst, Nils Rudi, Fiona Scott-Morton, Jiwoong Shin, Kelly Shue, Alp Simsek, Deborah Small, Edward Snyder, Matthew Spiegel, K. Sudhir, Jacob Thomas, Heather Tookes, Gal Zauberman, Frank Zhang

**Associate Professors** John Barrios, Tristan L. Botelho, Jason Dana, Paul Goldsmith-Pinkham, Zeqiong Huang, Michael Kraus, Vineet Kumar, Taly Reich, Thomas Steffen, Kosuke Uetake, Tauhid Zaman

**Participating Faculty from the School of Management** Laura Adler, Alexander Burnap, Christopher Clayton, Corey Cusimano, Jennifer Dannals, Raphael Duguay, Paul Fontanier, Adriana Germano, Soheil Ghili, Menaka Hampole, Theis Jensen, Ivana Katic, Joowon Klusowski, Cameron LaPoint, Zhen Lian, Lesley Meng, Faidra Monachou, David Munguia Gomez, Anya Nakhmurina, Jayanti Owens, Aneesh Raghunandan, Tong Wang, Edward Watts, Alexander Zentefis

## FIELDS OF STUDY

Current fields include accounting, financial economics, marketing (behavioral), marketing (quantitative), operations, and organizations and management.

## CORE REQUIREMENTS FOR THE PH.D. DEGREE

All students are required to take their individual program's seminar and workshop series in every term throughout their years in residence. These are not counted as part of the required number of courses specified below for each of the individual programs and are not required for your degree. All of the programs are full-time, requiring that all students be in residence at Yale during the academic year as well as the summer months. Teaching is considered to be an important part of the doctoral program in Management. Students are expected to serve as teaching fellows in one term of their residence. Additional requirements in each program of study are listed below.

## SPECIAL REQUIREMENTS IN ACCOUNTING

The Accounting Ph.D. Program prepares students to become scholars engaged in research and teaching at the highest levels in the general areas of financial information and contracting within and across organizations. The specialization in accounting is

designed to develop strong theoretical and empirical skills. There is heavy emphasis on original research, supported by courses, presentations, feedback, joint work, and informal interactions with the faculty and fellow students in accounting and other disciplines. A key aspect of the program is multifaceted interaction among students and faculty on emerging research through seminars, conferences, brown bag lunches, and informal discussions. To develop this interaction, students must be fully engaged with the program during their stay here. At the beginning of each academic year, the director of graduate studies (DGS) assigns each student to work with a member of the faculty as a research assistant. Also, students have the opportunity to serve as teaching assistants to members of the faculty and gain experience towards becoming independent instructors.

In addition to the general requirements of the graduate school, we emphasize the following:

### *Courses*

During their first four semesters, students must pass a minimum of 12 courses, which are selected in consultation with the faculty advisers and the DGS. In addition, students are required to do the following:

- Register for the Accounting seminar (MGMT 7811) and the Accounting pre-seminar (MGMT 7810) in your first two years
- Attend and participate actively in the Accounting Ph.D. seminars (MGMT 7101, MGMT 7102, MGMT 7103, and MGMT 7104) in years three and four
- Pass all other Ph.D. level seminars taught by Accounting faculty in years one through four.

### *Other Requirements*

During the summers after the first and second year, students work on original research papers, which are due by September 1 and October 1, respectively. When submitted, copies must be sent to the Ph.D. registrar as well.

During the summer after the second year (around mid-June) students take a faculty-written three-day qualifying examination, which assesses their intellectual readiness to begin dissertation research.

The dissertation must be defended by the end of the seventh year in the program.

For the five years that they receive a stipend, students must be in residence at Yale, during the academic year as well as the summer.

Students must participate in the full range of normal academic and other intellectual engagements and activities of the University and SOM and interact with the faculty and fellow students on a day-to-day basis.

Students may be dismissed from the accounting program for any of the following reasons: (1) unsatisfactory performance at the end of the first or second year of the program, if the grade average falls below a High Pass (at least as many Honors grades

as Pass), (2) failing the qualifying examination, or (3) unsatisfactory first- or second-year papers.

## SPECIAL REQUIREMENTS IN FINANCIAL ECONOMICS

The Ph.D. program (and its accompanying fellowship support) provide the necessary training needed by our students to launch a promising career in academic finance. Towards this end the finance group has set up a series of requirements and milestones that must be met to help insure that students are making progress toward that career goal. It is important for everyone to understand that when a student's progress ceases, it is better for everyone concerned if that student leaves the Ph.D. program.

The requirements that have been set forth are quite difficult. Meeting them is a full-time job. Students should not be engaged in other types of employment (other than work as a research or teaching assistant) during their period of enrollment. Because of the difficulty in fulfilling these requirements, students should plan for them carefully. Where a requirement involves faculty approval, consultation with the relevant faculty should begin well in advance of deadlines. Students should seek out faculty they may wish to work with early in the process to ensure a smooth transition from one stage of the program to the next.

