

## **GEOG 374: River Management**

*Course Information:* This course will provide students with an understanding of river form and function. This course will build upon students' understanding of basic river process and form by providing background on differences between the ecological, morphological, and hydrological function of natural and impacted rivers. Students will read seminal literature on how humans alter rivers as well as the social aspects of river alteration and subsequent naturalization. Students will be able to critically assess potential impacts of straightening, damming, and polluting rivers on the environment, yet will also understand the complex and dynamic nature of attempts to restore and remove human impacts on rivers. An important component of this course is the creation of a student-driven research proposal focused on river naturalization, which will be completed with online resources. Throughout this course, learning outcomes will focus on the themes of theoretical background, natural vs. impacted rivers, naturalization strategies, finding a balance between conservation and human modification, and knowledge application.

Specific learning outcomes are as follows:

1. Understand the role of rivers in the environment and how human alteration of river systems can interrupt these critical ecological services.
2. Gain experience analyzing and synthesizing data on river form and function, with a particular focus on rivers that are substantially impacted by humans.
3. Critically assess the past, present, and future of the social aspects of human use and modification of river systems.
4. Evaluate and understand strategies for naturalizing rivers in a variety of environments.

*Transition to Online:* Reading assignments and discussion will proceed through the use of audio/visual chats during the assigned class period. The instructor will assign readings and post questions/comments to provoke discussions during these meetings, and students' participation and written responses to the prompts will be graded (see below). Exploration activities will be based on online research, data acquisition, and data synthesis, and the instructor will make sure students have access to any required software. Similarly, the instructor will work with students to ensure successful completion of the research proposal by providing guidance on how to use online and downloadable software, data, and resources.

*Assessment:* Course grades will be assessed with a combination of participation in discussions of literature and written responses (approximately 25%), exploration activities which involve analysis and synthesis of real river naturalization projects (25%), a class project which includes the production of a detailed research proposal for a river naturalization project (mutually determined by the students and the instructor) (25%), and a final exam (25%).