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Fall 9-1-2016

ENST 570.01: Ethics and Restoration

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ETHICAL ISSUES IN ECOLOGICAL RESTORATION

EVST 570_01, Fall 2016

TR 3:30—4:50 pm; DHC 117

CRN: 74052

Prof. Dan Spencer

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“The real future of environmentalism is in rehabilitation and restoration. Environmentalists have told the story of the Garden of Eden and the fall from grace over and over again. But we haven’t yet told the story of redemption. Now we need to tell that story.” • Steven Pyne

COURSE DESCRIPTION

With the increasing ability to use science and technology to manage and restore damaged ecosystems comes a host of ethical and philosophical issues. A central theme in this class is integrating the restoration of ecosystems with the restoration of human communities to create sustainable bioregions and landscapes. We will be looking at developing a “restoration ethic” as a philosophical and moral grounding for this work, with the premise that restoring the earth requires restoring ourselves to the earth in the process. Yet, just because increasingly we can restore ecosystems does not necessarily mean that we *should* do so in all contexts. Hence the first section of the course reviews central concepts and practices in ecological restoration while introducing class group projects built around collaboration with the Clark Fork Coalition carrying out restoration projects in the Upper Clark Fork River watershed and western Montana. As a class we will examine community dimensions of the restoration process of the Upper Clark Fork watershed in the Deer Lodge Valley under way as part of the Superfund clean up of the Clark Fork River.

The second section of the course examines the ethical dimensions of several current case studies concerning restoration in wilderness to explore the question of whether active restoration in wilderness is ever ethically merited. The final section of the class is an extended philosophical exploration of what counts as “good” restoration, and why. Within this discussion we will look at emerging issues around restoration in the context of novel ecosystems and climate change. Over the course of the semester students will have the opportunity to develop a framework for what counts as good restoration in our changing, dynamic 21st century context.

OBJECTIVES & LEARNING OUTCOMES:

Upon completion of this course, students should be able to:

1. Analyze, critically evaluate, and correctly apply basic ethical concepts and forms of moral reasoning from the field of environmental ethics to contemporary issues and practices in the field of ecological restoration.
2. Think critically about the moral, social and environmental effects of the practices of ecological restoration in diverse social and ecological contexts.
3. Apply moral analysis to a contemporary case study in restoration in the Upper Clark Fork River watershed.
4. Incorporate information literacy into the moral analysis of restoration issues and writing assignments by finding, evaluating, analyzing, and synthesizing information from diverse sources.

5. Write more clearly and effectively about complex ethical issues related to ecological restoration and be able to communicate these issues and multiple perspectives fairly and clearly to diverse audiences.

REQUIRED TEXTS

Nature By Design. Eric Higgs (MIT Press: 2003; ISBN: 0-262-58226-0)

Ecological Restoration: Principles, Values, and Structure of an Emerging Profession [Second Edition]. Andre Clewell and James Aronson (Island Press: 2013; ISBN: 978-1-61091-168-7)

Ethical Adaptation to Climate Change: Human Virtues of the Future. Allen Thompson and Jeremy Bendik-Keymer, eds. (MIT Press: 2012; ISBN: 978-0-262-51765-2)

Readings on Moodle

COURSE SCHEDULE

Date	Class Topic and Assigned Readings	Reading Location
Introduction: Key Concepts in Ecological Restoration and Ethics		
8/30 TU 1	Introduction to the course and to each other	
9/1 TH 2	What is Ecological Restoration?	
	The SER International Primer on Ecological Restoration	Moodle 1
	Ch 1: "Overview: Basic Terms and Concepts"	Clewell & Aronson, ER
	Ch 2: "Values and Ecological Restoration"	Clewell & Aronson, ER
9/6 TU 3	Key Concepts in Ecological Restoration	
	Ch 3: "Disturbance and Impairment"	Clewell & Aronson, ER
	Jim Harris & Rudy van Diggelen: "Ecological Restoration as a project for global society"	Moodle 2
	Jelte van Andel and Ab P. Grootjans: "Concepts in Restoration Ecology"	Moodle 3
I. RESTORATION IN THE UPPER CLARK FORK WATERSHED		
9/8 TH 4	Restoring the Upper Clark Fork: The Work of the Clark Fork Coalition and the Watershed Restoration Coalition	
	<u>Skim:</u> 2005 State of the Clark Fork: Understanding Our Watershed	Moodle 5
	"History of Upper Clark Fork Basin Litigation: Background, Status, and Opportunities to Restore the Basin" by Cassandra Hemphill	Moodle 6
	<u>Read:</u> http://clarkfork.org/halfway-to-healing-at-the-coalitions-cattle-ranch/	
	And: http://deq.mt.gov/fedsuperfund/cfr.mcp	
	<u>Speaker:</u> Will McDowell, Clark Fork Coalition	
9/10 SAT	Upper Clark Fork Field Trip: Dry Cottonwood Ranch	