### *Courses*

Students must take and pass at least twelve Ph.D. level courses, in total, to graduate. In the first year of the program students are required to take Financial Economics I (MGMT 7204). Students must also take Microeconomics I & II (ECON 5500; ECON 5501) and Econometrics I & II (ECON 5550; ECON 5551). Some students with limited math or economics backgrounds may be advised to postpone taking some of these courses until their second year in the program. In addition to Financial Economics I, students are also required to take the Ph.D. level courses offered by the Finance faculty. In the recent past this has included courses on Financial Econometrics, Financial Crises, Behavioral Finance, Household Finance, and Applied Empirical Methods. Availability and topic varies by year. Since most students take the qualifying exam in their second year, they are required to take the topics courses offered that year.

To be admitted to candidacy, a student must pass all required courses and must maintain at least an HP grade point average. Students who fail a required course may retake it once, and the grade of the second instance will replace the first on their transcript. The required courses are ECON 5500, ECON 5501, ECON 5550, ECON 5551, MGMT 7204, and the other Ph.D. courses offered by the finance faculty in the student's first two years of the program.

Students must also receive a grade of Honors in at least one full-year or two term-long graduate courses. Students must also satisfy the general program and graduate school grade requirements.

### *Seminar and Pre-Seminar Series*

The finance seminar takes place every Friday from 11:10 to 12:30. Every week during the school year, a prominent academic speaker presents his or her latest work. Seminars allow both students and faculty to get an in-depth look at papers in progress and to see first-hand what elements strengthen or weaken a research piece. Seminars are also

useful for generating new research ideas which can help students to formulate their dissertation topics. The pre-seminar takes place at a regularly scheduled date and time prior to the actual seminar. The only exceptions are the weeks when Yale students are giving their "job talk." The pre-seminar is typically run by the member of the faculty who scheduled the regular seminar series that term. The pre-seminar's format is similar to that of the regular seminar series except that a student, rather than the paper's author, does the presentation. Attendance at both the seminar and pre-seminar is mandatory during a student's entire time at Yale but is not required for the degree.

**The Finance Lunch** Starting in their third year of the program, students should attend the Finance Lunch, which takes place every Tuesday and features presentations by Yale faculty and students. In the Finance Lunch, students in their third year or beyond are required to do one forty-minute presentation per term on their research. Students on the job market will do a full eighty-minute talk. Students in their first or second year of the program should attend the Finance Lunch if their schedules allow.

### *Qualifying Exam*

The qualifying exam covers the Ph.D.-level finance courses taken in the two prior years of study. Unless given a waiver by the director of the finance Ph.D. program, students must take the qualifying exam before the last business day before June 15.

**Format** The qualifying exam is a closed book test. It will be either open-note or closed-note; this will be determined by the examining faculty in the spring of the year in which the exam is offered. If there is any other pertinent information about the exam, it will be provided by the finance Ph.D. program director at least four weeks before the exam.

**Passing and Failing** If a student fails the exam he or she may request to take it, at most, one more time. The makeup exam must be taken by the final business day before August 1st. However, if the student took the exam in their first year and failed, they may delay retaking it until June 15th after their second year. If the makeup exam is also failed, the student will be dismissed from the program. The format of the makeup exam will be identical to that of the original.

### *First- and Second-Year Papers*

These papers are designed to help students begin the process of writing a dissertation by acquainting them with the recent literature in an area. In addition, these papers are meant to give students practice in the art of communicating their results. If you cannot clearly explain, in writing, what you have discovered, it does not matter what you have done. Nobody will read it, and thus nobody will know about it. Papers must meet the literary standards (with regard to both prose and grammar) required by the academic journals to pass. Both papers must be solo-authored, except in cases where a co-author is required in order to access the data needed for the project. These cases must be approved by the DGS.

**First-Year Paper** Students are required to write a research paper during the summer between their first and second year in the program. The topic of the first-year paper requires written approval by the faculty member acting as the student's adviser. The deadline to submit that approval to DGS is May 15th. An acceptable paper is a literature review that goes over several recent papers in an area, explains their relationship to each other, discusses one or more potential areas for original research, and provides at

least some original analysis. Examples of what qualifies as original analysis include the reproduction of at least part of an empirical study on a new data set, or the extension of a theoretical paper along some lines. Of course, more ambitious works are welcome. This paper is due by the second Monday in August and should be turned into the finance group's Ph.D. program director with a copy sent to the Ph.D. registrar.

**Second-Year Paper** Students are required to write a research paper during the summer between their second and third years in the program. This paper should look more like a potential journal article than the first-year paper. It should include an abstract, an introduction, a main body, and a conclusion. The paper must include at least a preliminary analysis of some problem in finance. While this paper does not need to be as complete as a dissertation chapter, it must demonstrate an ability to identify and set out an agenda to solve an academically interesting problem. By May 15 the second-year paper proposal must be approved by a member of the finance faculty that has agreed to supervise the project. The paper itself is due by the second Monday in August and should be turned into the student's adviser with a copy sent to the Ph.D. registrar.

**Papers that Receive a Failing Grade** Students whose papers receive a failing grade may be dismissed from the program at the faculty's discretion. For those students that are allowed to continue in the program the deadline for the revised manuscript depends upon the paper's shortcomings.

- If a paper does not pass, due to the quality of the analysis, the student will have until the second Monday in October (of the same year in which the paper was submitted) to produce an acceptable manuscript.
- If a paper does not pass due to the quality of the writing, the student will be required to take an English composition class in the fall term. An acceptable draft of the paper must be turned in prior to the start of the following spring term.

