



**FOREST AND RANGELAND
STEWARDSHIP**
COLORADO STATE UNIVERSITY

**RS 565: Riparian Ecology and
Management**
COURSE SYLLABUS
Department of Forest and
Rangeland Stewardship
Warner College of Natural Resources

	Instructor	Teaching Assistant
Name:	Paul Meiman	N/A
Office:	211 Natural Resources	N/A
Phone:	970-491-0906	N/A
E-Mail:	Paul.Meiman@colostate.edu	N/A
Office Hours:	Mondays, 8-10 a.m. Tuesdays, 2-3 p.m.	N/A N/A
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Term:	Spring 2019	
Class Meeting Days:	MW	
Class Meeting Hours:	Lecture MW 2:00 – 2:50 pm Lab W 3:00 – 4:50 p.m.	
Class Location:	127 Forestry	
Course Credits:	3	

Course Overview

The class will meet as a single group, twice per week for 4 hours of contact time with the instructor. Two hours per week will be devoted to lectures on major topics and subtopics. Two hours per week will be devoted to labs and field trips. Students will be required to prepare in advance for labs. Preparation will include reading and studying protocols for field methods covered in lab. Experiential learning through interaction with the instructor, natural resource professionals and fellow students will enhance student learning. The instructor expects students to participate actively in discussions of course topics and assigned readings (book chapters and journal articles). Each student will be responsible for leading at least one discussion of a topic or subtopic.

Course Goals and Objectives

The goal of this course is to provide students with the opportunity to study a complex variety of factors that determine the structure, function and management of riparian ecosystems. Upon successful completion of this course students will

1. develop an understanding of contemporary definitions of riparian and related terms and characteristics of a variety of riparian systems.
2. understand interactions among biotic and abiotic processes in riparian systems and how these interactions determine the structure and function of riparian areas.
3. have the ability to develop successful approaches to the management, conservation and restoration of riparian systems.
4. be able to assess riparian condition and monitor natural resource objectives relative to riparian ecosystems.
5. be able to predict how management inputs / approaches will influence riparian structure and function.

Course Prerequisites

LAND220 or LIFE220 or LIFE320

Required Texts and Materials

No Required Text - Readings will be provided and assigned throughout the semester.

Library & Research Help

The CSU Libraries Help Desk provides basic research and technical assistance either in person at Morgan Library or by phone at 970-491-1841. Virtual assistance is also available via the Libraries' Ask Us chat and email services (<http://lib.colostate.edu/help/ask-us>). Jocelyn Boice is the librarian supporting the Forest and Rangeland Stewardship Department and this course. Contact her for in-depth assistance at: jocelyn.boice@colostate.edu / 970-491-3882.

Important Dates to Remember

Last Day to Add/Drop Classes without an Instructor Override: January 27th 2019

Registration Closes: February 6th 2019

Withdrawal Deadline: March 25th 2019

Spring Recess: March 16-24th 2019

Last Day to Process a University Withdrawal: May 10th 2019

Final Examination: Tuesday, May 14th 4:10 – 6:10 p.m. (Everyone please confirm this at

<https://registrar.colostate.edu/academic-resources/final-exams/>)

Course Schedule and/or Schedule of Assignments

RS 565 – Riparian Ecology and Management		
Tentative Schedule – Assignments and dates subject to change at discretion of professor		
January 23 (W)	Lecture: Lab:	Introduction to course, syllabus, schedule, where it fits in. Overview of definitions and characteristics of riparian systems Same
January 28 (M)	Lecture:	Overview of definitions and characteristics of riparian systems Please read Svejcar 1997; EPA 2005 Glossary; Krause et al. 2011 and Verry et al. 2004
January 30 (W)	Lecture: Lab:	Riparian System Types Riparian System Types
February 4 (M)	Lecture:	Riparian system types
February 6 (W)	Lecture: Lab:	Field Trip to Maxwell Ranch (Tentative) Field Trip to Maxwell Ranch (Tentative)
February 11 (M)	Lecture:	Society for Range Management Meetings, Minneapolis, MN Class Canceled
February 13 (W)	Lecture: Lab:	Society for Range Management Meetings, Minneapolis, MN Class Canceled
February 18 (M)	Lecture:	Physical processes in lotic riparia