[Leave UM: 7:30 am; Return to UM: 1:00 pm]

Speaker: Maggie Schmidt, Ranch Manager, Dry Cottonwood Creek Ranch

Recommended: “The Focal Politics of the WRC” by Sarah Carvill

Moodle 7

9/13 TU 5 What We Restore in Ecological Restoration

Ch 4: “Recovery”

Clewell & Aronson, ER

Ch 5: “Ecological Attributes of Restored Ecosystems”

Clewell & Aronson, ER

Ch 6: “Semicultural Landscapes and Ecosystems”

Clewell & Aronson, ER

9/15 TH 6 How We Restore: The Processes of Restoration

Ch 7: “Ecological References”

Clewell & Aronson, ER

Ch 8: “Approaches to Restoration”

Clewell & Aronson, ER

Ch 9: “Project Planning and Evaluation”

Clewell & Aronson, ER

9/16 Fri Upper Clark Fork Field Trip: Restoration Project on the Thomas Ranch
9/17 Sat Superfund Sites Field Trip in the Upper Clark Fork Watershed
[Leave Friday 1 pm; return Saturday 6 pm; overnight at Thomas Ranch]

9/20 TU 7 Ecological Restoration as a Profession

Ch 10: “Relationship of Restoration to Related Fields”

Clewell & Aronson, ER

Ch 11: “Projects and the Professions”

Clewell & Aronson, ER

Ch 12: “Moving Restoration Forward -- Together”

Clewell & Aronson, ER

Speaker: Pat Burke, Former President, Bitterroot Restoration, Inc.

9/22 TH 8 Restoration of the Confluence of the Blackfoot & Clark Fork Rivers
Field Trip to Milltown Dam Overview Site: Leave UM 3:00 pm; return 6:00 pm

Milltown Dam News Overview January 2010

Moodle 8

www.cfrtac.org/images/pdf/january2010/dam_news_09_single_panel.pdf

The Three R's of the Milltown Reservoir Superfund Project

Moodle 9

www.cfrtac.org/061009b.html

The Other End of the Dam Project (www.cfrtac.org/061009d.html)

Moodle 10

YouTube video: Breaching the Dam:

<https://www.youtube.com/watch?v=ISLInzprz3M>

Field Trip Leader: Pat Burke

Speaker: Mike Kustudia, Manager, Milltown State Park

II. RESTORATION IN WILDERNESS & INDIGENOUS PERSPECTIVES

9/27 TU 9 Ethical Dilemmas in Restoration in Wilderness

Peter Landres et al: “Naturalness and Wildness: The

Dilemma and Irony of Ecological Restoration in Wilderness”

Moodle 11

Peter Landres: “Let It Be: A Hands-Off Approach to Preserving Wildness in

Protected Areas” **Moodle 12**
Gregory Aplet & David Cole: “The Trouble with Naturalness: **Moodle 13**
Rethinking Park and Wilderness Goals”

Speaker: Peter Landres, Aldo Leopold Wilderness Research Institute

9/29 TH 10 A Framework for Decisions about Restoration in Wilderness

John Hendee et al: “Wilderness Management: Philosophical Directions **Moodle 14**
Michael Soulé: Should Wilderness Be Managed?