### *Ph.D. Prospectus*

The graduate school requires that, prior to the start of a student's fourth year in the program, he or she must produce a prospectus and line up a dissertation committee. *The finance group requires students to do this prior to the start of the spring term of their third year.* The prospectus provides an overview of the dissertation's first essay and should include at least a paragraph describing two other potential essays. Enough detail should be provided to convince the faculty that the first essay will be completed by the end of the calendar year and that a second essay will be nearly complete. The early deadline for the prospectus reflects the finance group's desire to ensure that students make progress towards their dissertation throughout their stay in the program. Most students are expected to seek an academic position during their fifth year in the program and complete their dissertation by the end of their fifth year.

Unless a dissertation committee is formed and a prospectus is approved by the spring of a student's third year, it is nearly impossible for him or her to finish in four years. The student's dissertation committee must have at least four members: three to act as readers and the dissertation adviser to act as chair. Dissertation advisers may not act as a reader. All four committee members must sign off on the prospectus. At least two members of the committee must be from the finance group unless a waiver is given by the finance group's Ph.D. program director. *If a student cannot form a committee prior to the start of the spring of their third academic year, the student cannot*

*continue in the program.* Most dissertation committees have a primary adviser and two secondary advisers. The primary adviser is the person the student should turn to for most questions regarding their progress towards an acceptable dissertation and job market strategies. Dissertation advisers play a critical role in a student's career. As such, students are strongly encouraged to seek out potential advisers early on as they progress through the program; the first year is not too early. Students may not remain in the program longer than seven years without the written permission of the DGS.

## *Dissertation*

A typical dissertation contains three essays. They do not need to be that closely related. An acceptable thesis might be titled "Three Essays in Finance." Prior to final acceptance of the dissertation, students must pass a public defense. Before a public defense can be scheduled, all three members of the committee must agree that the student and the dissertation itself are ready. All members of the faculty are invited to a dissertation defense. After the defense, the faculty in attendance will meet to discuss the dissertation. The faculty may pass or fail the student. In addition they may grant a conditional pass. This is done when the faculty believe there are only some minor problems with the dissertation and delegate the final decision regarding these corrections to the committee. After the faculty pass on the dissertation (or the committee passes on the dissertation in the case of a conditional pass), the dissertation is submitted to the graduate school. The graduate school will assign readers who make a final acceptance on the dissertation. The reader assignment is governed by the graduate school; however, they usually assign the two secondary advisers and one other faculty member.

## *The "Job Market"*

The job market for Ph.D. candidates seeking academic positions in finance takes place at the annual meetings of the Financial Management Association in October, and of the American Finance Association (AFA) in early January. Students wishing to interview at these meetings must mail "job market" packets to potential employers at least six weeks prior to the meetings. The packets consist of at least one finished essay and three letters of recommendation. Those seeking positions at the top-level universities interviewing at the AFAs should expect that some of the competition will arrive with two or more finished essays, one of which may have been accepted for publication. As a practical matter students cannot go on the job market unless their dissertation committee approves. As part of their preparation for the job market, students are expected to present their work at the Tuesday Finance Lunch in the fall of the year in which they are going on the market. Students should ask the chair of their dissertation committee for information regarding the scheduling of this seminar.

## *Critical Dates*

Failing any item in *italics* will result in dismissal from the program.

**First Year** Students must take and pass Financial Economics I.

**Summer of the First Year** First-year papers are due by the second Monday in August. *Revised papers that did not initially pass due to the quality of the analysis are due the second*

*Monday in October. Revised papers that did not pass due to issues related to writing quality are due prior to the start of the spring term.*

**Second Year** Students must take and pass the topics courses offered by the finance faculty. Students must take and pass the qualifying exam. This exam will be offered about one month after the final topics class in that academic year. Students that fail the qualifying exam may, at the faculty's discretion, take a makeup exam about a month later. *To continue in the program, students must pass the qualifying exam, pass all the required courses, and keep an HP grade point average.* If a student fails a required course, they may retake it and the grade of the second instance will replace the first on their transcript.

**Summer of the Second Year** Second-year paper proposals are due and must be approved by a member of the faculty that has agreed to act as the project's supervisor by May 15. The paper itself is due by the second Monday in August. *Revised papers that did not initially pass due to the quality of the analysis are due the second Monday in October. Revised papers that did not pass due to issues related to writing quality are due prior to the start of the spring term.*

**Spring of the Third Year** Students must produce a thesis prospectus and line up a thesis committee by start of the spring term of their third year in the program. The committee must have at least three members and at least two members must be from the finance group. *Students that do not meet this deadline cannot continue in the program.*

**Every Term while Enrolled** Students must attend both the weekly seminar and pre-seminars.

## SPECIAL REQUIREMENTS IN MARKETING (BEHAVIORAL)

Admission to the Ph.D. program in Behavioral Marketing is highly selective. We admit two to three of the most promising students annually from an impressive pool of applicants. Academic backgrounds of admitted students are typically in the behavioral sciences or the liberal arts, but we welcome applications from students with degrees in economics, statistics, computer science, mathematics, and engineering. We do not require graduate degrees for admission to the doctoral program.

