

## **Honors Global Challenge (HCOL 3805H): Our Common Waters: Making Sense of the Great Lakes**

Tu/Th, 1 - 2:15 pm Lind 303 3 credits Class #60880	Daniel J. Philippon Associate Professor of English 21 Lind Hall Phone: 612-624-4209 Email: danp@umn.edu Office Hours: by appointment	Deborah L. Swackhamer Professor, School of Public Health Professor, Humphrey School of Public Affairs 173 McNeal Hall Email: dswack@umn.edu Office Hours: by appointment
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### **Course Description**

This honors class will explore “water” by focusing on the Great Lakes, using a liberal arts approach to emphasize the interdisciplinary aspects of water in nature and society. Students will learn about the chemical, ecological, and geological aspects and challenges of the Great Lakes, in addition to their rich history, their economic drivers, their musical, artistic, and cultural contributions, and the laws and regulations that govern them and have shaped national and international policy. Requirements include attendance and participation, a class presentation, several writing assignments, two exams, and a collaborative final project to explore one of these areas in more depth. An optional field experience in Duluth and boat trip on Lake Superior is also planned. Students not currently in the University Honors Program are welcome to enroll.

**Liberal Education Requirement:** Liberal Education courses help you investigate the world from new perspectives, learn ways of thinking that will be useful to you in many areas of your life, and grow as an active citizen and lifelong learner. This course fulfills the Liberal Education requirement for Environment theme by helping you become engaged with the science and policy surrounding the environment of the Great Lakes region. In particular, it seeks to demonstrate how solving environmental problems in the region will require not only science and technology but also individual action and public policy that is consistent with the ethics and values of society.

### **Objectives**

**What questions will the course help you to answer? How will you grow in knowledge and understanding? What intellectual abilities will the course help you to develop?**

By the end of this course, you should be able to:

- understand basic facts and concepts concerning water and the Great Lakes
- connect the diversity of disciplinary perspectives on the Great Lakes, including chemistry, ecology, geology, hydrology, history, technology, economics, literature, music, law, and public policy
- clarify your own position by evaluating competing goods in the Great Lakes basin
- collaborate with others to find solutions to pressing problems of water use and protection
- communicate your ideas effectively in writing and in speaking

**Student Learning Outcomes:** This course also meets five of the University’s seven Student Learning Outcomes by helping you to:

- identify, define, and solve problems, through the collaborative portion of your final project
- locate and critically evaluate information, through the research for your final project
- understand diverse philosophies and cultures within and across societies, through our discussion of the “commons,” water ethics, and the different perspectives of Native Americans and European explorers and settlers of the Great Lakes
- communicate effectively, through your class participation, class presentation, and the writing of your essay exam and final project submissions
- acquire skills for effective citizenship and life-long learning, through stakeholder activities in the public-policy section of the course

## Texts

### What reading materials will help you to pursue the goals of this course?

There are three required textbooks for this course:

- Jerry Dennis. The Living Great Lakes: Searching for the Heart of the Inland Seas. New York: St. Martin's, 2004. ISBN-13: 978-0312331030. \$15.99.
- Wayne Grady. The Great Lakes: The Natural History of a Changing Region. Vancouver: Greystone Books, 2007. ISBN-13: 978-1553658047. \$29.95.
- Danielle Sosin. The Long-Shining Waters. Minneapolis: Milkweed Editions, 2011. ISBN-13: 978-1571310941. \$16.00.

We will also be reading a number of articles, which will be available on our course web site.

## Grades

### How will we evaluate the nature, quality, and progress of your learning?

We will award grades in this course according to the University of Minnesota's Uniform Grading Policy:

A: achievement that is outstanding relative to the level necessary to meet course requirements

B: achievement that is significantly above the level necessary to meet course requirements

C: achievement that meets the course requirements in every respect

D: achievement that is worthy of credit even though it fails to meet fully the course requirements

F: represents failure and signifies that the work was either:

- completed but at a level of achievement that is not worthy of credit, or
- not completed and there was no agreement between the instructor and the student that the student would be awarded an "I" (Incomplete)

We will also award pluses and minuses, with the highest possible grade being an "A."

