科目ナンバリング					
授業科目名 <英訳>	Natural Disaster Science-E2 Natural Disaster Science-E2			担当者所属 職名・氏名	防災研究所　教授　Sameh Kantoush
群	統合科学科目群	分野(分類)	環境	使用言語	英語
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義（対面授業科目）
開講年度・ 開講期	2024・後期	曜時限	月2	配当学年	全回生	対象学生	全学向

[授業の概要・目的]

This course will give students an introduction to the utilization of natural resources and natural disasters in the earth that impact humanity and life in general. The aim of this course will emphasize the fundamental scientific principles to explain current technical issues and impacts of climate change on water related disasters in the world such as flood, high tide, tsunami, landslides, severe weather, and sediment related disasters. Historic catastrophes will be emphasized. Based on these understandings, all students will study causes, effects, and options available to predict, control, and mitigate natural disasters and social scientific approaches. Examples from recent and ancient history will be used and, whenever possible, Japanese examples will be identified. Knowledge gained in this course will allow for a better understand the world around us and a greater appreciation of the potential issues moving forward for humans.

[到達目標]

By the end of this course student will:
-Understanding of the world around us and a greater appreciation of the potential issues moving forward for humans.
-Be able to distinguish and analyze various types of natural disasters
-Be able to identify causes and assess significance of natural disasters for human
-Be able to gain analytical skills for how to develop strategies for prediction, mitigation of flooding, climate change impacts and sedimentation disasters

[授業計画と内容]

Week1: Introduction to Natural Disasters and Hazards
Week2: Disaster Risk Reduction, Management and Risk Assessment
Week3-4: Geological Hazards: Earthquakes Causes, Measurements, Mitigation and Risks
Week5: Climate Change and Global Warming
Week6: Understanding Natural Disasters : Focus on Tropical Cyclones
Week7: Report and Group Presentations
Week8-9: Flooding as a Hazard: Monitoring, Predication, and Mitigation Measures
Week10: Tsunamis: Physics, Modelling, and Engineering Solutions for Hazard Mitigation
Week11: Coastal Hazards
Week12-13: Landslides and Debris Flow Disaster: Monitoring, Predication, and Mitigation
Week14: Warning and Evacuation
Week15: Revision and Summary (group presentation)
※Feedback

[履修要件]

特になし

[成績評価の方法・観点]

Grades will be based on participation and collaboration in group work discussions and cooperative activities, writing reports associated with each topic of natural disasters that have occurred during the course.

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Evaluation will be based on class attendance, active participation (30%) and reports and group presentations on major natural disasters occur during the time period of the course (70%).

[教科書]

E.A. Keller and D.E. DeVecchio 『Natural Hazards, Earth's Processes as Hazards, Disasters, and Catastrophes, 』（Pearson）ISBN:10 0-321-93996-4

[授業外学修（予習・復習）等]

Students are requested to read carefully listed textbook and access to historical case studies on each natural disaster through website and related literatures.

[その他（オフィスアワー等）]

Class participation and questions are very welcome during the lectures or at the end of the lecture. The schedule of office hours will be announced later. Moreover, if you have extra question, students may contact me by email.