The Marketing department at Yale is consistently rated as one of the most productive in the field. We have an excellent placement record for our doctoral students, many of whom have gone on to secure tenure-track positions at top research institutions including Harvard, Stanford, Northwestern, and Columbia. The behavioral marketing faculty at Yale are all research-active scholars who specialize in consumer behavior, behavioral economics, and judgment and decision-making. Many of the behavioral faculty have joint appointments in the departments of Psychology and Cognitive Sciences. Ph.D. students are not assigned to a primary adviser prior to admission and are free (and encouraged) to work with multiple faculty members. Research interests and recent publications for the behavioral faculty are provided on the faculty page.

## Courses

Students are encouraged to complete their doctoral training within five years. Required coursework is commonly restricted to the first two years of study, while the remaining time is spent completing the dissertation. Students are required to pass twelve Ph.D.-level courses in their first two years. These include the following:

Three behavioral marketing core courses (MGMT 7301, Behavioral Decision-Making I: Choice; MGMT 7302, Behavioral Decision-Making II: Judgment; and MGMT 7304, Foundations of Behavioral Economics); two empirical methods courses that cover the topics of experimental design and statistics; one breadth course that covers the topic of quantitative marketing; and six electives in behavioral sciences (example course subjects include social cognition, cognitive development, cognitive science of morality, foundations of neuroscience, cognitive science of pleasure, psychology of free will, or an independent study course).

### *Regular Activities*

In order to remain in good standing, students are required to attend three seminar series regularly, including the weekly Ph.D. Research Workshop in Behavioral Marketing (Sprouts), the weekly Marketing Seminar series, the Ph.D. Pre-Workshop in Marketing (immediately prior to most weekly Marketing Seminars). Additionally, students are expected to meet regularly with their primary adviser and any collaborating faculty.

### *Qualifying Examinations*

**First-Year Paper and Presentation** During their first year, students are expected to develop a project in collaboration with one or more faculty members. During the summer between the first and second year, students are required to write a ten- to twelve-page paper reporting this research, due September 1. Students are also required to give a thirty-minute research presentation summarizing this research in the fall semester of their second year.

**Second-Year Paper and Presentation** During the second year, students are expected to develop a more in-depth investigation (either an extension of their first year or a new line of work in a related area). Over the summer between the second and third year, students are required to write a paper of at least fifteen pages reporting this research, due September 1. This paper should include an extensive introduction that demonstrates mastery of the relevant literature. Students are also required to give a sixty-minute research presentation summarizing this research in the fall term of their third year. Assessment of the second-year paper and presentation serves as the qualifying exam for the advancement to the Ph.D. candidacy.

### *Dissertation*

The dissertation typically consists of three essays which are completed in years three to five.

**Dissertation Prospectus** Prior to starting work on the dissertation, students submit a dissertation prospectus that consists of brief descriptions (one to two pages per essay) of the essays to be contained in the dissertation. At this stage, students must also finalize their dissertation committee consisting of the principal adviser and three other faculty members. The prospectus must be completed and accepted by the dissertation committee by the end of the student's third year.

**Thesis Defense** After completing the dissertation, students must defend it before their doctoral committee, other faculty members, and interested doctoral students. The faculty can accept the dissertation as is, require minor changes, or not accept the

dissertation and ask the student to redo one or more essays. (The third result occurs very rarely.) If minor revisions have to be made, the student makes these revisions, gets them approved by the principal adviser, and submits the dissertation to the graduate school.

Students should consult the graduate school calendar for the March and October deadlines to submit their dissertations for the May or December degrees.

Students may not remain in the program longer than six years unless they obtain permission for a seventh year from the DGS. Very rarely, students may request an eighth year of registration due to serious circumstances beyond their control that have prevented them from completing the dissertation by the end of the seventh year of study. Approval for an eighth year must come from the Dean of the Graduate School of Arts and Sciences. In either case, an Extended Registration Request Form must be submitted.

## SPECIAL REQUIREMENTS IN MARKETING (QUANTITATIVE)

### *Courses*

Students are required to pass twelve Ph.D.-level courses in their first two years of study: two microeconomics courses (ECON 5500 and ECON 5501); two empirical methods courses (ECON 5550 and ECON 5551); three depth courses in the student's primary area of study (including one behavioral marketing course); and five electives (examples of suitable electives include ECON 5520, ECON 5521, ECON 5527, ECON 5530, ECON 5531, ECON 5552, ECON 5553, ECON 5554, ECON 5555, ECON 5557, MGT 611, MGMT 7201, S&DS 5510, S&DS 5650).

These twelve courses have to be taken in the first two years. Students can take other courses not listed above as electives if their faculty adviser permits. The grade requirements are as follows: Students are expected to obtain at least two Honors grades and maintain a High Pass grade point average in ten of the twelve courses on the list. Off-list courses are not included when factoring grade point average.

### *Seminar Attendance*

In addition to coursework, students must attend three seminar series regularly: the Ph.D. Workshop in Marketing, the Ph.D. Pre-Workshop in Marketing, and Quantitative Marketing Student Presentation Workshops. The first two seminars are held weekly. The Pre-Workshop consists of a discussion of the paper to be presented in the Ph.D. Workshop in Marketing that day. The discussion is led by a faculty member, and all the students are expected to participate in the discussion. Also, doctoral students make presentations in workshops arranged by the department. Marketing students are expected to attend all presentations made by marketing students and are encouraged to attend seminars in other areas.