We will assign an "I" (Incomplete) only in extraordinary circumstances, such as hospitalization. An Incomplete requires a written agreement between us, and it will automatically become an "F" at the end of the next semester of your registration if you do not complete the course requirements by that time.

Grades will be assigned in terms of a percentage of possible points according to the following standards:

	B+ >= 87%	C+ >= 77%	D+ >= 67%		
A >= 93%	B >= 83%	C >= 73%	D >= 63%	F < 63%	
A- >= 90%	B- >= 80%	C- >= 70%			

We may choose to grade more generously, but we will not raise our standards above these. If at any time you have concerns about your grade, please do not hesitate to contact us. Overall, we would say we are "tough but fair" graders. We expect your work to be outstanding, and the way to get an "A" is to meet those expectations in every respect.

### How to Calculate Your Grade

You can calculate your grade at any time by adding up all the points you received on your assignments to date and dividing that number by all the points you could have received on those assignments. (Grades for attendance and participation will not be calculated until the end of the semester.) We will also be posting grades to our Moodle site.

### Credits and Workload Expectations

This three-credit course will require, for the average University of Minnesota undergraduate student, nine hours of academic work per week, averaged over the term, in order to complete the work of the course (that is, receive a grade of "C-minus" or better). Since the course meets for three hours a week, you should expect to spend an additional six hours a week on coursework outside the classroom. All grades are based on the quality of the work submitted, not on hours of effort.

## University Resources

### What University resources exist to help you succeed in this course?

#### Student Writing Support

Student Writing Support (SWS) offers free writing instruction for all University of Minnesota students—graduate and undergraduate—at all stages of the writing process. Consulting is available by appointment online and in Nicholson Hall, and on a walk-in basis in Appleby Hall. Phone: 612-625-1893. Web: <http://writing.umn.edu/sws>

#### Student Academic Success Services

University Counseling & Consulting Services (UCCS) offers learning support services, including classes, workshops, individual consultation and counseling, and study skills resources to help you be successful at the University. They have two Twin Cities campus locations: Minneapolis (340 Appleby Hall) and St. Paul (199 Coffey Hall). Phone: 612-624-3323. Web: <http://www.uccs.umn.edu/>

#### Student Mental Health and Stress Management

Many university services exist to help you address a range of mental health concerns or stressful events that may lead to diminished academic performance. These include strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating, and/or lack of motivation. For more information on confidential mental health services, see: <http://www.mentalhealth.umn.edu/>

## University Policies

### What University policies apply to this course so that you will have a safe, productive, and fair environment for learning?

#### Sexual Harassment

Sexual harassment by or toward a member of the University community is prohibited by Board of Regents policy. Complaints about sexual harassment should be reported to the University's Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall. <https://diversity.umn.edu/eoaa/>

#### Classroom Conduct

All students at the University have the right to a civil, productive, and stimulating learning environment. In turn, instructors have a responsibility to nurture and maintain such an environment. Lively, even heated, discussion is not disruptive behavior. Both instructors and students have a fundamental obligation to respect the rights of each other and an equally fundamental obligation to respect the instructional setting as a place for civil, courteous behavior. Students who disrupt the educational process because of discourteous, threatening, harassing, or other aggressive behavior will be removed from class.

#### Student Academic Integrity and Scholastic Dishonesty

Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own can result in disciplinary action. Any student found guilty of scholastic dishonesty in this course can be assigned a penalty up to and including an "F" or "N" for the course and be reported to the University's Office for Student Conduct and Academic Integrity. If you have any questions regarding the expectations for a specific assignment or exam, please ask. <http://www.oscai.umn.edu>

#### Diversity

Diversity is a welcome and healthy component of this class. This includes diversity of race, diversity of gender, diversity of abilities, diversity of opinions, diversity of perspectives, diversity of backgrounds, diversity in ways of learning. Don't just be tolerant of diversity—bring out your diversities and help make the class even more interesting. Speaking of diversities, you should all know that one of our instructors, Deb Swackhamer, has a hearing impairment. Please speak loudly, clearly, and make sure you have her attention before speaking. Thank you! This syllabus is available in alternative formats upon request from either of us.