Speaker: Beth Hahn, Aldo Leopold Wilderness Research Institute

10/1 Sat Recommended: Blackfoot Watershed Restoration Tour with Vicki Watson

10/4 TU 11 Holistic and Reciprocal Restoration: TEK and Indigenous Ways of Knowing

Robin Kimmerer: “Restoration and Reciprocity: The Contributions of **Moodle 15**
Traditional Ecological Knowledge”

Robin Kimmerer: Selections from *Braiding Sweetgrass: Indigenous*
Wisdom, Scientific Knowledge, and the Teachings of Plants. **Moodle 15A**

10/6 TH 12 Cultural and Ecological Restoration on the Flathead Reservation

Selections from *Explore the River: Bull Trout, Tribal People, and* **Moodle 16**
The Jocko River

Speakers: Germaine White, Information and Education, and Rusty Sydnor,
Wetland/Riparian Restoration Specialist, Confederated Salish and Kootenai
Tribes

Field Trip to Jocko River: Leave UM at 3:00 pm; return by 6:30 pm

***10/11 TU 13 Restoration and Wilderness: Case Study I in Managing for Wildness and**
Naturalness in Wilderness: Fisheries restoration in the Stephen Mather
Wilderness, North Cascades National Park, WA

Readings: On Moodle

Facilitators:

(Paper due: 10/18)

***10/13 TH 14 Restoration and Wilderness: Case Study II in Managing for Wildness and**
Naturalness in Wilderness: Whitebark Pine Restoration in Wilderness

Readings: On Moodle

Facilitators:

(Paper due: 10/20)

***10/18 TU 15 Restoration and Wilderness: Case Study III in Managing for Wildness and**

Naturalness in Wilderness: Herbicide application on non-native plants in Saguaro National Park, AZ

Readings: On Moodle

Facilitators:

(Paper due: 10/25)

Essay on the Ethics of Restoration in Wilderness due in class for 10/11 Facilitators

III. ETHICAL ISSUES & DEBATES IN ECOLOGICAL RESTORATION

10/20 TH 16 Overview: Ethical Issues in Ecological Restoration

Eric Higgs: “What is Good Ecological Restoration?”

Moodle 17

Spectrum Exercises on Ecological Restoration

Essay on the Ethics of Restoration in Wilderness due in class for 10/13 Facilitators

***10/25 TU 17 Early Critics: Restoration as Faking Nature?**

Robert Elliot: “Faking Nature”

Moodle 18

Eric Katz: “The Big Lie: Human Restoration of Nature”

Moodle 19

Eric Katz: “Another Look at Restoration: Technology and Artificial Nature”

Moodle 20

Facilitators:

(Paper due: 11/1/16)

Essay on the Ethics of Restoration in Wilderness due in class for 10/18 Facilitators

***10/27 TH 18 Responses to Elliot and Katz: Benevolent vs. Malicious Restoration**

Andrew Light: “Ecological Restoration and the Culture of Nature: A Pragmatic Perspective”

Moodle 21

Steven Vogel: “On the Nature of Artifacts” (?)

Facilitators:

(Paper due: 11/3/16)

***11/1 TU 19 Early Debates on Restoration vs. Preservation**

G. Stanley Kane: “Restoration or Preservation? Reflections on a Clash of Environmental Philosophies”

Moodle 22

William Jordan: “Sunflower Forest”: Ecological Restoration as the Basis for a New Environmental Paradigm”

Moodle 23

William Jordan: “Weeding Key Biscayne”

Moodle 24

Facilitators:

(Paper due: 11/10/16)

Essay on Early Critics due in class for 10/25 Facilitators

11/3 TH 20 What is Good Restoration? Introduction to Higgs' Nature by Design

Introduction to *Nature By Design* (pp. 1-14) **Higgs, NBD**

Ch. 1: A Tale of Two Wildernesses: Jasper National Park,
Meet Disney World **Higgs, NBD**

Ch. 2: Boundary Conditions (skim 59-75) **Higgs, NBD**

Essay on Early Critics due in class for 10/27 Facilitators

11/8 Election Day: No Class (Vote!)

