

Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) Programs in Operations Management

Curriculum for Master of Philosophy (MPhil) Program in Operations Management

The Master of Philosophy (MPhil) program is a research-oriented degree that aims to prepare students for a research and teaching career in universities and research institutes. The program includes two streams: Operations Management and Statistics. Students intending to do a Doctor of Philosophy (PhD) in Operations Management at HKUST should consider entering the MPhil program to acquire the training necessary for a PhD.

Program Requirements

a) Introductory Quantitative Requirement

Unless students have clearly demonstrated sufficient knowledge in the area, students entering the MPhil program are required to take the following two mathematics-oriented courses in the first regular term of study. The credits earned from these two courses cannot be counted toward the degree requirements.

ECON 5100 Mathematics for Business and Economics
ISOM 5540 Introduction to Probability

b) Course Requirement

Students are required to take at least 36 credits. Students may need to take additional courses related to their research topics, as requested by their thesis supervisors. Students are required to take the following required courses in their first year of study.

For both OM and Statistics Streams:

- LANG 5001 Postgraduate English for Academic Purposes
- ISOM 5550 Statistical Methods for Business and Economics I
- One of the following courses:
 - ECON 5130 Microeconomic Analysis
 - ECON 5210 Microeconomic Theory I
 - ECON 5300 Econometrics
 - ISOM 5560 Statistical Methods for Business and Economics II
 - MGMT 7100 Behavioral Science

For OM Stream, the following three courses:

IELM 5230 Deterministic Models in Operations Research
IELM 5250 Stochastic Models in Operations Research
ISOM 5700 Operations Management

In year two, students are required to take other PG courses as advised by their supervisor.

c) Thesis Requirements

- Registration in ISOM 6990 MPhil Thesis Research; and
- Presentation and oral defense of the MPhil thesis.

Curriculum for Doctor of Philosophy (PhD) Program in Operations Management

The doctor of Philosophy (PhD) program is a research-oriented degree that aims to prepare the students for a research and teaching career in universities and research institutes. The program includes two streams: Operations Management (OM), and Statistics.

Program Requirements

a) Introductory Quantitative Requirement

Unless students have clearly demonstrated sufficient knowledge in the area, students entering the PhD program are required to take the following two mathematics-oriented courses in the first regular term of study. The credits earned from these two courses cannot be counted toward the degree requirements.

ECON 5100 Mathematics for Business and Economics
ISOM 5540 Introduction to Probability

b) Course Requirement

Students are required to take at least 36 credits. Students may need to take additional courses related to their research topics, as requested by their thesis supervisors.

Students who have taken the HKUST MPhil (OM) program will be granted credits transfer to the PhD program. Students who have taken an MPhil or equivalent in other universities may be granted credits transfer on a case-by-case basis. In such a case, the maximum number of credits transferable is 28.

i. Required Courses

ISOM 5550 Statistical Methods for Business and Economics I
LANG 5001 Postgraduate English for Academic Purposes

And any one of the following:

ECON 5130 Microeconomic Analysis
ECON 5210 Microeconomic Theory I
ECON 5300 Econometrics

ISOM 5560 Statistical Methods for Business and Economics II
MGMT 7100 Behavioral Science

Additional required courses for OM stream:

IELM 5250 Stochastic Models in Operations Research
IELM 5230 Deterministic Models in Operations Research
ISOM 5700 Operation Management

ii. Elective Courses (at least 14 credits for OM; at least 21 credits for Statistics)

ECON 5130 Microeconomic Analysis
ECON 5140 Macroeconomic Analysis
ECON 5210 Microeconomic Theory I
ECON 5300 Econometrics
ECON 5530 Information and Incentives
ISOM 5560 Statistical Methods for Business and Economics II
MARK 5410 Seminar in Quantitative Modeling
MARK 5440 Advanced Modeling in Marketing
MARK 5520 Experimental Design and Analysis for Behavioral Research
MGMT 7100 Behavioral Science

iii. General Management Courses

At least two of the following:

- ACCT 5100 Financial Accounting Foundations
- FINA 5120 Corporate Finance; or
FINA 5210 Investment Analysis
- MARK 5120 Marketing Strategy and Policy
- MGMT 5230 Management of Organizations

iv. Cross-discipline Research Courses

Any one of the following:

ECON 5140 Macroeconomic Analysis
ECON 5530 Information and Incentives
MARK 5410 Seminar in Quantitative Modeling
MARK 5440 Advanced Modeling in Marketing
MARK 5520 Experimental Design and Analysis for Behavioral Research

c) PhD Qualifying Examination

All PhD students must pass a qualifying examination.

Students admitted via the HKUST MPhil (OM) program, will take the qualifying examination in the Summer of the second year of MPhil study. Students who fail the qualifying examination in the first attempt can retake the examination once and must pass the examination no later than December of the first year of PhD study.

Students admitted with an equivalent research master's degree will take the qualifying examination in the Summer of the first year of PhD study. Students who fail the qualifying examination in the first attempt can retake the examination once and must pass the examination no later than December of the second year of PhD study.

Students admitted without an equivalent research master's degree will take the qualifying examination in the Summer of the second year of PhD study. Students who fail the qualifying examination in the first attempt can retake the examination once and must pass the examination no later than December of the third year of PhD study.

d) Research Paper Requirement

Students are required to submit a research paper by the Fall Term of the third year of study. Students admitted with an HKUST MPhil(OM) or equivalent will be exempted from this requirement.

e) Thesis Requirement

- Registration in ISOM 7990 Doctoral Thesis Research; and
- Presentation and oral defense of the PhD thesis.