Contact Time	One 3 hour meeting each week, split into lecture, laboratory, and field work as needed; one long weekend field trip in Fall term
Format	Lectures, discussions, assignments based on laboratory and field work. One weekend field trip.
Class Assessment	Project Proposal 10%, Project Proposal Presentation 5%, Laboratory and field assignments 20%, Topical paper presentations 10%, Final project presentation 10%, Final project paper 35%, Participation: 10%

COURSE OVERVIEW

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Students will take an integrated approach to explore key earth surface processes, and how these processes may be changing due to human activity. The course will include a series of lectures on various topics for which the students will need expertise, followed by development of project proposals related to different aspects of the case study. The course will focus on integration of field and laboratory methods, and how they are used to explore contemporary environmental or geographic issues. Our approach will use whole watersheds as experimental units, as watersheds are well-defined geographically and integrate many earth surface processes. Students will collect and work with various types of data including field data and observation, sample collection and laboratory analysis, and interpretation and analysis of remotely sensed imagery and spatial databases. Students will analyze these data, interpret and synthesize their results and present them to their peers and key stakeholders as applicable.

Collection and analysis of spatial data will be one component of the course. As such, the course will be eligible to contribute 3.0 units toward the Certificate in Geographical Information Science (GISC).

LEARNING OUTCOMES

Apply key laboratory and field techniques in physical geography and geomatics to explore earth surface processes.

Integrate knowledge from different areas of physical geography and geomatics to develop a wholistic picture of the factors controlling surface processes, and how they are influenced by human activity.

Evaluate and assess different methodologies to determine the most appropriate methods for addressing a key earth surface issue.

Synthesize and present information describing approach and outcome of project investigation to peers and stakeholders.

COURSE TOPICS

Vegetation measurements, hydrological assessments, soils and the environment, land-use change, geomatics and scaling, monitoring techniques, watersheds as experimental units, environmental assessment.

SELECTED COURSE TEXTS & READINGS (pial list)

Hoover, C.M. 2008. Field measurements for forest carbon monitoring. Springer Publishing, New York, NY.

Foster, D.R., and J.D. Aber. 2006. Forests in Time: the environmental consequences of 1000 years of change in New England. Yale University Press.

Winter, T.C., and G.E. Likens. 2009. Mirror Lake: Interactions among air, land, and water. U. California Press.