



Spring 2018 Syllabus

Course will meet on Thursdays from 4:30 to 6:30 PM in BNR 113. The course is 1 credit, which means a minimum of 15 hours of contact time (excluding field trips and labs). We will meet during the scheduled time on ten occasions, have two or three Saturday field trips and one evening field trip. Your grade will be based on 3 homework assignments (50%) and two projects (25% each). You are expected to do all the reading ahead of meetings and participate in discussions.

Week	Date	Topics	Lab/Assignments or Field Trips
1	Jan 11	INTRODUCTION <ul style="list-style-type: none"> • Introductions & Expectations • Overview of Beaver in Restoration, Conservation & Management Context BEAVER BIOLOGY, FUR-TRAPPING HISTORY & DAM BUILDING <ul style="list-style-type: none"> • Beaver Biology • Fur Trapping History • Beaver Dam Building - Why and How? 	Reading Assignment - Read Baker & Hill (2003); Read Chap 1-4 (pp 3-57) in Dollin (2010) Reading Assignment - Read Mueller & Scharzt (2011) - Chapters 1-12 Field Trip - Field trip to Curtis Creek - <i>Tentatively 1/13</i>
2	Jan 18	BEAVER DAM-BUILDING FEEDBACKS <ul style="list-style-type: none"> • Physical Feedbacks (Hydraulic, Hydrologic, Geomorphic) • Ecological Feedbacks 	Reading Assignment - Read Macfarlane et al (2015) & Read Mueller & Scharzt (2011) - Chapters 13-16 Homework Assignment 1 - Map locations & status of beaver dams from imagery - <i>Due 1/25</i>
3	Jan 25	PREDICTING & MAPPING WHERE BEAVER BUILD DAMS <ul style="list-style-type: none"> • Beaver dam capacity modelling • Capacity Model Lab 	Reading Assignment - Read Pollock et al. (2014) Reading Assignment - Read Bouwes et al. (2016) & Evans (201?) Homework Assignment 2 - Apply BRAT Capacity Model - <i>Due 2/15</i>
4	Feb 1	OVERVIEW OF BEAVER CONSERVATION & RESTORATION USING BEAVER <ul style="list-style-type: none"> • Beaver Conservation & Regulations • Impairments beaver might be able to help with • Scope of Beaver Restoration Techniques BEAVER RESTORATION CASE STUDIES <ul style="list-style-type: none"> • Suzy Creek • Bridge Creek • Anabranch Overview 	
5	Feb 8	NO CLASS	
6	Feb 15	LIVING WITH BEAVER MITIGATION & ADAPTIVE BEAVER MANAGEMENT PLANS <ul style="list-style-type: none"> • Nuisance Problems • Mitigation Techniques • Adaptive Management Principles • AM Plan Components • Concept of Pilots 	Reading Assignment - Read Bennett al (2016) & Wheaton (2012) Reading Assignment - Read Portugal et al. (2015)
7	Feb 22	CLASS FIELD TRIP TO WALMART	

See <https://beaver-restoration.weebly.com/> or <http://beaver.joewheaton.org> for slides, handouts, links, literature.



		<ul style="list-style-type: none"> Visit the Walmart beaver mitigation project and review adaptive management plan 	
8	Mar 1	SLOP - Potentially No Class	MAR 3 - Field Trip to Birch Creek to look at Translocation Homework Assignment 3 - Prepare an Adaptive Beaver Management Plan - <i>Due 3/16</i>
Spring Break			
9	Mar 15	BEAVER TRANSLOCATION <ul style="list-style-type: none"> Practical Constraints & Opportunities Methods and Best Practices Legal & Permitting Considerations JOE IN SAN RAFAEL (GUEST LECTURE)	Reading Assignment - Read Pollock et al. (2014) and Pollock et al (2012), and BDM (2015)
10	Mar 22	BEAVER DAM ANALOGUES <ul style="list-style-type: none"> Overview of different techniques and purposes Planning & Objectives Design Principles Design Exercise Designing Pilot Projects 	Reading Assignment - Read Hood. (2012) - 'Beaver Manifesto' & Macfarlane et al (2014, pp 2-3, 36-43, 48-55, and skim 88-101)
11	Mar 29	BEAVER RESTORATION EXPECTATION MANAGEMENT & PLANNING <ul style="list-style-type: none"> Critical Planning Principles People & Expectation Management Conflicts & Management Priorities BRAT - Decision Support 	Reading Assignment - Read Portugal et al (2015) - Pine Creek Project Assignment 1: Prepare BDA Desktop Pilot Design & Report - <i>Due 4/13</i> Project Assignment 2: Develop Watershed Beaver Restoration Plan - <i>Due 4/25</i>
12	Apr 5	BEAVER DAM ANALOGUE DESIGN & CONSTRUCTION <ul style="list-style-type: none"> Field Design Structures vs. Complexes Construction Bidding, Permitting & Safety As-Built Documentation Adaptive Management Monitoring & Maintenance 	April 7 - Weekend Fieldtrip to design and build BDAs. Joint with WATS 5340
13	Apr 12	NO MEETING - Joe in Tetons (WATS 4950 fieldtrip)	
14	Apr 19	NO MEETING - Joe in Scotland	
15	Apr 26	COURSE SYNTHESIS & PROJECT PRESENTATIONS	FINAL PROJECT - <i>due 4/25</i>
Finals	May 1-5	No Final Exam	

SUBJECT TO CHANGES

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