

Subject: Control Measures for Landslide & Debris Flow

Course number : DMP 384E

Instructor : Prof. Hiroshi IKEYA

Term / Time : Fall through Winter

1 Course Description

This course provides the necessary knowledge and understanding of landslide and debris flow phenomena and their control measures necessary to exercise the IFRM. The lecture will illustrate the devastating phenomena and the causes of landslides and debris flows and provide the basic concepts of the measures for sediment-related disasters, so-called Sabo Works which is executed in the hill slopes and the channels. It will cover the important role of hazard mapping for sediment-related disasters in both structural and non-structural measures.

2 Course Outline (Course Topics)

Week

- 1 . Outline of sediment-related disasters and Sabo projects
- 2 . Sediment transport hydraulics
- 3 . Sabo planning
- 4 . Design of Sabo dam
- 5 . Warning and evacuation system for sediment-related disasters
- 6 . Hazard mapping for sediment-related disasters
- 7 . Sabo Works in arid area and reforestation of degraded land
- 8 . Countermeasures for earthquake-induced natural Dams
- 9 . Application of Sabo Works and landslide countermeasures to overseas countries
- 1 0 . Introduction of landslides
- 1 1 . Survey and emergency response for landslides
- 1 2 . Stability analysis for landslide
- 1 3 . Permanent measures for landslide damage reduction
- 1 4 . Maintenance measures for roads and reservoirs in landslide areas
- 1 5 . Case study of landslide

3 Grading

Class participation (30%) Report and final examination (70%)

4 Textbooks

4-1 Required

4-2 Others