11/10 TH 21 Defining Ecological Restoration and The Question of History in Restoration

Ch. 3: What is Ecological Restoration? **Higgs, NBD**

Ch. 4: Historicity and Reference in Ecological Restoration **Higgs, NBD**

Essay on Early Critics due in class for 11/1 Facilitators

11/15 TU 22 The Risks of Commodification & Professionalization

Ch. 5: Denaturing Restoration **Higgs, NBD**

**11/17 TH 23 Community Participation in Restoration: Focal Restoration
and Wild Design**

Ch. 6: Focal Restoration & Ch. 7: Nature by Design **Higgs, NBD**

K. Suding et al., "Committing to Ecological Restoration" **Moodle 34**

Recommended: Borgmann, "Focal Practices" **Moodle 35**

IV. RESTORATION IN AN AGE OF NOVEL ECOSYSTEMS & CLIMATE CHANGE

11/22 TU 24 Restoration in an Age of Novel Ecosystems: I

Richard Hobbs, Eric Higgs, James Harris: "Novel Ecosystems:
Implications for Conservation and Restoration" **Moodle 25**

Lauren Hallett, et al. Towards a Conceptual Framework
for Novel Ecosystems. **Moodle 26**

Richard Hobbs, Eric Higgs, Carol Hall: "Defining Novel Ecosystems" **Moodle 27**

Joseph Mascaro, et al.: Origins of the novel ecosystem concept **Moodle 28**

Brian Starzomski: Novel ecosystems and climate change **Moodle 29**

See also the Student Companion Site: www.wiley.com/go/hobbs/ecosystems

11/24 TH Thanksgiving Break: No Classes

11/29 TU 25 Restoration in an Age of Novel Ecosystems: II

Kristin Hulvey, et al.: Incorporating novel ecosystems into Management frameworks	Moodle 30
Andrew Light, Allen Thompson, Eric Higgs: Valuing novel ecosystems	
Rachel Standish, et al.: Concerns about novel ecosystems	Moodle 31
Richard Hobbs, Eric Higgs, Carol Hall: What do we know about, and what do we do about, novel ecosystems?	Moodle 32
Laurie Yung, et al.: Engaging the public in novel ecosystems	Moodle 33

Due in class: Higgs Critical Response Essay

***12/1 TH 26 Restoration in an Age of Climate Change: I**

Allen Thompson and Jeremy Bendik-Keymer: Introduction: Adapting Humanity	Intro, EACC
Ned Hettinger: Nature Restoration as a Paradigm for the Human Relationship with Nature	Ch. 1, EACC
William Throop: Environmental Virtues and the Aims of Restoration	Ch. 2, EACC

Class Facilitators:

***12/6 TH 27 Restoration in an Age of Climate Change: II**

Ronald Sandler: Global Warming and Virtues of Ecological Restoration	Ch. 3, EACC
Eric Higgs: History, Novelty, and Virtue in Ecological Restoration	Ch. 4, EACC
Andrew Light: The Death of Restoration?	Ch. 5, EACC

Class Facilitators:

***12/8 TU 28 Restoration in an Age of Climate Change: III**

Breena Holland: Environment as Meta-capability: Why a Dignified Human Life Requires a Stable Climate System	Ch. 6, EACC
David Schlossberg: Justice, Ecological Integrity, and Climate Change	Ch. 8, EACC
Paul Hirsch & Bryan Norton: Thinking Like a Planet	Ch. 16, EACC

Class Facilitators:

12/10 TH 29 Wrap up & Discussion: What Makes an Ethic of Good Restoration?

Final Exam Period: 3:20—5:20 pm Wednesday, December 14, 2016.

Due: Final Take Home Exam Essay

WEIGHT AND TIMELINE OF ASSIGNMENTS

The total number of points available for class assignments is 500 points.
In order of due dates, the assignments are:

	<u>points</u>	<u>%</u>	<u>due date</u>
1. Wilderness Restoration Case Study Essay	100	20%	Oct 18, 22, 25
2. Class Facilitated Essays	100	20%	Nov 1, 3, 10
3. Higgs Critical Response Essay	100	20%	Nov 29
4. Class Facilitation on Restoration & Climate Change	25	5%	Dec 1, 6, 8
5. Group Projects on Restoration at Dry Cottonwood Creek & Thomas Ranches & Individual Reflection Papers	50	10%	Date TBA
6. Take-Home Final Exam Essay	125	25%	Dec 14

Note: final grades will use pluses and minuses.

