科目ナンバリング	U-LAS70 10002 SE50						
授業科目名 <英訳>	ILAS Seminar-E2 :Earthquakes & Volcanoes - Prediction and Hazards（地震・火山噴火の予知及び防災） ILAS Seminar-E2 :Earthquakes & Volcanoes - Prediction and Hazards			担当者所属職名・氏名	理学研究科　准教授　ENESCU, Bogdan Dumitru		
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・後期	受講定員 (1回生定員)	12 (10) 人	配当学年	主として1回生	対象学生	全学向
曜時限	木5	教室	理学研究科1号館264号室 (北部構内)			使用言語	英語
キーワード	Earthquakes （地震） / Volcanoes （火山） / Prediction （予知） / Hazard （ハザード）						

[授業の概要・目的]

We are going to read scientific papers related to a topic that is important both scientifically and socially. Is it possible to predict the occurrence of large earthquakes and volcanic eruptions? What are the current scientific advances in this field? We will also learn about earthquake and volcano hazard and discuss ways to reduce the risk of associated disasters.

[到達目標]

The course aims to show students the importance of studying about natural disasters caused by earthquakes and volcanoes, which may help finding better ways to reduce their risk. 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。近年重要度が高まっている地震・防災学を学びながら、英語の能力も向上しましょう！

[授業計画と内容]

Each student is going to choose a paper 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:
- The physics of great earthquakes (e.g., the 2011 M9.0 Tohoku-oki earthquake): any clues for predicting them?
- Large volcanic eruptions and possibilities of prediction;
- Earthquake and volcano hazard;
- Earthquake simulations and laboratory experiments;
- Artificial intelligence (AI) in Geosciences.

The first class will give students some broad options of topics/papers. During the second class we will decide the paper that each student is going to present. I will exemplify with a research presentation during the third and fourth classes. Starting with the fifth 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.

Depending on the number of students and available time, we are going to visit the underground seismic base isolation at the "Kyoto University Clock Tower", the nearby Hanaore Fault and the Disaster Prevention Research Institute (DPRI), Kyoto University (Uji campus), to discuss with a researcher specialized in Seismology and/or Volcanology.

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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.

Note: there are 14 classes, one examination, and one feedback class.

[履修要件]

特になし

[成績評価の方法・観点]

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

[教科書]

使用しない

[授業外学修（予習・復習）等]

The student will have to prepare the assigned paper.

[その他（オフィスアワー等）]

- 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).