CIR-RPG

香港城市大學
City University of Hong Kong

Curriculum Information Record for a Research Degree Programme

Department of Chemistry
Effective from Semester B 2022/23
For Students Admitted with Catalogue Term
Semester A 2023/24 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.

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Part I

Programme Title (in English) : *Doctor of Philosophy*

(in Chinese) : *哲學博士*

Award Title (in English) : *Doctor of Philosophy*

(in Chinese) : *哲學博士*

Programme Aims

This programme aims to train and produce graduates with an understanding of advanced developments and highly marketable specialist skills in the disciplines of chemistry, biology and environmental science, and to meet local and regional requirements in the industrial, commercial, government or education sectors.

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. develop intellectual competence necessary to successful academic and professional work;
2. contribute to the generation and development of knowledge in their respective fields through independent, original, and innovative research;
3. demonstrate specialist subject knowledge and a high level of transferrable skills with an emphasis on discovery-based element.

Part II Programme of Study

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

Bioengineering, Molecular and Life Science; Environmental Science, Energy and Built Environment; Materials Science and Engineering

2. Programme Core Courses: (9 credits)

Course Code	Course Title	Level	Units Worth	Remarks
CHEM8007A^	Window on Science A	R8	6	For PhD students commenced from June 2009
CHEM8007M^	Window on Science M	R8	6	For students under Mainland Collaboration PhD schemes.
CHEM8141	Selected Topics in Modern Chemistry	R8	3	

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

Course Code	Course Title	Level	Units Worth	Remarks
CHEM8017	Research Methodology and Ethics	R8	2	To be offered from 2019/20.

4. Programme Electives: (3 credits)

Course Code	Course Title	Level	Units Worth	Remarks
CHEM6119	Frontiers in Chemical Biology	P6	3	
CHEM6121	Academic and Industrial Research, Development and Innovation	P6	3	
CHEM8004A^%	Directed Studies for Postgraduate Students A	R8	1	
CHEM8004B^%	Directed Studies for Postgraduate Students B	R8	2	
CHEM8006M	Workshop on Cell and Molecular Biology	R8	4	
CHEM8008	Advanced Chemical Instrumentation for Research	R8	3	
CHEM8009	Advanced Neurobiology	R8	4	
CHEM8010M+	Introduction to Scientific Research	R8	2	
CHEM8011M+	Chemical Safety and Advanced Instrumentation for Research	R8	2	
CHEM8130#	Advanced Inorganic Chemistry	R8	4	
CHEM8131#	Advanced Organic Chemistry	R8	4	
CHEM8132#	Analytical Biochemistry	R8	4	
CHEM8142#	Photochemistry	R8	3	
CHEM8151#	Forensic Chemistry	R8	3	
CHEM8154#	Advanced Chemical Bonding and Molecular Spectroscopy	R8	4	
CHEM8012#	Natural Product Chemistry and Biosynthesis	R8	3	To be offered from 2020/21.
CHEM8013#	Polymer Chemistry	R8	3	To be offered from 2019/20.

CHEM8014#	Nanochemistry and Nanobiotechnology	R8	3	To be offered from 2019/20.
CHEM8015#	Materials Chemistry for Energy Technologies	R8	3	To be offered from 2019/20.
CHEM8016#	Solid State Analysis	R8	3	To be offered from 2020/21.

Note:

Courses will be offered in alternate year.

^ Courses for CHEM students only.

% Approval from Head (CHEM) should be sought by submitting "CHEM8004 Postgraduate Directed Studies Application Form" to CHEM before registering for CHEM8004A and CHEM8004B. No credit unit will be gained if no registration is done.

+ Core courses for students under the Mainland Collaboration Scheme with University of Science and Technology of China.

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):

Students are required to take a written qualifying examination in compliance to the regulations or guidelines as set by the School of Graduate Studies (SGS).

7. Qualifying/Annual Report Submission:

Students are required to submit qualifying report and annual report in compliance to the regulations or guidelines as set by the School of Graduate Studies (SGS). Such regulations and guidelines are accessible via the guidebook located at SGS website.

8. Thesis:

A PhD thesis, in addition to the above, should make a substantial original contribution to knowledge in the subject area concerned.

9. Publication:

CHEM PhD students admitted in 2023/24 and thereafter are required to have **at least 1 first-author or co-first author paper** published/accepted for publication/submitted for review (with proof) upon graduation.