### Disability Accommodations

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DRC at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact us early in the semester to review how the accommodations will be applied in the course. Additional information: <https://diversity.umn.edu/disability/>

## **Requirements**

### **What will you be doing to pursue the goals of this course?**

To succeed in this course, you must complete the following requirements, which are worth a total of 1,000 possible points. For more information on this point system, see the section on grades.

#### **1. Attendance and Participation (50 points)**

Learning is social; it occurs in community. As a result, you will need to participate actively in this course on several levels, so that all of us can learn as much as possible from one another.

Our time in class is limited and therefore valuable. For this reason you should:

- arrive on time and stay the entire class period. Students who arrive late or leave early disrupt the flow of class and may miss important information. You should not expect to pass this course if you arrive late or leave early on a regular basis.
- use technology respectfully. You are welcome to use a laptop or tablet computer to take notes, and we will try to incorporate Internet resources and online activities into the class whenever possible. Please respect us and your fellow students by not using your computer for other purposes (such as email, Facebook, or web surfing) and by not using your cellphone for texting. Disrespectful use of technology interferes with learning and will be considered a violation of the Classroom Conduct Policy.
- refrain from eating meals during class. You are welcome to bring a drink or light snack with you to class, but please be considerate of those around you.

In return, we will always begin and end class on time, will place any lecture notes online as soon as possible after the end of class, and will make ourselves available to answer your questions and discuss your concerns before and after class, whenever possible, in addition to during our office hours.

You are responsible for documenting the legitimacy of any absence. You will not be penalized for absence due to unavoidable or legitimate circumstances. Such circumstances include:

- verified illness of you or your dependent
- participation in intercollegiate athletic events
- participation in activities sponsored by the University and identified as excused absences
- subpoenas, jury duty, military service, bereavement, and religious observances

Note that a pattern of unexcused absences is cause for a grade of "F" or "N" in the entire course. If you know in advance that you are going to be absent, please let us know.

We will do everything we can to encourage the participation of as many people as possible on as many days as possible. At the end of the semester, we will evaluate your participation using the following scale:

- A: frequent and courteous participation, with mature and thoughtful insights
- B: above average participation and insight
- C: moderate participation and reasonable insight
- D: below average participation with little understanding of the issues
- F: little or no participation

Halfway through the semester, we will ask you to evaluate your own class participation using this scale, as well as identify what you can do to improve. At the end of the semester, we will ask you to evaluate yourself again, as well as indicate what you have done to improve since mid-semester. We will then take this final evaluation into account when assigning grades in this portion of the course.

Your regular attendance and active participation matter because this course is not just about acquiring knowledge; it is also about improving your ability to engage in public discourse. This involves reading and listening carefully, interpreting what you have read or heard, and making your own contribution to an ongoing conversation. Your “participation grade,” therefore, is our attempt to evaluate how committed you have been to actively engaging others, observing how other people (ourselves and your fellow students) engage one another, and receiving feedback about your own engagement.

Because we recognize that some of your participation will occur in ways that may be difficult for us to judge—such as in small-group discussions, in conversations with one or more other students, and in other unstructured activities—we would also be happy to evaluate your non-verbal participation (or “active listening”) by reviewing the notes you take in class. Although active listening cannot take the place of actively contributing to a learning community, it can be an indicator of the depth of your engagement. Please see one of us if you wish to take advantage of this option.

To receive the full 50 points for attendance and participation, therefore, you should read the assigned texts carefully, attend the class meetings conscientiously, and participate actively in class discussions, small-group work, and other in-class assignments.