1. Ethical Analysis of a Case Study in Restoration in Wilderness: Class Facilitation and Reflective Essay. Each class member will have the opportunity to work in a small group to facilitate class discussion on a case study involving restoration in wilderness, using a framework by Peter Landres of the Aldo Leopold Wilderness Research Institute. The case studies and instructions for the class facilitation will be given in class. The dates for the case studies are Tuesday, October 13, Thursday, October 14, and Tuesday, October 20. Each student will then write up a 6-8 page reflective essay on her/his case, reflecting on and analyzing the ethical dimensions of the case, and making a recommendation for how best to resolve it. Specific instructions will be given in class. **Essay due in class on Tuesday, October 18, Thursday, October 20, or Tuesday, October 25.**

2. Facilitation of Class Discussion and Critical Response Essay: Each student will have the opportunity to facilitate class discussion of one set of article(s) assigned for Section III of the class: "Ethical Issues and Debates in Ecological Restoration." The class should be organized as a discussion of the texts, not a presentation. You will then write a response paper to the article(s) discussed in that class. Your paper should contain (a) a clear summary exposition of the main points of the reading(s) (2-3 pages) as well as (b) your thoughtful assessment of and response to the materials and ideas presented in the text (2-3 pages). (Total Length: 5-6 pages, double-spaced), **Due in class Tuesday, Nov 1, Thursday, November 2 and Thursday, November 10.**

3. Critical Response Essay Eric Higgs' *Nature By Design*: A 6-8 page critical response essay to the primary course text, Eric Higgs' book, *Nature by Design: People, Natural Process, and Ecological Restoration*. The first part of this essay should be a thoughtful exposition (i.e. summary and explanation) of the main themes from the book with 1-2 paragraphs dedicated to each chapter. The second section should be your response to the issues Higgs raises and argues: where do you agree with Higgs, disagree, and why? Does Higgs provide a helpful framework for assessing the ethical dimensions of ecological restoration? Where is his framework most helpful, least helpful, and where could it or should it be developed further or differently? **Due in class, Tuesday, November 29.**

NOTE: Your audience for the papers in 1, 2, & 3 is someone who has *not* read these texts. This means your exposition section must be clear and sufficiently well-developed so that the position and arguments of the author(s) would be clear to someone who has not read them, and would satisfy the author of a fair representation of his or her arguments.

4. Small Group Projects: The entire class will partner with the Clark Fork Coalition in their restoration and monitoring work on the Dry Cottonwood Ranch south of Deer Lodge and the Thomas Ranch on Gold Creek. We will meet to get an overview of the Dry Cottonwood Creek Ranch and their restoration and monitoring work with Maggie Schmidt on Saturday, Sept 10th in the morning. Small group teams will then be expected to carry out their individual projects on one of the additional field days scheduled for Fri-Sat [Dates TBD] in September and October. More information about the structure of the projects will be given in class.

Following your experience(s) on the Dry Cottonwood Creek Ranch and/or write a short (3-4 page) reflection essay where you do three things: (1) Describe briefly what you did for your project(s) related to the Dry Cottonwood Creek / Thomas Ranch; (2) Discuss any insights about Restoration you gained from the project and/or time spent on the DCCR; (3) Reflect on the quality of the Restoration (ecological, social, cultural) being done on the DCCR in light of our conversations to this point of the semester about what counts for *good* restoration and why. To what extent can we see the work being done on the DCCR as an example of *good* restoration, and why? Due in class **Date TBA** (depending on when projects are finished).

5. Class Facilitation of readings from *Ethical Adaptation to Climate Change*: These three classes will each focus on a different section of the text, *Ethical Adaptation to Climate Change*. Student teams will facilitate each class. In preparing for class, assume that everyone has read the chapters carefully, so you do not need to present on the content of the chapters. Rather, facilitate a critical conversation on the key themes and concepts, and what contributions, if any, they make to the discussion of what counts as *good* ecological restoration and why.

6. TAKE-HOME FINAL EXAM ESSAY:

Option A: Throughout the semester, we have considered ethical issues in ecological restoration through two primary lenses: (1) the philosophical question, “What is *good* ecological restoration?” posed most acutely by philosopher Eric Higgs (and posed by others as “*Can* restoration even be good?”); (2) the on-the-ground restoration planning and projects, both in Wilderness, and in the Clark Fork watershed being stimulated by the Superfund cleanup of the Clark Fork River and the community planning being spearheaded by the Clark Fork Coalition and other organizations involved in restoration.