10. Additional Notes:

Nil

Prepared / Last Updated by

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Date: 18 March 2025

Explanatory Notes for Completing CIR-RPG

1. Research Area

This refers to the research area(s) in which the University offers MPhil and PhD studies.

2. Programme Title

This is the full title of the programme in both English and Chinese. One copy of CIR-RPG should be filled in for each research degree programme (i.e. MPhil or PhD) in each research area which is defined by the name of the Department/School.

3. Award Title

This is the title in both English and Chinese granted by the University upon successful completion of the programme.

4. Number of Credit Units Required for the Award

This specifies the number of credit units required to obtain an award. Students will need to accumulate credit units at or more than this level in order to gain an award.

5. Programme Aims

This is a brief description of what the programme is about and what it intends to achieve.

6. Programme Intended Learning Outcomes (PILOs)

PILOs state what the student is expected to be able to do at the end of a programme according to a given standard of performance. The outcomes statements should be written in a manner which is clearly understood both by students and staff. The outcomes should be achievable and assessable. PILOs should address a number of areas, e.g. subject area, requirements of professional bodies, if any, graduate outcomes of CityU's research degree graduates provided below, etc.

Graduate Outcomes of CityU's Research Degree Graduates:
On graduation, City University research degree graduates will be able to:

- *Apply a thorough understanding of the fundamental concepts of their research areas;*
- *Adopt excellent methodological, and relevant ethical principles in the generation of independent and innovative research;*
- *Generate strategies to develop internationally competitive research in their fields of expertise;*
- *Apply effective communication skills in relation to research.*

7. Programme of Study

This consists of three main parts – Programme Core Courses, Programme Electives and Thesis. Students are required to fulfil the criteria stipulated in each part so as to obtain an award.

Please refer to the following programme structure for research degree programmes for filling in this section:

MPhil

	Coursework Structure applying to 2019/20 intake cohort and thereafter
Core Courses	N/A
Elective Courses	At least 2 CUs of research methodology[#] and ethics course at postgraduate level and other postgraduate courses so as to satisfy the minimum coursework requirement of 7 CUs
Total	**7 CUs**
Other Requirement *(not counted towards the University's coursework requirement)*	Teaching Students: First Steps (SG8001) (1 CU)

CU = credit unit

PhD

	Coursework Structure applying to 2019/20 intake cohort and thereafter
Core Courses	At least 9 CUs at research level[@]
Elective Courses	At least 2 CUs of research methodology[#] and ethics course at postgraduate level and other postgraduate courses so as to satisfy the minimum coursework requirement of 14 CUs
Total	**14 CUs**
Other Requirement *(not counted towards the University's coursework requirement)*	Teaching Students: First Steps (SG8001) (1 CU)

CU = credit unit

[#] College, school or departmental seminars related to research methodology are not considered as equivalent to the Research Methodology course if they consist of student presentations only, without a teaching component.

[@] All core courses should be assessed in gradable mode (A+, A, …F), instead of pass-fail mode.

8. Programme Core Courses

These are the compulsory courses as required by the relevant faculty or school.

9. Programme Electives

These are courses from which students select courses based on their interests.

10. Qualifying Examination

a) The objective of PhD Qualifying Examination (QE) is to ascertain the breadth of the student's knowledge relating to the major subject areas of the research disciplines, and determine whether the student has the ability to apply their knowledge to solve theoretical and the practical problems in research.
b) The PhD qualifying examination shall consist of written examination only.
c) A common (set of) written qualifying examination paper(s) be applicable to all PhD students of the same academic unit. Individual academic units may determine the format and content of the examination paper. In view that students within the same academic unit will have different research disciplines, academic units may either design one set of written examination paper providing choices of questions covering different areas/fields, or several sets of qualifying examination papers each covering a specific area/field.
d) Schools/Departments may engage academic advisors to review the examination paper to ensure the standard is comparable with their counterparts in the international arena, if necessary.
e) Individual Schools/Departments will have discretion to determine the number of QE(s) to be offered in an academic year.

f) Additional Notes

This may consist of information on any special features of the programme.

g) Amendments/Revisions to CIR-RPG

Amendment or revisions to the information provided in CIR-RPG are subject to the procedures outlined in the University's guidelines on approval authorities for academic and research matters. College and School Boards should consider delegation of authority to C/SGSC as necessary to facilitate innovation and change as appropriate.