

FOLENS Syllabus

Subject Title: 地域環境計画学 [Regional Environmental Conservation Planning]

Subject Category:	Atmosphere and Forest Environment	Department	MI	Credit	2	Code	059111
Semester	First/Spring	Day(s)/Period(s)	Thu.4				
Class Format	Lecture			Location			
Instructor	五味 高志 [GOMI Takashi]						
Office	2N-304			Email	gomit@cc.tuat.ac.jp		

■ Outline & Target

** Outline of this course **

This course will focus primarily on hydrologic and geomorphic processes (soil erosion, landslide, debris flow) at the watershed scales. Linkages among hydrologic and geomorphic processes are emphasized, as are the effect of regional land use. Issues of scales related to hydrological/geomorphic response and system behavior are explored, as well as timely topics related to sustainable land management and natural hazard assessment. Emphasis will be places on hydrologic and geomorphic processes in steep terrain. Students will be encouraged to contribute to discussions on catchment processes and land management for regional environmental planning in this course.

■ Standard

Students will understand basics of hydrology and geomorphology for developing the interactive discussion of watershed management.

■ Course description

** Outline of course work **

Lecture #1: Self-introduction and overview of the course. Background of regional environmental planning and sustainable resource management in the watershed scales. Introduction to basic terminology.

Lecture #2: Importance of watershed approaches

Lecture #3: Hydrological cycling

Lecture #4: Interception and evapotranspiration:

Lecture #5: Soil and infiltration

Lecture #6: Groundwater flow and stream runoff

Lecture #7: Storm runoff generation

Lecture #8: Watershed forest management and flooding (Mid term report)

Lecture #9: Soil erosion and control

Lecture #10: Mass movement (Processes of landslide and debris flow)

Lecture #11: Sediment movement in watershed

Lecture #12: Watershed management in multiple land use

Lecture #13: Watershed management and assessment 1

Lecture #14: Watershed management and assessment 2

Lecture #15: Final project

■ **Textbook(s)**

Handouts will be provided.

■ **Reference publication(s)**

Brooks K.N. et al. (1997) Hydrology and watershed management. Iowa State University Press.

■ **Evaluation standards**

Class participation: 30%

Exercises: 20%

Mid term report: 20%

Final Report: 30%

■ **Message from instructor(s)**

We would like to explore the various physical and biological processes in watershed management.

■ **Course keywords**

Watershed scale, Hydrologic and geomorphic processes, Landslide and debris flows, Soil erosion, Sustainable land management

■ **Office hours**

Make an appointment

■ **Language**

English

■ **Last update**

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