

Spring 2008 Syllabus
WRCC304: Principles of Watershed Management
Class times: MWF 8:00-8:50 am in Wagar 232

Instructor: Stephanie Kampf

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Office hours: Monday/Wednesday 9:00-10:30 am or by appointment

TA: Eric Richer

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Office hours: Monday 2:00-3:00pm; Friday 10:00-11:00am

Introduction: Residing in Colorado, you live in an important water state that hosts the headwaters of many of the continent's major rivers. As water travels through and out of the state, it is influenced by the weather, vegetation, land use, diversions, and any disruptions it encounters along the way. An understanding of watershed processes is crucial in land management, for water can dictate what ecosystems will survive and determine what land use activities are possible. This course presents an introduction to watershed science and management in the context of both local and global watershed issues.



Course Goals: This is a physical sciences core curriculum course, so you will build competency in data analysis and critical thinking in watershed science; you will then apply those skills to watershed management applications. By the end of the course, you should be able to (1) access and analyze watershed data, (2) evaluate effects of land use on watershed processes, and (3) formulate science-based watershed management strategies.

Class website: <http://stephanie.kampf.googlepages.com/wr304>. The website will list assignments and deadlines + link to all course documents. Visit it often!

Text: *Global Hydrology* by J.A.A. Jones. Supplemental reading materials will also be available through the course website or on e-reserve at the CSU library.

Exam dates:

Mid-term Exam: Wednesday, March 12, 2008 in class

Final Exam: Monday, May 12, 2008, 3:40 pm – 5:40 pm

Grading:

Assignments: 65%

Mid-term exam: 15%

Final exam: 20%

Course grades will be based on the following scale:

A+	≥98%	B+	≥88%	C+	≥78%	D+	≥68%
A	≥92%	B	≥82%	C	≥72%	D	≥62%
A-	≥90%	B-	≥80%	C-	≥70%	D-	≥60%
						F	<60%

Course outline: See course website for lecture schedule and required readings.

- I. Watersheds defined and described
 - a. Topography
 - b. Channel networks
 - c. Geology and soils
 - d. Vegetation and land use
- II. Hydrologic processes
 - a. Hydrologic cycle
 - b. Precipitation (liquid/solid) and interception
 - c. Evaporation and transpiration
 - d. Infiltration
 - e. Groundwater
 - f. Overland flow
 - g. Channel flow
- III. Water in the stream
 - a. Water supply
 - b. Floods
 - c. Aquatic habitat
 - d. Channel degradation/restoration
- IV. Water on the land
 - a. Erosion, mass wasting, sediment transport
 - b. Watershed-based land management
- V. Water Quality
 - a. Non-point source pollutants
 - b. Point source pollutants
- VI. The human context
 - a. Water law and policy
 - b. Watershed organizations – public, private, non-profit

Expectations: Many of us have a hard time staying alert and engaged at 8 am; I will try my best to be fully awake and energized for class, so please make an effort to do the same! This will be an interactive class, so I expect you to get involved in class projects and discussions.

- *Class Attendance:* I expect you to attend all class sessions, arriving at or before 8 am. Please contact me if you will be missing a class session or need to arrive late; if you have given me prior notice that you will miss class, I will be happy to fill you in on the lecture materials.
- *Assignments:* All assignments are due in class on the assignment due date. Late assignments will lose 10% of the possible assignment points per day up to a maximum of 50%. I will consider giving extensions on assignment due dates only if you request an extension at least 24 hours in advance of the assignment due date. Please start your assignments early, so you have plenty of time to ask questions if needed. I accept re-submissions of assignments and will provide you with re-submission deadlines for each assignment. Re-submissions are worth 90% of the original assignment point value, and they are subject to the same deadline rules as regular assignment submissions.
- *Office hours:* Both Eric and I are happy to meet with you outside of class, and we encourage you to take advantage of office hour time to ask any questions you may have about the class. We appreciate if you restrict your visits to the times we have set aside for office hours, but you may contact us to schedule alternate appointments if you are unavailable during office hours.
- *Academic Integrity:* You are welcome to discuss assignments with others in the class, but the final product you turn in must be your own work. At the end of each assignment, list any people you worked with and references you consulted to prepare the assignment. You are responsible for adhering to all other university policies on academic integrity (<http://catalog.colostate.edu/front/policies.aspx>).

Special announcement:

*****CSU Water Week: March 24-28, 2008*****

Watershed Science 50th Anniversary Celebration: <http://watershed50th.colostate.edu>
AGU Hydrology Days Conference: <http://hydrologydays.colostate.edu>

Register on line by February 15, 2008 to ensure your place at the table. Registration is free for students.