February 20 (W)	Lecture: Lab:	Physical processes in lotic riparia Physical processes in lotic riparia
February 25 (M)	Lecture:	Classification of riparian systems Please read pp. 1-17 and browse the wetland key and some wetland descriptions in the CNHP Wetland Field Guide; read R1-R9 and browse key and descriptions in RMRS GTR 085
February 27 (W)	Lecture: Lab:	Classification of riparian systems Classification of riparian systems
March 4 (M)	Lecture:	Classification of riparian systems - Process Domains (work of Wohl et al.) Please read Polvi et al. 2011 and Montgomery 1999 Tentative
March 6 (W)	Lecture: Lab:	Riparian Vegetation: Please read pp 1-22 in Winward 2000 Riparian Vegetation
March 11 (M)	Lecture:	Exam I
March 13 (W)	Lecture: Lab:	Disturbance in riparian systems: Please read Stanley et al. 2010 Disturbance in riparian systems
March 18 (M)	Lecture:	NO CLASS – SPRING RECESS
March 20 (W)	Lecture: Lab:	NO CLASS – SPRING RECESS
March 25 (M)	Lecture:	Classification of riparian systems – Rosgen Stream Types, Dave or Brandon Rosgen Tentative; Please read Rosgen 1994
March 27 (W)	Lecture: Lab:	Field Trip with Dave or Brandon Rosgen – Rosgen Stream Types Field Trip with Dave or Brandon Rosgen – Rosgen Stream Types Tentative
April 1 (M)	Lecture:	Riparian management – condition assessment
April 3 (W)	Lecture: Lab:	Riparian management – PFC field exercise, Hewlett Gulch Riparian management – PFC field exercise, Hewlett Gulch Please read TR1737-15 (PFC Lotic) pp. 1-23; 63-64 and 103-106 (Appendix E). In addition, please review/skim pp. 25-58.
April 8 (M)	Lecture:	Exam II
April 10 (W)	Lecture: Lab:	Riparian vegetation: Disturbance and restoration Riparian vegetation: Disturbance and restoration
April 15 (M)	Lecture:	Riparian restoration – interactions among biotic and abiotic components, Nate Boschmann, Wildland Restoration Volunteers Tentative

April 17 (W)	Lecture: Lab:	Riparian restoration – interactions among biotic and abiotic components, Nate Boschmann, Wildland Restoration Volunteers – Campbell Valley Project – Robert’s Ranch Field Trip <i>Tentative</i>
April 22 (M)	Lecture:	Introduction to wetland delineation – Dr. Ed Gage <i>Tentative</i>
April 24 (W)	Lecture: Lab:	Field wetland delineation – Dr. Ed Gage Field wetland delineation –Dr. Ed Gage Please read pp. 21-34 and 65-70 in TR1737-19 <i>Tentative</i>
April 29 (M)	Lecture:	Riparian vegetation: Wildfire and fuel reduction treatments in riparian areas, Dr. Kathleen A. Dwire, USFS Research, Fort Collins Please read the following: Meyer et al. 2012; Dwire et al. 2015 and Kaczynski and Cooper 2015 <i>Tentative</i>
May 1 (W)	Lecture: Lab:	Vegetation Management in Riparian areas Vegetation Management in Riparian areas
May 6 (M)	Lecture:	Riparian management – balancing land uses
May 8 (W)	Lecture: Lab:	Riparian management – balancing land uses Riparian management – balancing land uses
May 13-17 Finals		RS 565 Final Tuesday, May 14, 4:10 – 6:10 p.m. in F127 (same room where class has been held)

Basis for Final Course Grade

Assessment	Points
Exam 1	100
Exam 2	100
Exam 3	100
Written assignments	150
Student led discussion/presentation	150
Total	600

Grading will be based on the percentage of total points above earned by each student and on a straight scale of $\geq 90\%$ =A, 80-89%=B, 70-79%=C, 60-69%=D, <60%=F. The ‘+’ and ‘-’ system will not be used in grading.