In light of this semester-long conversation, write an 8-10 page essay (double-spaced) addressing two questions:

- (1) “What kind of restoration ethic is needed to guide ecological restoration efforts, and why?”
- (2) “What difference, if any, do emerging factors of climate change and novel ecosystems make for developing a restoration ethic, and why?”
- (3) “Is the restoration and clean up process ongoing in the Clark Fork watershed an example of *good* restoration? Why or why not?”

In your essay, please draw on several of the assigned readings as “conversation partners” in developing your response, as well as insights gained from class discussions, field trips, speakers and any additional reading you have done. In your answer, please consider and respond to these questions:

- Which authors have been most helpful to you in formulating your ethic, which most problematic, and why?
- What are the strengths and weaknesses, problems and potential, of ongoing restoration in the Clark Fork watershed, such as the Superfund clean up of the Clark Fork River in the Deer Lodge valley and the work of the Clark Fork Coalition on the Dry Cottonwood Ranch?
- What are the most important insights you have gained about restoration from this semester-long immersion?

Option B: Throughout the semester, we have considered the philosophical question, “What is *good* ecological restoration?” We have looked at this question through several lenses, especially through Eric Higgs’ text, *Nature By Design*. For this essay, use Higgs’ text as a departure point to investigate and analyze in greater depth *an issue* you believe is central to the question of *good* ecological restoration, but that Higgs either does not address, or addresses inadequately. Your paper should *not* be a rehashing of the issues in Higgs or your response paper to Higgs, but rather a new and more in-depth examination of *other* dimensions you believe need to be factored into the question of what counts for good ecological restoration, and why. Draw on other authors (including those we read in class or others you bring in), to help develop your analysis. What I am looking for in this essay is your ability to take the conversations and readings we have engaged this semester about good ecological restoration as a *starting point* that you move beyond and address a new or additional issue(s) in greater depth. Your final essay should be 8-10 pages, double-spaced. Please clear your topic with me prior to writing it.

Bring your completed essay to our classroom during the final exam period, **3:20—5:20 pm Wednesday, December 14, 2016**, where each of you will have the opportunity to share a synopsis of what you have written. Baked goodies to share with your classmates are also appropriate at this time. ☺

CLASS POLICIES:

Note Re Papers: Papers are due in class **on or before** the date listed in the syllabus. Unless you have made a prior agreement with me, I will take off one grade level (A becomes A-) for each class day an assignment is late. Papers with an undue number of errors of punctuation, spelling, or grammar will be marked down and may be returned ungraded for correction. Written work will be evaluated in terms of your depth of critical analysis, thoughtfulness of reflection, clarity of writing, and ability to address issues raised in the text and in class on the topic at hand. Grades given reflect the following criteria of judgment:

- F: Failure to meet minimum requirements
- D: Unsatisfactory, but some effort to meet minimum requirements
- C: Satisfactory; meets minimum requirements of assignment but not much more
- B: Good to Very Good: thoughtful reflection, good analysis, clear writing style
- A: Excellent depth of critical analysis, thoughtfulness of reflection, and writing style; demonstrate creativity and mature analytical skills in going beyond the primary requirements of the assignment

Attendance: Regular attendance and participation in the class is expected. More than **three** (3) absences will result in losing any benefit of the doubt on your final grade. More than **four** (4) absences will result in one grade reduction. More than **five** (5) absences will result in a failing course grade. Late arrivals in

class will count as an absence. (**Note:** If you have a valid reason for missing several classes, such as illness or other conflicting commitments, you still **must** speak with the instructor).

Academic Dishonesty and Plagiarism: All work submitted is expected to be the student's own. Any acts of plagiarism or academic dishonesty will result in automatic failure of the course, and may result in further academic punishment. If you have any doubts about definitions of plagiarism or academic dishonesty, please review the relevant sections of the University Catalog.

