

Subject: Sustainable Reservoir Development & Management

Course number : DMP 3830E

Instructor : Prof. Nario YASUDA

Term / Time : Fall through Winter

1 Course Description

Dams play important roles as major flood countermeasures in Japan. This course provides the basic ideas of dam reservoir design, construction and operation & maintenance. The lecture covers not only dam itself, but also its social aspects such as community relocation.

2 Course Outline (Course Topics)

Week

- 1: Outline of dam engineering
- 2: Planning and operation of flood control
- 3: Dam construction (1)
- 4: Dam construction (2)
- 5: Hydraulic structure for dam management
- 6: Effective use of existing dams and new technology in dam management in the world
- 7: Community relocation and life-rebuilding efforts
- 8: Effective maintenance for river and dam structures (1)
- 9: Effective maintenance for river and dam structures (2)
- 10: Practice on planning of concrete dam (1)
- 11: Practice on planning of concrete dam (2)
- 12: Practice on planning of rock fill dam (1)
- 13: Practice on planning of rock fill dam (2)
- 14: Tour of dam laboratory of PWRI
- 15: Presentation

3 Grading

Class participation 50%, Reports 30% Presentation 20%

If you miss the deadline for reports, your reports will only be evaluated for a certain percentage of what they are supposed to be:

Up to seven days: 70%, Eight days or more: 50%

4 Textbooks

4-1 Required

Japan Commission on Large Dams, "Dams in Japan ---Past, Present and Future"

A Balkema Book, CRD Press 2009

4-2 Others