

CHEM6126: ADVANCED SEMINAR SERIES

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Advanced Seminar Series

Subject Code

CHEM - Chemistry

Course Number

6126

Academic Unit

Chemistry (CHEM)

College/School

College of Science (SI)

Course Duration

Two Semesters

Credit Units

0-3

Level

P5, P6 - Postgraduate Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

This course is a core course for the self-financed taught MSc in Chemistry programme of the Department of Chemistry. This course aims for postgraduate students to:

- Discover and learn about frontier scientific research methodologies and achievements in the various fields and disciplines of Chemistry and related Molecular Sciences from leading experts in their fields
- Develop skills in communication and presentation of scientific results in a professional manner
- Develop ability to critically appraise research results
- Broaden their knowledge base in scientific research topics other than their own fields, and to develop critical thinking and analytical skills in research

Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1 Articulate and critically evaluate advanced research methodologies in the various fields and disciplines of Chemistry and related Molecular Sciences based on available literatures and experience acquired by leading experts in their fields		x	x	
2 Demonstrate detailed knowledge of the relevant background literature with good understanding of the scientific research methods involved; analysis and interpret experimental data; draw scientifically sound conclusions from experimental results			x	
3 Produce new insights to the various fields and disciplines of Chemistry and related Molecular Sciences; apply knowledge acquired from available literature and critically evaluated experimental results to solve real problems in the selected fields and disciplines of Chemistry and related Molecular Sciences			x	x
4 Demonstrate good writing skill and ability to communicate scientific information in a professional manner			x	x

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	Research seminars	Students will participate in at least six research seminars/webinars (preferably on a specific field in Chemistry or related Molecular Sciences) held by universities in Hong Kong	1	
2	Seminar reports	Students will prepare seminar reports on the selected seminars to provide critical analyses and reviews on the research topics and the methodologies adopted	2	
3	Research proposal	Students will prepare a new research proposal, on a topic that is different from one's MSc Dissertation, based on knowledge acquired from available literature and the research seminars attended	1, 2, 3, 4	

Additional Information for LTAs

Note: The schedules of research seminars are not fixed and will be announced through email. The seminars may be arranged on-campus or online. All students, including those taking the part-time mode of study, must attend at least six research seminars/webinars in order to pass this course.

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?
1	Seminar attendance & seminar reports	1, 2	60	-	Yes
2	Research proposal	1, 2, 3, 4	40	-	Yes

Continuous Assessment (%)

100

Minimum Continuous Assessment Passing Requirement (%)

40

Assessment Rubrics (AR)

Assessment Task

1. Seminar attendance & seminar reports (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstrate of understanding and the ability to critically evaluate relevant background literature, scientific research methods, and experimental data analysis and interpret, of selected field/discipline of Chemistry or related Molecular Sciences.

Excellent

(A+, A, A-) (1) Attendance of at least six research seminars on selected fields/disciplines of Chemistry or related Molecular Sciences held by universities in Hong Kong, AND (2) Able to demonstrate excellent understanding and critical evaluation of the relevant background literature, scientific research methods, and experimental data analysis and interpret of the selected field/discipline.

Good

(B+, B, B-) (1) Attendance of at least six research seminars on selected fields/disciplines of Chemistry or related Molecular Sciences held by universities in Hong Kong, AND (2) Able to describe and evaluate relevant background literature, scientific research methods, and experimental data analysis and interpret of the selected field/discipline.

Fair

(C+, C, C-) (1) Attendance of at least six research seminars on selected fields/disciplines of Chemistry or related Molecular Sciences held by universities in Hong Kong, AND (2) Able to describe and evaluate some key background literature, scientific research methods, and experimental data analysis and interpret of the selected field/discipline.

Marginal

(D) (1) Attendance of at least six research seminars on selected fields/disciplines of Chemistry or related Molecular Sciences held by universities in Hong Kong, AND (2) Able to briefly describe isolated background literature, scientific research methods, and experimental data analysis and interpret of the selected field/discipline.

Failure

(F) (1) Fail to attend at least six seminars, OR (2) Fail to accurately describe relevant background literature, scientific research methods, and experimental data analysis and interpret of the selected field/discipline.

Assessment Task

2. Research proposal (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstration of the ability to produce new insights to a selected field/discipline of Chemistry and related Molecular Sciences.

Excellent

(A+, A, A-) Able to demonstrate excellent creativity and critical thinking to the selected field/discipline of Chemistry or related Molecular Sciences in the format of a formal research proposal.

Good

(B+, B, B-) Able to provide insights, and to demonstrate certain degree of creativity, to the selected field/discipline of Chemistry or related Molecular Sciences in the format of a formal research proposal.

Fair

(C+, C, C-) Able to assimilate background knowledge of the selected field/discipline of Chemistry or related Molecular Sciences and come up with a formal and technically sound research proposal.

Marginal

(D) Able to produce a formal research proposal based on certain key knowledge of the selected field/discipline of Chemistry or related Molecular Sciences.

Failure

(F) Fail to produce any technically sound research proposal of the selected field/discipline of Chemistry or related Molecular Sciences.

Part III Other Information

Keyword Syllabus

There will be no fixed syllabus for this course. Seminars and research proposals will be based on the relevant fields / disciplines selected by the MSc student.

Reading List

Compulsory Readings

Title	
1	N.A.

Additional Readings

Title	
1	The grant writer's handbook [electronic resource]: How to write a research proposal and succeed, Gerard M. Crawley, Eoin O'Sullivan Imperial College Press, London, 2016.
2	Planning your research and how to write it [electronic resource], Aziz Nather Eds., World Scientific Publishing Co. Pte Ltd., Singapore, 2016.