

科目ナンバリング							
授業科目名 <英訳>	ILAS Seminar-E2 :Dams and Reservoirs (ダムと貯水池) ILAS Seminar-E2 :Dams and Reservoirs			担当者所属 職名・氏名	防災研究所 教授 Sameh Kantoush		
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・前期	受講定員 (1回生定員)	10 (10) 人	配当学年	主として1回生	対象学生	全学向
曜時限	火5	教室	1共21			使用言語	英語
キーワード	Dams and Reservoirs / Eco-Socio-Hydro / Sediment management / Dam removal / Aged dam						
[授業の概要・目的]							
<p>There are approximately 800,000 dams in operation and more than 10,000 dams are planned or under development on at least 60% of the world ' s rivers. While dams can provide stored water for generation of electricity, irrigation, recreation, as well as domestic and industrial water supply, inadequate designed and implemented dams have drastic damaging effects on the environment and people. Water discharge downstream reduced, water quality declines, fish populations suffer and people ' s livelihoods are put at risk. This seminar course introduces students to the basic principles of dam design, types, and focuses on the main uses of dams and reservoirs. Despite their controversy, dams and reservoirs are very important in many disciplines that serve a number of different functions but one of the largest is to supply water. This beginning course provides important background for all sciences and engineering disciplines and bridging the mechanics of fluids in our everyday lives. We seek to excel/apply dam and reservoir to diverse areas of social, environment, human health, and engineering. During lectures videos of real dams and reservoirs and actual examples will be discussed, to improve students understanding of real life problems. Finally, a presentation will be required to demonstrate the learned principles applied in the student's majors.</p>							
[到達目標]							
<p>At the end of this course, the student will be able to understand:  the different types and classifications of dams and reservoirs;  the comprehensive sediment management techniques;  the negative impacts and mitigation measures for dam construction;  The importance of dams and how to upgrade</p>							
[授業計画と内容]							
<p>Week 1: Introduction- Main Functions of Dams and Reservoirs  Week 2: Introduction- Classification and different types of dams  Week 3: What is a Reservoir?- Definition, Types of Reservoirs and Construction  Week 4: Reservoir Storage Capacity and Reservoir Sedimentation  Week 5: Dam Field Trip  Weeks 6-8: Basic and Principles of Dams: Feasibility Study, Planning, Construction and Design  Week 9: Reports and Presentations  Weeks 10-12: Sustainable Management of Reservoir: Sediment Management Techniques  Week 13: Advanced Technologies to Upgrade Dams  Week 14: Reports and Presentations  Week15: Final Report</p>							
----- ILAS Seminar-E2 :Dams and Reservoirs (ダムと貯水池) (2)へ続く -----							

**【履修要件】**

特になし

**【成績評価の方法・観点】**

Reports and presentations (100%)

**【教科書】**

Morris, Gregory L. and Fan, Jiahua. 『Reservoir Sedimentation Handbook』 ( McGraw-Hill Book Co., New York ) ( <http://www.reservoirsedimentation.com/> )

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.

**【参考書等】**

( 参考書 )

Japan Commission on Large Dams - JCOLD 『Dams in Japan: Past, Present and Future』 ( CRC Press, A Balkema Book ) ISBN:978-0-415-49432-8

**【授業外学修 ( 予習・復習 ) 等】**

I will read students report and feedback on his printed report directly. Also, students are required to do presentation and introduce his final report.

**【その他 ( オフィスアワー等 ) 】**