### *Research Paper Requirements*

Students are expected to complete an original research paper during the summer following their first year in the Ph.D. program. Students must select faculty advisers for their first-summer paper and work with them during the summer to develop their papers. These papers have to be presented in the PhD Workshop in Marketing (MGMT

781) during the fall of a student's second year. Students must turn in their paper within a week of presentation and will be graded by the adviser. Please note that students must submit their paper to both their faculty advisor and the PhD Registrar.

Students are also expected to complete another original research paper in the summer following their second year in the program. Again, students select faculty advisers to assist them in writing their papers. These papers must be presented in the Ph.D. Workshop in Marketing (MGMT 7811) in a student's third year. Students must turn in their second-year paper by October 1 of their third year. If the paper does not pass, they may turn in a revised paper by February 1 of their third year. After that date, no further revisions will be considered.

While the primary goal of the first-summer paper is to introduce doctoral students to the world of academic research, the second-summer paper is expected to be comparable in quality with papers published in *Marketing Science*. The first- and second-summer papers could be co-authored with other students or faculty.

### *Qualifying Examinations*

Students have to successfully complete the marketing qualifying examination at the end of their second year in the program. The exam is administered during the summer break. Student and faculty discuss to determine the exact date. The examination consists of two sections given over two days with each section administered as a closed-book, four-hour examination. The general section of the examination covers a variety of empirical and theoretical concepts within Marketing while the specialization section consists of questions relating to a single area of research which the student chooses in co-ordination with the marketing faculty.

The Qualifying exams receive a grade of either Pass, Unsatisfactory, or Fail. Students with a failing grade cannot retake the exam and will be dismissed from the program. Those receiving a grade of Unsatisfactory will be given one opportunity to retake the exam and must do so during August of the year in which the student first took the exam. Failure to earn a passing grade on either the first or second Qualifying exam will result in dismissal from the program.

### *Dissertation*

The dissertation typically consists of three essays which are completed in years three to five. Prior to starting work on their dissertation, students have to write a dissertation prospectus which consists of brief descriptions (one-and-a-half pages per essay) of the essays to be contained in the dissertation. At this juncture, students must also finalize their dissertation committees, consisting of a principal adviser and three other faculty members. The prospectus must be completed and accepted by the dissertation committee by the end of the student's third year.

After a dissertation is complete, students must defend it before their committee, other faculty members, and interested doctoral students. The faculty can accept the dissertation as is, require minor changes (e.g., a more complete bibliography or better writing of the introduction), or not accept the dissertation and ask the student to redo one or more essays.

Students should consult the graduate school calendar for the March and October deadlines to submit their dissertations for the May or December degrees.

Students may not remain in the program longer than six years without written permission of the DGS.

## SPECIAL REQUIREMENTS IN OPERATIONS

Admitted students must satisfy six program requirements: (1) twelve courses, (2) a first-year paper, (3) a general exam, (4) operations seminar participation, (5) a dissertation prospectus, and (6) a dissertation. A grade point average of High Pass (HP) must be maintained. Students must also comply with all other rules of the graduate school and of the Yale School of Management Doctoral program. On average, students will need five years to complete these requirements.

### *Courses*

All students must pass at least twelve courses:

- three core courses (MGT 611, Policy Modeling, (MGMT 7401, Models of Operations Research and Management; and MGMT 7403, Modeling Operational Processes),
- five required methods courses (S&DS 5410, Probability Theory; S&DS 5510, Stochastic Processes; S&DS 5420, Theory of Statistics; S&DS 4310, Optimization and Computation; and ECON 5501, General Economic Theory: Microeconomics), and
- four elective courses scheduled upon approval by the student's course adviser.

Typically, all of these courses are completed in the first two years of the program. Under unusual circumstances and with the approval of both their adviser and the DGS, students may fulfill some of the methods course requirements with alternative offerings.

### *First-Year Paper*

During the summer after the first year of coursework, students will work with an operations faculty member on an ongoing research project. By September 30, the students should prepare written reports on their work and prepare presentations on this work for the operations group internal seminar. Continuation in the program is contingent upon the faculty's approval of the report.

### *General Exam*

The General Exam has two components: a coursework exam, based upon the coursework of the first two years, and a second-year research paper. The coursework exam will be scheduled by faculty sometime after the last day of exams of the spring term and prior to June 16. After the coursework exam, students will be provided with a list of research topics by the operations faculty and must choose to work on one of these or, with the approval of the faculty, a topic of their own choosing, with the aim of delivering a paper by September 30. Faculty will evaluate a student's continued enrollment in the program based upon course grades, the coursework exam, and the second-year paper. In rare exceptions, students who do not pass the exam will, at the

discretion of the faculty, be offered a chance for remediation sometime prior to the end of the fall term.

### *Operations Seminar*

Approximately every other week, leading operations scholars will visit to present their latest research. Doctoral students will meet with Operations faculty prior to these seminars to review the papers and related literature. Participation in this seminar is required throughout the program.

