

Subject: Advanced Practice on Flood Forecasting & Inundation Analysis

Course number : DMP3802E

Instructor : Adjunct Prof. Atsuhiko YOROZUYA

Term / Time : Fall through Spring

1 Course Description

The objective of this course is to build deeper capacities for undertaking hydrological tools, which are expecting to be applied in the individual study. Students are expected to preliminarily take Basic Practice on Flood Forecasting & Inundation Analysis.

The course consists of three components; practice on the Advanced Geographic Information System (GIS), the Advanced Remote Sensing, and the Advanced hydrological models. The Advanced hydrological models are composed with three different topics, such as learning of Rainfall-Runoff-Inundation modeling (RRI), Block-wise use of TOPMODEL (BTOP), Integrated Flood Analysis System (IFAS). The Students need to select one topic depending on their individual study.

2 Course Outline (Course Topics)

Week

- 1 : Advanced Geographic Information System (GIS) (1) ArcGIS Data management
- 2 : Advanced Geographic Information System (GIS) (2) ArcGIS Data processing
- 3 : Advanced Geographic Information System (GIS) (3) ArcGIS Spatial analysis
- 4 : Advanced Geographic Information System (GIS) (4) Model-builder window in ArcGIS
- 5 : Advanced Remote Sensing (1) Satellite image preparation
- 6 : Advanced Remote Sensing (2) Image analysis with tutorial data with ArcGIS
- 7 : Advanced Remote Sensing (3) Application of image analysis with ArcGIS
- 8 : Advanced hydrological model (RRI/BTOP/IFAS) (1)
- 9 : Advanced hydrological model (RRI/BTOP/IFAS) (2)
- 1 0 : Advanced hydrological model (RRI/BTOP/IFAS) (3)
- 1 1 : Advanced hydrological model (RRI/BTOP/IFAS) (4)
- 1 2 : Advanced hydrological model (RRI/BTOP/IFAS) (5)
- 1 3 : Advanced hydrological model (RRI/BTOP/IFAS) (6)
- 1 4 : Advanced hydrological model (RRI/BTOP/IFAS) (7)
- 1 5 : Advanced hydrological model (RRI/BTOP/IFAS) (8)

3 Grading

Reports (100%)

If a report is late for the deadline, it will be not evaluated.

4 Textbooks

4-1 Required

4-2 Others

Material made by the instructors