**2. Water Autobiography (25 points):** One of your first writing assignments will be to write a short “water autobiography,” telling the story of your relationship with water thus far in your life. You may approach this assignment in any way you wish, but you should use the occasion to orient yourself (and us) to the subject of our course. You might consider, for instance, how you appreciate (or don’t appreciate) water in its many forms (gas, liquid, solid); bodies of water that have had significance for you at different points in your life; major weather events you have witnessed that have involved water (blizzards, hurricanes, floods, etc.); how you use water in your daily life; or other ways you have engaged with water, such as swimming or boating in it for recreation, missing it during a long drought, or investigating it at a microscopic level for a science class. Your water autobiography should be 300-600 words long (the equivalent of 1-2 double-spaced pages) and will be due on January 29. Please bring a paper copy of your autobiography to class, in addition to posting it to our Moodle site.

**3. Class Presentation (25 points):** Throughout the semester, we will begin most class meetings with a “water in the news” presentation, in which a student (or one of us) will take one or two minutes to inform the rest of the class about a recent news item having to do with water and/or the Great Lakes. (No more than one web site or PowerPoint slide per person, please.) This assignment will help you stay current with world events and give you a chance to practice your public speaking skills in a relatively painless way. We will assign each student a day for this presentation, and we will work out any conflicts after that. Your presentation will be evaluated on a pass-fail basis.

**4. Analysis of The Living Great Lakes (75 points):** During the first four weeks of class, you should read Jerry Dennis’s book The Living Great Lakes at your own pace. As you read, take notes about three different aspects of the book: (1) the journey that Dennis recounts, (2) the aspects of the Great Lakes that most interest you, and (3) the way that Dennis crafts the story he tells, including such elements as character, plot, and modes of narration (dialogue, introspection, action, description, and exposition). Once you have finished the book, please write a 3-4 page analysis (double-spaced, at least 1,200 words) of the book that touches on all of these aspects.

In your analysis, focus your energies not on summarizing the book (you can assume that your reader has already read it) but rather on explaining what you found most interesting about the book and why. Be sure to quote from the text and provide specific examples to support your claims. While you may certainly use the first-person singular (“I”), try to limit its use to meaningful appearances (rather than say “I think,” for

instance, just tell the reader what you think). Finally, keep in mind that the book is not a “novel” but a work of nonfictional nature and travel writing.

Your analysis is due on Feb. 17, when we will use your thoughts on the book as a springboard to identify possible subjects for your final project (see below). Please bring a paper copy of your analysis to class, in addition to posting it to our Moodle site.

**5. Water Journal (75 points):** Although most of our class will take place at some distance from the Great Lakes, water is all around us, and we can use its many manifestations to understand our subject more deeply. To that end, we would like you to visit a body of water three times over the course of the semester and record your thoughts and observations about it.

The body of water may be located anywhere you wish, but it must be safe enough and accessible enough so that you can visit it repeatedly during the semester for 15-30 minutes each time. The Mississippi River, of course, runs right through campus, but you should not feel that the river is your only choice for this assignment. Wikipedia, for example, provides descriptions of many bodies of water, including lakes, marshes, pools, ponds, puddles, springs, streams, swamps, and wetlands: <[en.wikipedia.org/wiki/Body\\_of\\_water](http://en.wikipedia.org/wiki/Body_of_water)>.

Each journal entry should be 300-600 words long (the equivalent of 1-2 double-spaced pages) and will be worth 25 points. Your entries may also be accompanied by drawings, photos, and/or videos if you wish. Journal entries should be posted on the “Water Journal” sections of our Moodle site before class on the dates specified below. (Please post them as text entries, not Word attachments.) Late entries will have their grades reduced by ten percent for every week they are late.

