



Curriculum Information Record for a Research Degree Programme

Department of Materials Science and Engineering

Effective from Semester A 2023/24

For Students Admitted with Catalogue Term

Summer 2023 and thereafter

This form is for completion by the College/School for research degree programme. The information provided on this form is the official record of the Programme. It will be used for City University's database, various City University publications (including websites) and documentation for students and others as required.

Please refer to the Explanatory Notes attached to this form on the various items of information required.

Part I

Programme Title (in English) : Master of Philosophy

(in Chinese) : 哲學碩士

Award Title (in English) : Master of Philosophy

(in Chinese) : 哲學碩士

Programme Aims

This programme aims to train and produce graduates who can contribute to the extension of knowledge in their chosen subject areas, preparing them for advanced research at the PhD level or professional careers in science and engineering.

Programme Intended Learning Outcomes (PILOs)

(state what the student is expected to be able to do at the end of the programme according to a given standard of performance)

Upon successful completion of this Programme, students should be able to:

1. master the content and methods of their chosen subject areas;
2. apply research methodology/tools to conduct independent research for discoveries;

3. formulate and carry out research in their chosen subject areas for discoveries;
4. communicate effectively with the learned community about the research process and discoveries;
5. contribute to knowledge and discoveries through the process of research;
6. build up ethical and social responsibilities;
7. perform multi-disciplinary research with new ideas;
8. strengthen independent learning and researching abilities to suit future versatile employment requirements;
9. enhance proficiencies in scientific language and skills in numerical and IT solutions;
10. collaborate effectively and healthily with colleagues.

Part II Programme of Study

1. Research Area(s) in which research students will be admitted to:

- Devices and Systems
- Laser/Opto-electronics/Condensed Matter Physics
- Materials Science and Engineering
- Nanomaterials and Nanotechnology
- Biomedical Physics and Engineering.

2. Programme Core Courses:

Nil

3. Research Methodology and Ethics Course: (2 credits)

Course Code	Course Title	Level	Units Worth	Remarks
MSE8001	Survival Skills for Research Scientists	R8	2	

4. Programme Electives: (5 credits)

Course Code	Course Title	Level	Units Worth	Remarks
MSE8015	Theory and Practice of Transmission Electron Microscopy and Related Spectroscopy	R8	3	
MSE8016	Materials Characterization Techniques	R8	3	
MSE8017	Materials Chemistry	R8	3	
MSE8019	Functional Properties of Materials	R8	3	
MSE8020	Structural Properties of Materials	R8	3	

MSE8021	Kinetic and Thermodynamic Properties of Materials	R8	3	
---------	---	----	---	--

5. Other Requirements:

Please provide a general description *OR* fill in additional rows in the following table, as appropriate.

Course Code	Course Title	Level	Units Worth	Remarks
SG8001	Teaching Students: First Steps	R8	1	
--	Collaborative Institutional Training Initiative (CITI) programme	n/a	n/a	An online training course on research integrity. Compulsory for RPg students who admitted in 2018/19 and thereafter. To be completed in the first year of study. Details are available in SGS website.

6. Qualifying Examination (for PhD only):

Nil

7. Qualifying/Annual Report Submission:

Students must submit a qualifying report (typed in English) within the specified qualifying period as follows:

- Full-time: Within 6–12 months from start of study
- Part-time: Within 9–18 months from start of study

A qualifying report should include a survey of the relevant literature, an identification of a specific research topic, the research methodology and a discussion on possible outcomes.

After the qualifying period, students must submit progress reports (typed in English) on an annual basis until they have submitted the final version of their thesis for oral examination and completed any other academic requirements.

8. Thesis:

The thesis is the most important part of the MPhil study. The thesis demonstrates the student's research capacity and independent research work, and shows his/her ability to design and conduct experiments, analyze and formulate physical and engineering problems, correlate and verify data, explain problems lucidly and reach sound conclusions. The output of the thesis is based on the student's original ideas. The MPhil thesis has to represent evident contribution to the field of study.

Normally, students are expected to submit their thesis not earlier than three months before the end of the (normal) study period. Early submission of a thesis requires special approval from the College/School.

Students must submit a thesis for examination by the end of their maximum study period or the stipulated study period.

9. Additional Notes:

Students are also required to complete a compulsory 1 credit unit course “Teaching Students: First Steps” (SG8001). The credit unit earned from SG8001 will not be counted towards the minimum coursework requirement.

The student’s research project is normally supported by RGC projects or other projects acquired by a supervisor. Therefore the research interest of the student is aligned with the research project of the supervisor. In accordance with the topic of the thesis, a qualifying panel (supervisor and two other experts in the field) prescribes the elective courses taken by the student. The qualifying panel monitors the research progress and annually evaluates it based on the written progress report, oral presentation and oral examination. As coordinated by the SGS, the final research output presented in the form of thesis is assessed by an internal examiner and an external examiner who may recommend thesis for oral examination if it meets the standard required for MPhil theses. Other details can be found in the Guidebook for Research Degree Studies published by the SGS.

Prepared / Last Updated by

Name: Prof Zhang Qichun

College/School: MSE

Phone/Email: X 9988/ qiczhang

Date: 31 Dec 2022