

Colorado State University  
WR 486 Field Practicum in Watershed Science: Outline and Syllabus  
Fall 2017 (CRN: 70889)  
August 13-18, 2017

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**Instructors:** Steven Fassnacht, [steven.fassnacht@colostate.edu](mailto:steven.fassnacht@colostate.edu) (please email for information)  
Stephanie Kampf, [stephanie.kampf@colostate.edu](mailto:stephanie.kampf@colostate.edu) (Sunday through Tuesday)  
Tim Covino, [tim.covino@colostate.edu](mailto:tim.covino@colostate.edu) (Tuesday through Friday)

**Objectives:** This field course will provide students with opportunities to increase the depth of their understandings of watershed science and sustainability through examining water resource issues in north and central Colorado. We will explore a variety of locations, including headwater regions and areas further downstream. Examining the role of watershed science in different environments along a river provides a unique opportunity to examine different ecosystems and to consider the socio-ecological impacts of human activity.

**Framing questions to consider:**

- What are the components of the watershed under discussion?
- What are the boundaries of the watershed under discussion?
- How are watershed functions and processes impacted?
- What types of management activities have been implemented?
- How might the watershed processes be tracked and monitored over time?
- What tools and/or methodologies are necessary to adequately address the specific water issue?

**Assignments:**

- 1) The daily assignment is to ask 20 questions a day and keep a *field notebook* of the materials being presented for the practicum. The coupling of auditory (hearing) and writing increases the amount of material retained, and hopefully learned. Most professionals, in consulting or in government employment, keep field notebooks as part of their job. Use graphs, pictures, drawings or whatever is needed to help you learn and remember. The notebook can then be referred to later for information/data/contact information. Personally, I keep field books, and often write down ideas or thoughts to pursue later. The field books will be spot checked on the trip and evaluated for completeness and future utility.  
The notebook will contain information about each day and be a reference for the paper that will be written after the trip. At the end of each day, we expect you to write a brief reflection of the day, including the interaction with your day's partner. The reflection is not a summary of material from the day, but rather insight into general concepts learned, aha moments, etc. To illustrate professionalism, you will be required to 1) number each page (do not rip out pages, except at the back), 2) date and initial each page, 3) write a daily reflection, and at the end of the trip 4) add a table of contents at the beginning. Feel free to use the pages at the back as "scratch" paper. **Due: Tuesday, September 5<sup>th</sup> at 5pm**
- 2) Write a *3-5 page paper* discussing watershed science related to one of the six days focusing on the ecosystem visited that day. Highlight and discuss a water issue that you would like to investigate. Citations for the literature are not mandatory, but references to the various tours will be useful in explain why you think that this issue is important and why you would like to investigate it. **Due: Tuesday, September 5<sup>th</sup> at 5pm**
- 3) Create a *Hydrology Bingo card*. From Sunday through Tuesday night, make a list of 24 watershed "items" that could be seen while on a road trip. Then create a "bingo" card to be circulated

among the students for the remainder of the trip. Prizes may be awarded to the first student in each van to get bingo. **Due: Tuesday, August 15<sup>th</sup> at 7pm**

**Grading:**

- Field notebook (60%)
  - daily notes from stops (25%)
  - professionalism components
    - page numbering (5%)
    - date and initial each page (5%)
    - table of contents (5%)
  - daily reflection (20%)
- Paper (30%)
- Bingo Card (10%)

**Daily Agenda:**

- 07:30 – vans loaded and ready for morning meeting
- 07:40 – overview of the day and random selection of your partner for the day
- 07:50 – depart for the day
- ~08:00 to ~17:00 – tours
- ~17:00 – arrive a camp site, set up camp, dinner, etc.
- 19:00 – daily debriefing and reflection
- 22:00 – quiet time

**Dates:**

- **Mandatory orientation meeting: Friday, 2015 August 11 at 4pm in NR109**
- Trip departs: Sunday, August 13 in front of the Forestry building (arrive at 7am)
- Trip returns: late afternoon, early evening on Friday, August 19
- **Mandatory class wrap-up meeting: Tuesday, September 5th at 5pm in NR109**

The *mandatory class wrap-up meeting* will also: (1) provide an opportunity to briefly share your experiences and what you learned; (2) complete course reviews; and (3) provide input for 2018 Practicum. This is usually a good time to share pictures and return lost and found items.

**WR 486 Field Practicum in Watershed Science: Equipment List**

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**Academic items:**

A notebook for writing daily, and a pen or pencil – or you can (of course) do it electronically if you'd prefer. However, we will be working in the field so a notebook could be invaluable.

**Personal items:**

Tent (to be shared among several students), sleeping bag (lows down to the 40s or so), sleeping pad  
Tarps and rope (shared) – all campsites have been hit by the bark beetle so there is limited or no shade.  
Flashlight/headlamp, extra batteries  
Toiletries (soap, toothbrush, toothpaste, bug repellent, toilet paper)  
Clothes for the six days, including a warm jacket, long pants, rain gear (including pants if possible)  
Hiking boots or running shoes, you will need closed-toe shoes on at least one tour  
Hiking/day pack, sun glasses, camera (if you'd like), water bottles (2 L or so capacity), sunscreen  
Phone and device car chargers – we will not be in the proximity of line power during the trip

**Food:**

You should bring food for at least the first two days, and consider snacks and hard to get items for the entire trip. Please coordinate for camp stoves and fuels.

**Packing recommendations:**

We will be car camping at different campgrounds, so plan accordingly. In general, we will leave camp everyday by 07:50. That means we have eaten, packed lunch—minimal access to cooler during the day, repacked the van, and are ready to leave punctually at 07:50. If you are not a morning person, get up earlier. I encourage cooking groups, will discuss at orientation meeting. All campgrounds will have some form of toilet and most, but not all, will have drinking water. Water coolers will be provided. Showers will not be available during the trip but we will be along the river. Please be considerate of your van mates and bring deodorant and/or wet-wipes. Large coolers will be available, but try and minimize volume of foodstuffs needing refrigeration. You can bring a book, Frisbee, or other games for camp entertainment. Space in the vans will be limited, so pack accordingly. During the day carry a small daypack with lunch, water, notebook, clipboard, camera, bug repellent, sunglasses, hat, and personal items.

**Group packing:**

- coolers, large water jugs
- tarps and rope
- garbage bags, recycling bins