### *Dissertation*

No later than the end of their third summer in the program, students must submit a prospectus for their dissertation as an application to doctoral candidacy. Based upon this proposal and a student's previous performance, the faculty will decide whether to admit the student to candidacy. Submission and approval of a completed dissertation will follow the policies of the graduate school. Students failing to complete their dissertation within six years of advancing into candidacy will be dropped from the program.

## **SPECIAL REQUIREMENTS IN ORGANIZATIONS AND MANAGEMENT**

The Yale Organizations and Management doctoral program is designed to prepare individuals for faculty positions in organizational behavior, management, and strategic management at research-oriented business schools. It is unique in its multi-disciplinary orientation, introducing students to psychological, sociological, and economic perspectives both on the internal dynamics of organizations and on how organizations interact with their environments, as well as in the depth of its training in empirical methods. The Yale Organizations and Management program is small, ensuring that each student receives ample faculty attention, and is highly flexible, allowing the program to be tailored to each student's interests. Upon admission, each student will be assigned to a faculty adviser who will help the student to design an individualized program that prepares the student well for doing research in his or her area of interest.

Students in the Ph.D. program in Organizations and Management must satisfy five requirements: (1) pass twelve courses, (2) seminar and workshop participation, (3) a first-year paper, (4) a second-year paper/qualifying exam, and (5) a dissertation (usually consisting of three journal-quality papers). Students must also comply with all other rules of the graduate school and of the Yale SOM doctoral program.

### *Courses*

All students must pass twelve courses: two methods courses (PLSC 5030 and PLSC 5000; or ECON 5550 and ECON 5551; or, students who believe they will primarily do experimental research may take PLSC 5030 and a methods course in psychology such as PSYC 5180 for ECON 5551); four depth courses (MGMT 7502, MGMT 7504, MGMT 7505, MGMT 7507); four social science courses in psychology or sociology (e.g., PSYC 5050, PSYC 5090, SOCY 7250, SOCY 7029); one breadth course outside the student's area of study, chosen in consultation with the student's adviser; and at least one additional elective chosen in consultation with the adviser.

## *Seminars and Workshops*

**Organizations and Management Seminar** Roughly every other week, the area invites world-class scholars to present their research to Yale faculty and students. Doctoral students are expected to attend these seminars in every term of the program. Prior to the seminar, students will meet with one of the faculty members to discuss the paper being presented.

MGMT 7501, **Organizational Behavior in Development (OBID)** Ph.D. students, in each term of the program, are required to regularly attend this weekly internal brown-bag seminar series. The seminar is jointly taught by the Organizations and Management faculty doing research with large-scale (usually archival) data sets, behavioral experiments, or qualitative data. These meetings provide a venue for the discussion of study design, research methods, the interpretation of research results, the crafting of papers, and important published research. Beginning in their third year, students are also expected to present in the seminar once per year.

## *Research Papers and Qualifying Exam*

**First-Year Paper** In the summer between their first and second year in the program, each student must collaborate on a research paper together with a faculty member in the SOM Organizational Behavior group. The idea for this paper may originate with either the student or the faculty member. In either case, an initial draft of the paper must be completed by September 30 of their second year, and the completed paper must be approved by two faculty members and submitted by 5 p.m. of the last day of classes of their fall term, and a copy must be emailed to the Ph.D. registrar. Students will present these co-authored papers in the OBID Workshop in the fall of the second year. Generally, these papers will be submitted to journals and will result in publications prior to the end of a student's time in the program.

**Second-Year Paper (Qualifying Exam)** In the summer between their second and third year in the program, each student must work on a research paper under the guidance of a faculty member in the SOM Organizational Behavior group. The idea for this paper must originate with the student, though the faculty member may assist in developing the paper for publication. An initial draft of the paper must be completed and submitted by 5 p.m. of the last business day in October of their third year, and a copy must be sent to the Ph.D. registrar. Students will present these papers in the OBID Workshop in their third year. The expectation is that these papers will be submitted to journals.

The second-year paper is considered the qualifying exam and will be vetted by both the Organizations and Management faculty and the DGS. If a student receives a failing grade on their second-year paper, they have ninety days from the date they are notified to submit a passing paper.

## *Dissertation*

**Admission to Candidacy** Once students have completed their coursework and first- and second-year papers, they may apply for admission to candidacy. As part of this application, students must submit a proposal for their planned dissertation. Admission to candidacy depends on a comprehensive review of the student's performance by the

faculty; completion of the requirements listed above does not guarantee admission. Students must be admitted to candidacy prior to their fourth year in the program. In order to give the faculty enough time to review the prospectus, admission to candidacy paperwork is due to the student's adviser by August 1 before submission to the Doctoral Program registrar.

By the fall of year three, students should propose ideas for their dissertation and form a four-person dissertation committee to advise this research. The dissertation committee's chair must come from the School of Management's Organizations and Management ladder-rank faculty. Students will generally present progress on these papers in the Ph.D. Student Research Workshop on an annual basis.

## JOINT J.D./PH.D. IN FINANCE

Students in the joint J.D./Ph.D. in Finance program must meet the following requirements:

**Course Requirements, Ph.D.** Eight courses, including the following five required courses: ECON 5500; ECON 5501; ECON 5550 and ECON 5551; MGMT 7204 and two additional Ph.D.-level finance courses. Upon reaching the Ph.D. candidacy, students are required to attend MGMT 7821 and MGMT 7820.