Course Policies

Late Work Policy:

Students are expected to complete all assignments according to the instructions and deadlines provided with those assignments and in this syllabus. Assignments turned in late will be assessed a penalty: half of a letter grade if it is one day late, or a full letter grade for 2-7 days late. Assignments will not be accepted if overdue by more than seven days.

Extra Credit Policy:

Extra credit questions may appear on the exams. Aside from that, no extra credit is available.

Grades of "Incomplete"

Per university policy, an instructor may assign temporary grade of Incomplete to a student who demonstrates that he or she could not complete the requirements of the course due to circumstances beyond the student's control and not reasonably foreseeable. A student must be passing a course at the time that an Incomplete is requested unless the instructor determines that there are extenuating circumstances to assign an Incomplete to a student who is not passing the course. When an instructor assigns an Incomplete, he or she shall specify in writing using the Department Incomplete Grade Form the requirements the student shall fulfill to complete the course as well as the reasons for granting an Incomplete when the student is not passing the course. The instructor shall retain a copy of this statement in his or her grade records and provide copies to the student and the department head or his or her designee. (Section I.6 of the *Academic Faculty and Administrative Professional Manual*)

Disability Access

Colorado State University is committed to providing reasonable accommodations for all persons with disabilities. Students with disabilities who need accommodations must first contact Resources for Disabled Students before requesting accommodations from the professor. Resources for Disabled Students (RDS; <http://rds.colostate.edu/home>) is located in room 100 of the General Services Building. Their phone is (970) 491-6385 (V/TDD). Students who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations.

Attendance Policy

Students are expected to attend all scheduled lectures and exams. Class performance is highly correlated with attendance. Assignments will be announced in class. In general, exams and assignments cannot be made up if missed. Accommodations will be made for students with a University excused absence and those participating in University-sanctioned extracurricular/co-curricular activities. Students must inform their instructors prior to the anticipated absence and take the initiative to make up missed work in a timely fashion. For the purposes of this regulation, University-sanctioned activities include competitions, events and professional meetings in which students are officially representing the institution. Appropriate sanctioned activities include:

- a. Intercollegiate athletics;*
- b. Collegiate club sports and competitions;*
- c. Conferences and workshops recognized by the University not related to academics;*
- d. Commitments on behalf of the University (ASCSU, band, etc.); and*
- e. Professional activities recognized by the University related to academics.*

Department heads or their designated representatives must approve sanctioned professional and departmental activities. Other sanctioned activities must be approved by the appropriate program director on record with the Division of Student Affairs offices or the Department of Athletics.

Religious Accommodation

Participation in official University activities, e.g., an out-of-town athletic event, or special religious observances may provide a legitimate reason for an excused absence. The student is responsible for discussing this with the instructor at the beginning of the semester.

Final Exam Policy

Final examination week is part of the regular semester. Student attendance shall be consistent with University policy.

If a student has three or more final examinations (not classes) scheduled for the same day or if conflicts of examination times occur, the student may negotiate a time change with the instructors

involved. If the parties involved cannot find a mutually agreeable time, the Registrar's Office indicates which courses must be changed. **Note:** The Registrar's Office must be notified at least one week prior to Final Examination Week to allow instructors time to make appropriate accommodations. It is the student's responsibility to initiate negotiations.

Any student who has a conflict with the examination schedule must inform the instructor as soon as possible before the examination. If an agreement cannot be reached between the instructor and student as to the appropriateness of a make-up examination the student should appeal to the department head. <http://www.registrar.colostate.edu/final-exams>

Professionalism Policy

Per university policy and classroom etiquette; mobile phones, iPods, etc. must be silenced during all classroom and lab lectures. Those not heeding this rule will be asked to leave the classroom/lab immediately so as to not disrupt the learning environment. Please arrive on time for all class meetings. Students who habitually disturb the class by talking, arriving late, etc., and have been warned may suffer a reduction in their final class grade.

