Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) Programs in Industrial Engineering and Logistics Management

Curriculum for Master of Philosophy (MPhil) Program in Industrial Engineering and Logistics Management

The Master of Philosophy (MPhil) program focuses on strengthening the students' background in their chosen areas of concentration, and training them for engineering research and development.   It is highly suitable for individuals with aspirations to take leading technical roles in Hong Kong's high value-added business organizations.

Students are required to take a minimum of 15 credits of approved postgraduate coursework, with at least three courses (9 credits) selected from the following list:

IELM	5110	Information System Design
IELM	5170	Advanced Production Planning and Control
IELM	5230	Deterministic Models in Operations Research
IELM	5250	Stochastic Models in Operations Research
IELM	5260	Design and Analysis of Engineering Experiments
IELM	5270	Engineering Statistics
IELM	5320	Design for People
IELM	5520	Contextual Design for Decision Support Systems

All full-time and part-time students are required to take and pass ENGG 6770 Professional Development in Engineering in their first 1.5 years of study.   Students may be exempted from certain course events, subject to prior approval of the School. Part-time students may be given extension to complete the course, subject to prior approval of the School.

Students must also pass LANG 5001 Postgraduate English for Engineering Research Studies.   Students can be exempted from taking LANG 5001 with the approval of the Department Head and PG Coordinator.

The credits earned from ENGG 6770 and LANG 5001 cannot be counted toward the credit requirements.

Students are also required to participate in IELM 6800 Departmental Seminar for at least two terms.

To complete the degree program, a student must register in IELM 6990 MPhil Thesis Research, and satisfactorily complete a thesis to demonstrate competency in engineering research.

Energy Technology Concentration

In addition to the program requirements specified above, students who opt for the Energy Technology concentration are required to:

- Take one ENEG course;

- Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of IELM 6800; and

- Conduct research in energy area.

Curriculum for Doctor of Philosophy (PhD) Program in Industrial Engineering and Logistics Management

The Doctor of Philosophy (PhD) program caters for students who wish to pursue a career in advanced industrial research and development, or university research and teaching. It emphasizes training in original thinking and independent research. Students are free to design the program of study most suitable to their interests and needs. The program of study should cover a specialized area in industrial engineering.

The PhD program aims at developing students' skills in identifying issues related to a theoretical problem or a practical application, formulating an original research project that addresses some of the significant issues, and independently creating an effective solution to the problem.

Students who have a bachelor's degree are required to take a minimum of 30 credits of approved coursework. Students entering with master's degrees from other universities may be granted credit transfer of up to 12 credits. Subject to the approval of the thesis supervisor and the PG Committee, a maximum of 6 credits of undergraduate 4000-level coursework may be counted toward the degree requirements.

Students are also required to fulfill the school requirements on PhD programs stipulated in the section of *School of Engineering*.

Specific program requirements are as below:

a) Taking five courses from the following list:

IELM	5110	Information System Design
IELM	5170	Advanced Production Planning and Control
IELM	5230	Deterministic Models in Operations Research
IELM	5250	Stochastic Models in Operations Research
IELM	5260	Design and Analysis of Engineering Experiments
IELM	5270	Engineering Statistics
IELM	5320	Design for People
IELM	5520	Contextual Design for Decision Support System

b) Taking and passing ENGG 6770 Professional Development in Engineering and IELM 6770 Professional Development in Industrial Engineering and Logistics Management for all full-time and part-time students. Students may be exempted from certain ENGG 6770 events, subject to prior approval of the School. Part-time students may be exempted from a maximum of 50% of mini-workshops of IELM 6770, subject to prior approval of the Department.

Students are expected to complete the Professional Development courses in their first two years of study. Subject to approval, part-time students may be given extension to complete the courses. HKUST MPhil (IELM) graduates who have taken and passed ENGG 6770 before may be exempted from taking the same course, subject to prior approval from the Department Head and PG Coordinator;

c)   Passing LANG 5001 Postgraduate English for Engineering Research Studies. Students can be exempted from taking LANG 5001 with the approval of the Department Head and PG Coordinator;

d)   The credits earned from ENGG 6770, IELM 6770 and LANG 5001 cannot be counted toward the credit requirements;

e)   Taking at least one 3-credit 6000-level course subject to the approval of the supervisor;

f)   Taking IELM 6800 Departmental Seminar for at least four terms during their residency. Part-time students may be exempted from this requirement;

g)   Passing the qualifying examination and the preliminary oral examination to review and approve the student's written thesis research proposal;

h)   Registration in IELM 7990 Doctoral Thesis Research; and

i)   Presentation and oral defense of the PhD thesis.

Energy Technology Concentration

In addition to the program requirements specified above, students who opt for the Energy Technology concentration are required to:

• Take one ENEG course;

• Complete ENEG 6010 Advanced Topics in Energy Technology for one term. They can use ENEG 6010 to replace one term of registration of IELM 6800; and

• Conduct research in energy area.