**Course Requirements, J.D.** 71 credit units at Yale Law School, including the required first-term courses taken in one term (Contracts, Constitutional Law, Criminal Law and Administration, and Procedure), Torts and Regulation, a course satisfying the legal ethics requirement, Business Organizations, and six credit units satisfying the experiential learning requirement.

**Predissertation Writing Requirements** (1) A paper fulfilling the Ph.D. second-year research paper requirement, and (2) a paper fulfilling one of the J.D. writing requirements (substantial or supervised analytic writing). Note: an accepted Ph.D. second-year research paper will fulfill the student's remaining J.D. paper requirement by registration for independent research credit with the student's law school faculty adviser. One of these papers must qualify as the student's prospectus.

**Qualifying Examination in Finance** The qualifying exam is in three courses: the section of the qualifying exam pertaining to MGMT 7204 and two additional doctoral finance courses. The qualifying exam is taken after the student has completed all required graduate finance courses.

## MASTER'S DEGREES

**M.Phil.** A student who is admitted to candidacy will be eligible to receive the M.Phil. upon the recommendation of the program's faculty and the approval of the graduate school.

**M.A.** Applications for a terminal master's degree are not accepted. The M.A. degree is awarded only to students not continuing in the Ph.D. program. The student must complete eight graduate-level term courses approved for credit in their program and maintain an average grade of High Pass. Students who are eligible for or who have already received the M.Phil. will not be awarded the M.A.

Program materials are available upon request to the Director of Graduate Studies, Management, Yale University, PO Box 208200, New Haven CT 06520-8200. For

information on the M.B.A. degree, please contact the admissions office at the School of Management.

## COURSES

### **MGMT 7101b, Seminar in Accounting Research I** Zeqiong Huang

Study of analytical modeling techniques in accounting research that covers topics such as performance measurement for incentives, the consequences of asymmetric information in economic relationships and the role of accounting therein, information sharing within and across firms, and the pricing of related-party transactions.

### **MGMT 7102a, Seminar in Accounting Research II** Frank Zhang and Jacob (Jake) Thomas

Study of analytical modeling techniques in accounting research that covers topics such as performance measurement for incentives, the consequences of asymmetric information in economic relationships and the role of accounting therein, and information sharing within and across firms.

### **MGMT 7202b, Applied Empirical Methods** Paul Goldsmith-Pinkham

This course is designed for graduate Ph.D. students interested in econometric methods used in empirical research. The goal of this class is to provide an overview of different empirical methods, with an emphasis on practical implementation. In the first half of the course, we will discuss the properties of an effective empirical research design, and review topics in linear regression and discrete choice. In the second half of the course, we will cover the new applied econometrics literature on difference-in-differences, regression discontinuity, instrumental variables (including Bartik IV, simulated instruments, and examiner designs), machine learning, and partial identification. ECON 550 (or similar) is a prerequisite.

### **MGMT 7203b, Finance of Information** Jonathan Ingersoll

Finance of Information ½ Course cr

### **MGMT 7204a / ECON 6670a, Financial Economics I** Stefano Giglio

Current issues in theoretical financial economics are addressed through the study of current papers. Focuses on the development of the problem-solving skills essential for research in this area.

### **MGMT 7206a or b / ECON 6677a or b, Financial Econometrics and Machine Learning** Bryan Kelly

This is a course in advanced statistical methods for finance including econometrics, machine learning, and artificial intelligence. The applications of these methods focus on topics in empirical asset pricing including return prediction, risk modeling, portfolio choice, and factor modeling, among others. The goal of the course is to build a state-of-the-art statistical skill set for empirical asset pricing and practical asset management. Must be taken along with part two, MGMT 7207/ECON TBD. ½ Course cr

### **MGMT 7210b / ECON 6672b, Behavioral Finance** Nicholas Barberis

Much of modern financial economics works with models in which agents are rational, in that they maximize expected utility and use Bayes's law to update their beliefs. Behavioral finance is a large and active field that studies models in which some agents are less than fully rational. Such models have two building blocks: limits to arbitrage, which make it difficult for rational traders to undo the dislocations caused by less rational traders; and psychology, which catalogues the kinds of deviations from full

rationality we might expect to see. We discuss these two topics and then consider a number of applications: asset pricing (the aggregate stock market and the cross-section of average returns); individual trading behavior; and corporate finance (security issuance, corporate investment, and mergers).

**MGMT 7215a, Corporate Finance** Kelly Shue and Song Ma

This course surveys corporate finance research, including both classic topics and more recent developments in this broad literature. Typically, a class session provides background and context for a given topic and talks about several papers in detail. Major topics covered include corporate capital structure, banking, corporate governance, executive compensation, merger acquisitions, entrepreneurial finance, private equity, corporate innovation, and behavioral corporate finance. This course is designed for Ph.D. students in finance, economics, accounting, and other related fields.

**MGMT 7216a / ECON 6678a, Macro Finance** Alp Simsek

Macro Finance

**MGMT 7301a / PSYC 5530a, Behavioral Decision-Making I: Choice** Ravi Dhar and Nathan Novemsky

The purpose of this seminar is to provide Ph.D.-level coverage of the psychology of decision making, focusing on choice. Although the normative issue of how choices should be made is relevant, the descriptive issue of how choices *are* made is the main focus of the course. In addition to examining prior choice research, the goal of this seminar is to improve your ability to identify interesting research questions and develop effective experiments for testing them. Students generally enroll from a variety of disciplines, including cognitive and social psychology, behavioral economics, finance, marketing, political science, medicine, and public health.

