Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Logic, critical thinking and argument（自然科学・工学に関する論理的・批判的思考法と議論） ILAS Seminar-E2 :Logic, critical thinking and argument (Natural Sciences and Engineering)	**Instructor's name, job title, and department of affiliation**	Graduate School of Energy Science Associate Professor,AU Ka Man		
Group	Seminars in Liberal Arts and Sciences	**Number of credits**	2	**Number of weekly time blocks**	1
Class style	seminar (Face-to-face course)	**Year/semesters**	2024・First semester	**Quota (Freshman)**	7 (7)
Target year	Mainly 1st year students	**Eligible students**	For all majors	**Days and periods**	Wed.5
Classroom	Main Building of Faculty of Engineering 302 (Main Campus)			**Language of instruction**	English
Keyword	logic / critical thinking / media / science / Fake News				

[Overview and purpose of the course]

Science is not restricted to the academic world - it flows-over into the mass media (both factual and fictional). Logic is vital to the presentation of academic research findings and also to analysing the communication of science in the media.

The aim of this course is for students to learn and practice critical thinking with respect to science and its broader reporting in the mass media.

The students will participate in extracting themes, understanding bias in documents, videos and in their own work. They will practice how to critically analyse documents and to develop their own writing skills, particularly in the area of justification of arguments and the logical structuring and linking of content.

[Course objectives]

The goal of the course is for students to be able to present logical written arguments and to be able to critically assess the validity and structure of literature in the natural sciences and engineering. This will be based on a variety of scientific literature in the academic realm as well as in the media.

[Course schedule and contents)]

The course will broadly cover critical thinking, including the following themes:

1. Introduction to critical thinking: what, why and how
2. Proof, argument and opinion (2 weeks)
3. Logic and illogicality
4. Making the most of information (but not too much) (2 weeks)
5. Academic argument in natural science writing
6. Structuring and clarity in writing
7. Assumptions, reliability and uncommon sense
8. Comprehension, comprehensiveness and conciseness
9. Science in the media - News, Fake News, Movies, Books (3 weeks)

Continue to ILAS Seminar-E2 :Logic, critical thinking and argument（自然科学・工学に関する論理的・批判的思考法と議論）(2)↓↓↓

10. Summary class
11. Feedback

The course is very flexible, depending on the students ability and topics of societal and scientific interest at the time, so exact topics will vary.

The course will be interactive, involving students in discussions on topical issues.

[Course requirements]

None

[Evaluation methods and policy]

Participation in class exercises and take-home exercises (70%)
Final report (30%)
Students will be marked on the ability to identify and critically analyse text, and to produce text of their own.
Standard marking framework is used with a raw score given (0-100)

[Textbooks]

Not used
Exerts from the two reference books below are used as references for some classes.

[References, etc.]

（References, etc.）

Judith Boss 『THiNK (2nd Edition) 』 （2011.）
Merrilee H. Salmon 『Introduction to Logic and Critical Thinking (6th Edition)』
Students who wish to learn more would be encouraged to read these references.

[Study outside of class (preparation and review)]

Out of class preparation for in-class exercises may be required.

[Other information (office hours, etc.)]

Consultation is available by prior arrangement.