

科目ナンバリング		U-LAS70 10002 SE50					
授業科目名 <英訳>	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)			担当者所属 職名・氏名	エネルギー科学研究科 准教授 AU Ka Man		
群	少人数群	単位数	2単位	週コマ数	1コマ	授業形態	ゼミナール (対面授業科目)
開講年度・ 開講期	2024・前期	受講定員 (1回生定員)	7 (7) 人	配当学年	主として1回生	対象学生	全学向
曜時限	水5	教室	工学部総合校舎302 (本部構内)			使用言語	英語
キーワード	logic / critical thinking / media / science / Fake News						
【授業の概要・目的】							
<p>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.</p> <p>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.</p> <p>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.</p>							
【到達目標】							
<p>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.</p>							
【授業計画と内容】							
<p>The course will broadly cover critical thinking, including the following themes:</p> <ol style="list-style-type: none"> 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) 10. Summary class 11. Feedback <p>The course is very flexible, depending on the students ability and topics of societal and scientific interest at</p>							

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the time, so exact topics will vary.

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

【履修要件】

特になし

【成績評価の方法・観点】

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)

【教科書】

使用しない

Exerts from the two reference books below are used as references for some classes.

【参考書等】

(参考書)

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.

【授業外学修（予習・復習）等】

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

【その他（オフィスアワー等）】

Consultation is available by prior arrangement.