**MGMT 7304a / PSYC 602a, Foundations of Behavioral Economics** Shane Frederick

The course explores foundational topics in behavioral economics and discusses the dominant prescriptive models (which propose what decision makers should do) and descriptive models (which aim to describe what decision makers actually do). The course incorporates perspectives from economics, psychology, philosophy, decision theory, and finance, and engages long-standing debates about rational choice.

**MGMT 7305b, Moral Consumer Decision Making** Deborah Small

The main objective of this 7-week course is to provide a deep, focused study on topics related to morality in consumer decision making. The weekly readings are intended to provide PhD level coverage of classic and current research on this topic. ½ Course cr

**MGMT 7306a, Special Topics in Judgment and Decision Making** Gal Zauberman

This doctoral seminar is centered on current topics in judgment and decision research and the related fields of behavioral economics, cognitive psychology, and social psychology. The goal is to have in-depth discussion about behavioral research that addresses contemporary issues that society is facing (inequality, discrimination, etc.).

**MGMT 7310b, Seminar in Quantitative Marketing II** Soheil Ghili

A series of presentations of their latest research by top marketing scholars from the United States and abroad.

**MGMT 7312b, Empirical Methods in Marketing** Kosuke Uetake

This course introduces students to structural models of demand and supply dynamics, market entry, and product positioning through a mix of lectures and detailed

discussions of specific papers. Emphasis on implementing models using software such as Matlab and Gauss through structured homework assignments.

**MGMT 7403a, Modeling Operational Processes** Nils Rudi

This course covers analytical tools and topics that have not been discussed in previous operations doctoral courses at Yale SOM. The emphasis is on approaches to modeling and analyzing operational processes across various application areas, including supply chains, service operations, retail operations, platform operations, and sustainable operations. Students will explore key ideas and methodologies established in the literature of Operations Research and Operations Management, understand the contexts in which certain conventions have been developed, and learn how to build effective mathematical models.

**MGMT 7404a, Modeling Operational Processes B** Zhen Lian, Sang Kim, and Faidra Monachou

This course covers analytical tools and topics that have not been discussed in previous operations doctoral courses at Yale SOM. The emphasis is on approaches to modeling and analyzing operational processes across various application areas, including supply chains, service operations, retail operations, platform operations, and sustainable operations. Students explore key ideas and methodologies established in the literature of operations research and operations management, understand the contexts in which certain conventions have been developed, and learn how to build effective mathematical models. This is part two of a two-part course. Prerequisite: MGMT 7403.

**MGMT 7405b, Algorithms For Democratic Decision-Making** Jamie Tucker-Foltz

This course takes a mathematical look at how democratic institutions fairly allocate representation and aggregate preferences to make public decisions. We will begin with the foundational economics work in social choice theory on the design of voting systems. We will then progress through more modern developments from computer science on preference aggregation and fair allocation, including applications to AI and online platforms. The final part of the course will focus on institutions for distributing voting power. This includes traditional systems like apportionment and redistricting, as well as more radical proposals like liquid democracy and citizens assemblies. Throughout, particular focus will be given to designing efficient algorithms with theoretical guarantees.

**MGMT 7507a, Inside Organizations** Adriana Germano

This course, taught every other year, reviews economic, psychological, and sociological perspectives on the internal behavior of organizations. Sessions are generally organized around phenomena and jointly taught by two instructors from different perspectives.

**MGMT 7509b, Organizations and Management II: Macro and Meso Perspectives on Organizations and Their Environment** Julia DiBenigno

Organizations and Management II: Macro and Meso Perspectives on Organizations and Their Environment

**MGMT 7810a or b, Accounting Doctoral Student Pre-Seminar** Edward Watts

Accounting Doctoral Student Pre-Seminar o Course cr

**MGMT 7811a or b, Accounting Seminar** Edward Watts

Accounting Seminar o Course cr

**MGMT 7820a or b, Finance Doctoral Student Pre-Seminar** Menaka Hampole and Theis Jensen

Accounting doctoral student pre-seminar. o Course cr

**MGMT 7821a or b, Finance Seminar** Menaka Hampole and Theis Jensen

Finance seminar. o Course cr

**MGMT 7830a or b, Marketing Doctoral Student Pre-Seminar** Tong Wang

Marketing doctoral student pre-seminar. o Course cr

**MGMT 7831a or b, Marketing Seminar** Tong Wang

Marketing seminar. o Course cr

**MGMT 7840a or b, Operations Doctoral Student Pre-Seminar** Faidra Monachou

Operations doctoral student pre-seminar. o Course cr

**MGMT 7841a or b, Operations Seminar** Faidra Monachou

Operations seminar. o Course cr

**MGMT 7850a or b, Organizations and Management Doctoral Student Pre-Seminar**

Jennifer Dannals

Organizations and Management doctoral student pre-seminar. o Course cr

**MGMT 7851a or b, Organizations and Management Seminar** Jennifer Dannals

Organizations and Management seminar. o Course cr