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| <b>Course number</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                               | U-LAS00 10008 LE34 |                                  |                                |                                                                    |                                                                   |   |
| <b>Course title<br/>(and course title in English)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Logic II-E2 :Inductive & Scientific Reasoning |                    |                                  |                                | <b>Instructor's name, job title, and department of affiliation</b> | Graduate School of Medicine<br>Senior Lecturer,SAHKER, ETHAN KYLE |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Logic II-E2 :Inductive & Scientific Reasoning |                    |                                  |                                |                                                                    |                                                                   |   |
| <b>Group</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Humanities and Social Sciences                |                    |                                  | <b>Field(Classification)</b>   | Philosophy(Foundations)                                            |                                                                   |   |
| <b>Language of instruction</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | English                                       |                    |                                  | <b>Old group</b>               | Group A                                                            | <b>Number of credits</b>                                          | 2 |
| <b>Number of weekly time blocks</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1                                             | <b>Class style</b> | Lecture<br>(Face-to-face course) |                                | <b>Year/semesters</b>                                              | 2026 • First semester                                             |   |
| <b>Days and periods</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Thu.4                                         |                    | <b>Target year</b>               | Mainly 1st & 2nd year students | <b>Eligible students</b>                                           | For all majors                                                    |   |
| <b>[Overview and purpose of the course]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <p>Students will develop applied scientific reasoning skills in Logic II. Inductive reasoning takes observations and infers a general “ truth ” from those observations. As an extension of the methods and principles used to identify and use reasoning skills, students will learn causal and probabilistic theories and methods for the evaluation of reasoning. Concepts and skills learned in this class will cover methodologies used within the humanities and health sciences.</p> <p>This course has 3 aims:</p> <p>(1) CONTENT: To gain basic knowledge of logic and reasoning: identifying propositions and arguments; evaluating logical fallacies, syllogisms, and deduction; and using symbolic representation as quantifiers of logic and reasoning.</p> <p>(2) EXPOSURE: to expose you to different styles of education and thought. I am American and I teach in an American academic style. This may be different from what you have experienced.</p> <p>(3) ENGLISH: While I do not grade heavily on English ability, it can only benefit you to have experience in English listening, speaking, reading, and writing. One difficulty in practicing a second language is the fear or anxiety about trying it. I know, because I am scared to use my bad Japanese, but it is getting easier the more I practice. My hope is that your English comfort level improves because of this class.</p> |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <b>[Course objectives]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <p>(1) To acquire the ability to comprehend scientific arguments and inductive reasoning methods.</p> <p>(2) To learn to evaluate scientific writing based on the presented reasoning and statistical conclusions presented.</p> <p>(3) To develop an enhanced ability to apply scientific reasoning through conceptualization of a research project.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <b>[Course schedule and contents)]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <p>(1) Course overview and introduction to logic</p> <p>(2-3) Analogy, legal and moral reasoning</p> <p>(4-5) Methods for identifying causality</p> <p>(6-7) Probability</p> <p>(8-9) Statistical reasoning</p> <p>(10-11) Hypothetical and scientific reasoning</p> <p>(12-14) Evaluating science</p> <p>Feedback</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               |                    |                                  |                                |                                                                    |                                                                   |   |
| <div style="text-align: right;">Continue to Logic II-E2 :Inductive &amp; Scientific Reasoning(2) ↓ ↓ ↓</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                    |                                  |                                |                                                                    |                                                                   |   |

Logic II-E2 :Inductive & Scientific Reasoning(2)

**[Course requirements]**

None

**[Evaluation methods and policy]**

50% - Research Proposal Project

25% - Quizzes

25% - Class Participation

**[Textbooks]**

Not used

**[Study outside of class (preparation and review)]**

Students are expected to complete assignments before class and come prepared to discuss the topics.

**[Other information (office hours, etc.)]**

Students may contact the instructor if they have questions and they may schedule an in-person appointment by email.

**[Essential courses]**