

## **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. It includes two streams: Operations Management (OM), 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 degree.

### ***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) RPg Professional Development Requirement

Students are required to complete and pass SBMT 6770 Professional Development in Academia for Business in their first 1.5 years of study. Part-time students may be given extension to complete this course, subject to prior approval of the Department Head and PG Coordinator. The 1 credit earned from this course cannot be counted toward the credit requirements.

c) 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 postgraduate courses as advised by their supervisors.

d) Thesis Requirement

Students are required to register in ISOM 6990 MPhil Thesis Research, and present and orally defend 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 students for a research and teaching career in universities and research institutes. It 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) RPg Professional Development Requirement

Students are required to complete and pass SBMT 6770 Professional Development in Academia for Business in their first 1.5 years of study. Subject to prior approval of the Department Head and PG Coordinator, part-time students may be given extension to complete this course, and HKUST MPhil (OM) graduates who have taken and passed this course before may be exempted from this requirement. The 1 credit earned from this course cannot be counted toward the credit requirements.

c) 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 (15 credits for OM; 7 for Statistics)

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	5230	Deterministic Models in Operations Research
IELM	5250	Stochastic Models in Operations Research
ISOM	5700	Operations 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
ISOM	7500	OM Doctoral Seminar *
MARK	5410	Seminar in Quantitative Modeling
MARK	5520	Experimental Design and Analysis for Behavioral Research
MGMT	7100	Behavioral Science

iii) General Management Courses (4 credits)

At least two of the following:

- ACCT 5100 Financial Accounting Foundations; or  
ACCT 5150 Accounting Foundations
- FINA 5120 Corporate Finance; or  
FINA 5210 Investment Analysis
- MARK 5120 Marketing Strategy and Policy; or  
MIMT 5010 Market Research for Business Applications; or  
MIMT 5310 Understanding Consumers: A Strategic Approach; or  
MIMT 5320 Global Marketing Management
- MGMT 5230 Management of Organizations; or  
MIMT 5120 Strategic Management in Asia

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\* *Course can be repeated for up to 8 credits.*

iv) Cross-discipline Research Courses (3 credits)

Any one of the following:

ECON 5140 Macroeconomic Analysis

ECON 5530 Information and Incentives

MARK 5410 Seminar in Quantitative Modeling

MARK 5520 Experimental Design and Analysis for Behavioral Research

d) 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.

e) 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) degree or equivalent will be exempted from this requirement.

f) Thesis Requirement

Students are required to register in ISOM 7990 Doctoral Thesis Research, and present and orally defend the PhD thesis.