Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Frontiers of Earthquake Science（地震学の最前線） ILAS Seminar-E2 :Frontiers of Earthquake Science	Instructor's name, job title, and department of affiliation	Graduate School of Science Associate Professor,ENESCU, Bogdan Dumitru		
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	2026・First semester	Quota (Freshman)	10 (10)
Target year	Mainly 1st year students	Eligible students	For all majors	Days and periods	Wed.5
Classroom	Room 150, Graduate School of Science Bldg No.1 (North Campus)			Language of instruction	English
Keyword	Earthquakes （地震） / Tsunami （津波） / Disaster Prevention （防災） / Volcanoes（火山）				

[Overview and purpose of the course]

We are going to read scientific papers related to important/frontier topics of Earthquake Science. The purpose is to understand the key-message of the paper, rather than the detailed technical background. To facilitate understanding, some materials/vocabulary in Japanese will be provided during the seminar.
日本語のキーワード等もだしますので、遠慮なく参加してください。楽しく最前線の科学の面白さを学びながら、英語の能力も向上しましょう！

[Course objectives]

The student will become familiar with current important topics of Earthquake Science. The seminar also aims enabling the student to discuss earthquake related research topics in English.

[Course schedule and contents)]

Each student is going to choose a paper in the field of Earthquake Science, and prepare a short report (few PowerPoint slides), summarizing the main ideas of the study. The paper can be chosen freely; some broad suggestions include:
- Megathrust earthquakes: physics and possibility of prediction;
- Tsunami: physics and early warning;
- The deep structure of the Earth 'illuminated' by seismic waves;
- Earthquake disaster prevention;
- Earthquake simulations and laboratory experiments;
- Artificial intelligence (AI) in Earthquake Sciences.

The 1st class will give students some broad options of topics/papers. During the 2nd class we will decide the paper that each student is going to present. I will exemplify with a research presentation during the 3rd and 4th classes. Starting with the 5th class until the 14th class each student is going to present the chosen paper and get feedback for improving his report. In the examination day, each student should present briefly his updated/revised report. The feedback class (i.e., the 15th class) will inform students about their overall performance and provide some concluding remarks.

Depending on the number of students and available time, during some of the classes we will visit the underground seismic base isolation at the "Kyoto University Clock Tower", go to the nearby Hanaore Fault

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and visit the Disaster Prevention Research Institute (DPRI), Kyoto University (Uji campus), to discuss with specialists in the field.

For students interested in more advanced topics, including computer programming (in Python, C/C++, Matlab, Fortran or other computer languages) for Geosciences, I can provide additional materials and guidance.

[Course requirements]

None

[Evaluation methods and policy]

Grading will be based on attendance and participation (60%) and presentation of chosen paper (40%).

[Textbooks]

Not used

[Study outside of class (preparation and review)]

The student will have to prepare the assigned paper.

[Other information (office hours, etc.)]

- Students can meet me during office hours with prior appointment.
- Since we may go outside the campus during the class (see "Course schedule and contents"), I advice students on taking accident insurance (e.g. Personal Accident Insurance for Students Pursuing Education & Research).

[Essential courses]