Course number	U-LAS61 10009 LE61		
Course title (and course title in English)	Chemistry, Society and Environment-E2 Chemistry, Society and Environment-E2	Instructor's name, job title, and department of affiliation	Graduate School of Energy Science Professor,MCLELLAN, Benjamin
Group	Interdisciplinary Sciences	Field(Classification)	Environmental Sciences
Language of instruction	English	Old group	Group B
Number of credits	2		
Number of weekly time blocks	1	Class style	Lecture (Face-to-face course)
Year/semesters	2025・First semester		
Days and periods	Thu.1	Target year	Mainly 1st & 2nd year students
Eligible students	For science students		

[Overview and purpose of the course]

Chemistry and chemical processes are very important in both the natural environment and in human society. It is important to understand how chemistry helps to develop the products and services that we utilise, as well as how chemical products from society impact the environment, and how we can mitigate such impacts.

This class will introduce some of the important chemical processes and products that shape modern society, as well as examining the influence that they have on the environment. It will cover basic, important chemical processes that occur in nature as well.

The course is aimed at those who are not specialists in chemistry, but are interested in chemistry and its application, history and influence.

[Course objectives]

Students will understand the importance of chemistry and its role in the modern world. Students will understand the importance of chemistry in relation to societal goals and environmental issues.

[Course schedule and contents)]

The following topics will be covered (in 1-3 weeks as highlighted).

Chemistry introduction

1. The history of chemistry and its influence on society
2. The scale of chemical industries and the comparison with global flows

Introduction to the basics of important chemical processes:

3. Energy chemistry (2 weeks)
4. Water chemistry (2 weeks)
5. Petrochemistry
6. Pharmaceuticals / health chemistry
7. Mineral chemistry

Environmental issues and chemistry

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Chemistry，Society and Environment-E2(2)

8. Global warming impacts
9. Local chemical pollution
10. Chemical solutions to environmental problems (2 weeks)
11. Summary and capstone class

One class is held per week.
The course overall consists of 14 classes and one feedback session.

[Course requirements]

No specific chemical background is needed
Some basic chemical processes will be introduced, but chemistry knowledge will only be assessed in the context of the issues discussed.

[Evaluation methods and policy]

Participation and small exercises (50%)
Final exam or assignment (50%)

[Textbooks]

Not fixed

[References, etc.]

（References, etc.）
Introduced during class

[Study outside of class (preparation and review)]

Small exercises out of class may be expected.
Class slides will be provided for pre-reading.

[Other information (office hours, etc.)]

Typically lectures will be given in class on campus.
Consultation is available by prior arrangement.

[Essential courses]