Students are expected to conduct themselves in a professional manner at all times in this course and on all work completed for the course. The use of offensive language, images or actions will not be tolerated. The instructor expects all students to help maintain an inclusive educational environment in which all members of the class (students and instructor) respect one another.

Academic Integrity

The Department of Forest and Rangeland Stewardship takes academic integrity seriously. At minimum, academic integrity means that no one will use another's work as their own. The CSU writing center defines plagiarism this way:

Plagiarism is the unauthorized or unacknowledged use of another person's academic or scholarly work. Done on purpose, it is cheating. Done accidentally, it is no less serious.

Regardless of how it occurs, plagiarism is a theft of intellectual property and a violation of an ironclad rule demanding "credit be given where credit is due."

Source: (Writing Guides: Understanding Plagiarism.

<http://writing.colostate.edu/guides/guide.cfm?guideid=17>)

If you plagiarize in your work you could lose credit for the plagiarized work, fail the assignment, or fail the course. Each instance of plagiarism, classroom cheating, and other types of academic dishonesty will be addressed according to the principles published in the CSU General Catalog (under "Academic Integrity/Misconduct: <http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/> .)

Of course, academic integrity means more than just avoiding plagiarism. It also involves doing your own reading and studying. It includes regular class attendance, careful consideration of all class materials, and engagement with the class and your fellow students. Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, we will ask to you sign the CSU Honor Pledge as part of completing all of our major assignments. While you will not be required to sign the honor pledge, we will ask each of you to write and sign the following statement on your papers and exams:

"I have not given, received, or used any unauthorized assistance."

Title IX Information

CSU's Student Sexual Harassment and Violence policy, following national guidance from the Office of Civil Rights, requires that faculty follow CSU policy as a "mandatory reporter" of any personal disclosure of sexual harassment, abuse, and/or violence related experiences or incidents shared with the faculty member in person, via email, and/or in classroom papers or homework exercises. These disclosures include but are not limited to reports of personal relational abuse, relational/domestic violence, and stalking. While faculty are often able to help students locate appropriate channels of

assistance on campus (e.g., see the CSU Health Network link below), disclosure by the student to the faculty member requires that the faculty member inform appropriate CSU channels to help ensure that the student's safety and welfare is being addressed, even if the student requests that the disclosure not be shared.

For counseling support and assistance, please see the CSU Health Network, which includes a variety of counseling services that can be accessed at: <http://www.health.colostate.edu/>. And, the Sexual Assault Victim Assistance Team is a confidential resource for students that does not have a reporting requirement and that can be of great help to students who have experienced sexual assault. The web address is <http://www.wgac.colostate.edu/need-help-support>. Source: <http://oeo.colostate.edu/title-ix-sexual-assault>

Non-Discrimination Statement

Colorado State University does not discriminate on the basis of race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or pregnancy. The University complies with the Civil Rights Act of 1964, as amended, related Executive Orders 11246 and 11375, Title IX of the Education Amendments Act of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, the Age Discrimination in Employment Act of 1967, as amended, The Pregnancy Discrimination Act of 1978, Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, the ADA Amendments Act of 2008, the Genetic Information Nondiscrimination Act of 2008, and all civil rights laws of the State of Colorado.

Accordingly, equal opportunity of employment and admission shall be extended to all persons. The University shall promote equal opportunity and treatment in employment through a positive and continuing affirmative action program for ethnic minorities, women, persons with disabilities, and veterans. The Office of Equal Opportunity is located in 101 Student Services. Source:

<http://oeo.colostate.edu/non-discrimination-statement>

Land Acknowledgement Statement

Colorado State University acknowledges, with respect, that the land we are on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples. This was also a site of trade, gathering, and healing for numerous other Native tribes. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it. As these words of acknowledgment are spoken and heard, the ties Nations have to their traditional homelands are renewed and reaffirmed.

CSU is founded as a land grant institution, and we accept that our mission must encompass access to education and inclusion. And, significantly, that our founding came at a dire cost to Native Nations and peoples whose land this university was built upon. This acknowledgment is the education and inclusion we must practice in recognizing our institutional history, responsibility, and commitment.