

# CHEM3042: DIRECTED STUDIES IN BIOLOGY/ CHEMISTRY/ENVIRONMENTAL SCIENCES

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Directed Studies in Biology/Chemistry/Environmental Sciences

### Subject Code

CHEM - Chemistry

### Course Number

3042

### Academic Unit

Chemistry (CHEM)

### College/School

College of Science (SI)

### Course Duration

Non-standard Duration

### Other Course Duration

Flexible, varying from a few weeks to one semester

### Credit Units

1-4

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

BCH3042 Directed Studies in Biology/Chemistry/Environmental Sciences

### Exclusive Courses

See CILOs Below

## Part II Course Details

### Abstract

This course allows students to conduct work under the direction of a faculty member in CHEM or to attend courses/workshops/study tours in relevant areas recommended by the Department. The course encourages students to develop their initiative, interests, individual thinking, from a discovery approach and have a deeper understanding of the science underlining a specific area in Biology, Chemistry or Environmental Sciences.

A student can approach an academic staff member to carry out directed studies. Note that the course **can only be taken once** by students throughout their programme of study.

Students are advised to carefully read the restrictions on this course, as detailed under Course Intended Learning Outcomes (see CILOs below).

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1	DEC-A2	DEC-A3
		app.)		
1	Conduct specified work under the direction of a faculty member in CHEM or attend courses/workshops/study tours in relevant areas recommended by the Department. An emphasis is placed on the innovative and discovery-based elements of the study.	100		x
			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	A wide range of learning activities	The course is designed to be flexible and self-directed, with no specific syllabus. Students are encouraged to actively seek out and define their own topics, under the guidance of an academic staff member. They can attend a particular workshop or course, participate in a study tour, conduct fieldwork, a library search, or a small research project, or assist on a bigger project in Biology, Chemistry, or Environmental Sciences. Innovative and discovery-based elements are essential in teaching and learning activities.	1	Flexible, depending upon total credit units assigned.

#### Additional Information for LTAs

**NOTE:** If the nature of the Directed Studies is research or seminar-oriented, the research work **MUST NOT** overlap with the work undertaken for CHEM4036 Project or CHEM4037 Seminar Series, and should not be supervised by the same academic staff.

#### Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?	
1	Varies dependent upon the nature of the studies. Assessment could be a combination of continuous assessment and examination, or could be focused on continuous evaluation of student's learning process and outcomes. Innovative and discovery-based elements will be highlighted in the assessment tasks/ activities.	1	100	See notes in LTAs above. For restrictions, see notes in CILOs above	No

#### Continuous Assessment (%)

100

**Examination (%)**

0

**Minimum Continuous Assessment Passing Requirement (%)**

40

**Assessment Rubrics (AR)**

**Assessment Task**

Varies dependent upon the nature of the studies. Assessment could be a combination of continuous assessment and examination, or could be focused on continuous evaluation of student's learning process and outcomes. Innovative and discovery-based elements will be highlighted in the assessment tasks/activities.

**Criterion**

Varies dependent upon the nature of the studies. General criterion are students' ABILITY to integrate concepts of chemistry/biology/environmental science, and to apply them to solve problems and/or demonstrate scientific advancement in the subject of the studies

**Excellent (A+, A, A-)**

Able to demonstrate a comprehensive understanding of the chosen topic and present the project outcome convincingly.

**Good (B+, B, B-)**

Have a good understanding of the chosen topic, with the project outcome being delivered in a well-organized manner.

**Fair (C+, C, C-)**

Have a general understanding of the chosen topic.

**Marginal (D)**

Have a limited understanding of the chosen topic.

**Failure (F)**

Fail to show an understanding of the chosen topic.

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## Part III Other Information

**Keyword Syllabus**

The course is flexible, and has no specific syllabus. An academic staff member can direct student(s) to attend a particular workshop or course, participate in a study tour, conduct fieldwork, library search or a small research project, or assist on a bigger project, etc. in Biology, Chemistry or Environmental Sciences. A student can also approach an academic staff member to carry out directed studies.

Innovative and discovery-based elements are essential in the study.

The course is to be taken **only once** by students throughout their programme of study.

The number of credits assigned to the directed studies is assigned according to time spent for a particular study, the level of difficulty, and the depth of the studies. The maximum credit units gained should be between 1 and 4.

The nature of the study, number of credit units gained, and evaluation / assessment pattern will be considered by a Directed Studies Committee which will make a recommendation to the Head of the Department for endorsement before initiating the Directed Studies.

**Reading List**

**Compulsory Readings**

Title	
1	Nil

**Additional Readings**

Title	
1	As specified by an individual staff member.
2	Online Resources: As specified by an individual staff member