

Course number		U-LAS70 10002 SE50							
Course title (and course title in English)		ILAS Seminar-E2 :Dams and Reservoirs (ダムと貯水池) ILAS Seminar-E2 :Dams and Reservoirs		Instructor's name, job title, and department of affiliation		Disaster Prevention Research Institute Professor,Sameh Kantoush			
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		2024・First semester		Quota (Freshman)	25 (15)
Target year		Mainly 1st year students		Eligible students		For all majors		Days and periods	Tue.5
Classroom		22, Yoshida-South Campus Bldg. No. 1					Language of instruction		English
Keyword		Water resources and environmental issues / River basin and dams / Reservoir sedimentation / River ecosystem / Agriculture							
[Overview and purpose of the course]									
<p>Water resources play an important role for socio-economic development. In Japan, there are more than 2800 river basins and 3000 dams, which become essential for such modern society. Agriculture accounts for 65% of total water withdrawal in Japan. Therefore, storage reservoirs provide important functions such as water supply, flood control, energy production, and leisure activities, all of which are vital for humankind. Dam related issues have become more daring, with raising concerns about environment and increase of sedimentation issues in reservoirs. Removing stored sediments is often recommended as a more effective approach to recover reservoir storage capacities than building new structure.</p> <p>This seminar course introduces students to status of water resources and environmental issues in Japan. We will discuss about linkages between water, sediment, and ecosystem. During seminar, series of real rivers and case studies will be discussed. The students get the opportunity to visit Uji River and Amagase dam to understand the real situation of river ecosystem. Finally, a presentation will be required after the dam visit to demonstrate the learned principles applied in the student's majors.</p>									
[Course objectives]									
<p>At the end of this course, the student will be able to understand:</p> <p>the major issues related to water resources and environment,</p> <p>the major river ecosystem concerns related to dam constructions,</p> <p>the sediment management techniques,</p> <p>he importance of dams and how to upgrade.</p>									
[Course schedule and contents)]									
<p>Week 1-3: Introduction to water resources and environmental issues</p> <p>Week 4: Basic and principles of dams and reservoirs</p> <p>Week 5: Water supply and climate change</p> <p>Week 6-7: Uji River and Amagase dam field trip</p> <p>Weeks 8-9: Sediment management techniques</p> <p>Week 10: Reports and Presentations</p> <p>Weeks 11-13: Upgrading and retrofitting of aging dams</p> <p>Week 14: Sustainable management of reservoir</p>									
----- Continue to ILAS Seminar-E2 :Dams and Reservoirs (ダムと貯水池) (2)									

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Week 15: Feedback and summary of the course

[Course requirements]

None

[Evaluation methods and policy]

Reports and presentations (100%)

[Textbooks]

Instructed during class

[References, etc.]

(References, etc.)

Introduced during class

[Study outside of class (preparation and review)]

Students are requested to prepare short presentation and to do readings in preparation for the discussion during seminar.

[Other information (office hours, etc.)]

Short presentation, discussion groups, student presentations.

Active participation and questions are very welcome during the seminar. Moreover, if you have extra question, students may contact me by email.