CHEM8007A: WINDOW ON SCIENCE A

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Window on Science A

Subject Code
CHEM - Chemistry
Course Number
8007A

Academic Unit
Chemistry (CHEM)

College/School
College of Science (SI)

Course Duration
Non-standard Duration

Other Course Duration
6 semesters (Sem A & B)

Credit Units
0-6

Level
R8 - Research Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
BCH8007A Window on Science A

Exclusive Courses
Nil

Part II Course Details

Abstract

This course is a core postgraduate course for Ph.D. students of the Department of Chemistry.

In this course, postgraduate Ph.D. students will:

- Discover and learn about frontier scientific research methodologies and achievements in Chemistry, Biology, Environmental Science and various other disciplines in science 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 disciplines, 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 Biology, Chemistry, Environmental Science and various other disciplines of science based on available literatures and experience acquired by leading experts in their fields	40	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	20	x	x	
3	Demonstrate good presentation skills and ability to communicate scientific information in a professional manner	10		x	x
4	Critically evaluate experimental data and results	30		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	Departmental seminars and seminar reports	(1) Students will participate in departmental seminars given by invited speakers (2) Students will prepare seminar reports on selected seminars to provide critical analyses and reviews on the research topics and the methodologies adopted	1	(1) Students will attend at least twenty-four departmental seminars within a period of six semesters (on average four seminars per semester) (2) Students will prepare two seminar reports within a period of six semesters
2	Oral presentations	Students will deliver formal oral presentations of students' own research work (50 min.) followed by questions (10 min.) from the audience	2	(1) Students will attend at least twenty-four oral presentations given by fellow postgraduate students of the relevant discipline within a period of six semesters (on average four seminars per semester) (2) Students will deliver two oral presentations (not including one as the oral examination of qualifying report) within a period of six semesters
3	As in CILO 2	As in CILO 2	3	As in CILO 2
4	Critiques	Students will prepare critiques to critically analyse and review the content, research methodology, interpretation of experimental data and presentation skill of selected presentations of other fellow postgraduate students	4	Students will prepare six critiques within a period of six semesters

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Attendance of seminars and assessment of seminar reports by the corresponding invited speakers or relevant assessors	1	40	-	Yes

2	Assessment of student' s oral presentation by his/her research supervisor and a second assessor	2	20	See the note below	Yes
3	As in CILO 2	3	10	-	Yes
4	Assessment of the critiques by the supervisors of the postgraduate students to whom the critiques were concerned	4	30	-	Yes

Continuous Assessment (%)

100

Examination (%)

0

Minimum Continuous Assessment Passing Requirement (%)

40

Additional Information for ATs

Note: Assessment from the research supervisor and the second assessor each constitutes 50% of the overall presentation marks (CILO 2 & 3)

Assessment Rubrics (AR)

Assessment Task

Attendance of seminars and assessment of seminar reports by the corresponding invited speakers or relevant assessors (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

General criterion are students' understanding of the topic, research methodologies involved and material presented and their critical analysis of the science in the presentation.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Assessment of student’ s oral presentation by his/her research supervisor and a second assessor (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

General criterion are the content, method and organization of the presentation, the students’ communication skill and their handling of the questions.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Assessment of the critiques by the supervisors of the postgraduate students to whom the critiques were concerned (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

General criterion are students’ understanding of the topic and materials presented, their critical analysis of the science in the presentation and their critical evaluation of the presentation skills.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Attendance of seminars and assessment of seminar reports by the corresponding invited speakers or relevant assessors (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

General criterion are students’ understanding of the topic, research methodologies involved and material presented and their critical analysis of the science in the presentation.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Assessment of student’ s oral presentation by his/her research supervisor and a second assessor (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

General criterion are the content, method and organization of the presentation, the students’ communication skill and their handling of the questions.

Excellent

(A+, A, A-) High

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Assessment Task

Assessment of the critiques by the supervisors of the postgraduate students to whom the critiques were concerned (for students admitted from Semester A 2022/23 to Summer Term 2024)

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General criterion are students’ understanding of the topic and materials presented, their critical analysis of the science in the presentation and their critical evaluation of the presentation skills.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

There will be no fixed syllabus for this course. Seminars and presentation topics will be based on the research disciplines of the postgraduate Ph.D. student.

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	Nil