Students with Disabilities: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommason Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification. I am in the process of converting all of the materials in the class to an accessible format. If you find any course materials are not in an accessible format for you, please let me know and I will work with DSS to change the format.

Important University Policies, Dates and Deadlines

For Important Dates and University policies, check Cyberbear at <http://cyberbear.umt.edu/>

Incomplete Grade: Please see the criteria that must be met for an Incomplete in the University Catalog. No exceptions will be made for these criteria.

Moodle: Course assignments and readings are also posted on Moodle, which may be accessed at <https://moodle.umt.edu>

Readings on Moodle, ENST 570_01, Fall 2016 **Ethical Issues in Ecological Restoration**

1. The SER International Primer on Ecological Restoration
(www.ser.org/docs/default-document-library/english.pdf).
2. Jim A. Harris and Rudy van Diggelen. Ecological restoration as a project for global society. In Jelte van Andel and James Aronson, eds. *Restoration Ecology: The New Frontier*. Malden, MA: Blackwell, 2006, 3-15.
3. Jelte van Andel and Ab P. Grootjans. Concepts in restoration ecology. In Jelte van Andel and James Aronson, eds. *Restoration Ecology: The New Frontier*. Malden, MA: Blackwell, 2006, 16-28.
5. 2005 State of the Clark Fork: Understanding Our Watershed
www.clarkfork.org/publications/state_of_clark_fork/index.html
6. History of Upper Clark Fork Basin Litigation: Background, Status, and Opportunities to Restore the Basin. Unpublished paper by Cassandra Hemphill.
7. Sarah Carvill. The Focal Politics of the WRC in *On This Piece of Ground: Landowner Perceptions of Restoration in the Deer Lodge Valley*. Unpublished Master's Thesis, The University of Montana, 2009.

8. Peter Landres, Mark Brunson, and Linda Merigliano. Naturalness and Wildness: The Dilemma and Irony of Ecological Restoration in Wilderness. *Wild Earth*, Winter 2000/2001, Publication #417, 77-82.
9. Peter Landres. Let it Be: A Hands-Off Approach to Preserving Wildness and Naturalness in Wilderness. In David N. Cole and Laurie Yung, eds. *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*. Washington, D.C.: Island Press, 2010, 88-105.
10. **Milltown Dam News Overview January 2010**
(www.cfrtac.org/images/pdf/january2010/dam_news_09_single_panel.pdf)
11. **The Three R's of the Milltown Reservoir Superfund Project** (www.cfrtac.org/061009b.html)
12. **The Other End of the Dam Project** (www.cfrtac.org/061009d.html)
13. John Hendee, George Stankey, and Robert Lucas. Wilderness Management: Philosophical Directions. In John Hendee, George Stankey, and Robert Lucas, eds. *Wilderness Management*. Golden, CO: North American Press, 1990, 3-25.
14. Gregory Aplet & David Cole. The Trouble with Naturalness: Rethinking Park and Wilderness Goals. In *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*. David Cole and Laurie Yung, eds. Washington D.C.: Island Press, 2010, 12-29.
15. Robin Kimmerer. Restoration and Reciprocity: The Contributions of Traditional Ecological Knowledge. In *Human Dimensions of Ecological Restoration: Integrating Science, Nature, and Culture*. Dave Egan, Evan Hjerpe, and Jesse Abrams, eds. Washington D.C.: Island Press, 2011, 257-276.
- 15A. Robin Kimmerer. Selections from *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed, 2013.
16. Selections from *Explore the River: Bull Trout, Tribal People, and The Jocko River*. Confederated Salish and Kootenai Tribes, I&E, FRWC, Natural Resource Department, CSKT, PO Box 278, Pablo, MT, 59855.
17. John Cairns, Jr. Ethical Issues in Ecological Restoration. *Ethics in Science and Environmental Politics*, 2003, pp. 50-61.
18. Robert Elliot, "Faking Nature." *Inquiry* Vol. 25, No. 1, March 1982, 81-93. Reprinted in Robert Elliot, ed. *Environmental Ethics* (Oxford: Oxford University Press, 1995), 76-88.
19. Eric Katz. The Big Lie: Human Restoration of Nature. *Research in Philosophy and Technology*, 1992, Vol. 12, 231-243.
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