Each entry in your water journal should involve a different activity:

1. **Imagine (due Feb. 12):** Imagine your body of water from the perspective of a Dakota or Ojibwe resident in the late 18th or early 19th century. How might his or her perception of this body of water differ from your own? How do such factors as your race, ethnicity, class, gender, and age affect your perception of it? How does the fact that it is 2014 affect your perception? What role do other factors—such as your environmental ethic, aesthetic preference, access to technology, economic system, political persuasion, and religious orientation—play? Ground your response to these questions in the observation of particular aspects of your body of water, using all five of your senses. Where are you, and what do you see, hear, smell, touch, and taste?
2. **Focus (due March 12) :** Focus your attention on one specific plant or animal in or around your body of water. Describe its behavior and/or appearance in detail and discuss your reactions to it. Compare your observations to those of a printed or online field guide, such as those available at [enature.com](http://enature.com) (be sure to include the web address or title of the field guide you use). What does a scientific description capture that your more subjective description does not, and vice-versa? If you noticed this plant or animal before, has it changed in the last three months? If so, how and why? How do you think some of the writers and scientists we have read and met so far would respond to this plant or animal?
3. **Reflect (due April 23):** Reflect on how you and your body of water have changed over the last four months. What have you learned about the interaction of people and water through time? Consider the limits of human observation: what have you been unable to learn about this body of water simply by observing it? What would you have to do to learn more about it? What may you never know? Why? What can this body of water tell us about the role of water in the Great Lakes Basin?

The best water journals will not try to answer all of the above questions in order every time, since doing so could lead to very fragmented entries. Instead, they will use these questions as prompts to create thoughtful records of your observations of a particular body of water, and they will cite or quote from the readings where appropriate. We will grade your journal entries according to the following scale:

- A: original, purposeful, clear, coherent, skillful, error-free (or almost)
- B: thoughtful, inspired, and complete, but with some stylistic weaknesses
- C: sufficient but somewhat unimaginative, with notable stylistic and mechanical errors
- D-F: unoriginal, incomplete, unclear, incoherent, poorly written, with numerous errors

**6. Reading Journal (50 points):** In addition to observing a particular body of water closely, we would also like you to pay close attention to the texts we are reading for class. To help you do so, we would like you to submit ten entries in a Reading Journal, which will also allow you to share your thoughts with the other students in our class.

Each Reading Journal entry should be at least 150-200 words long (the equivalent of about half a double-spaced page) and should be a thoughtful, considered reaction to one or more of the texts you have read for class since your previous journal entry. You may certainly write more than this, but 150 words is the absolute minimum. Your entries should be based primarily on your own attention to and engagement with the texts, but we also encourage you to respond to the entries of other students by posting replies.

Entries should be posted on the "Reading Journal" sections of our Moodle site by the beginning of class on the days posted on the Course Schedule. (Please post them as text entries, not Word attachments.) Although we will read this forum regularly, we will not be providing feedback on individual entries. Instead, we will watch for trends in the length, number, timing, and quality of your messages throughout the semester, and we will let you know if you need to improve. Each reading journal is worth five points, which will be awarded on a pass-fail basis at the end of the semester.

**7. Exams (400 points):** We will give two exams in this course to evaluate the nature, progress, and quality of your learning.

- **Exam #1** (200 points) will test your knowledge of important facts, concepts, and ideas. It will likely include a range of questions, such as fill-in-the-blank, matching, multiple-choice, true-false, identifications, definitions, and short answers.
- **Exam #2** (200 points) will likely be an essay exam, with one or more "why" or "how" questions that will allow you to make connections between several key concepts. It might also ask you to apply your understanding to a particular situation, or to analyze, synthesize, and evaluate evidence and conclusions.

**8. Final Project (300 points):** To give you an in-depth experience with collaborative learning, after the first few weeks of orientation we will guide the class in forming groups of approximately 4-5 students each, depending on our course size. As part of this process, each group will select a topic or issue concerning the Great Lakes to explore in further detail. Each group will then decide together on an approach to create a final "deliverable" (such as a white paper, a web site, a public education campaign, a museum exhibition, an art installation, and so on). Throughout the rest of the semester, each group will submit three "milestones" to mark its progress toward this goal. In addition, each group will prepare a PowerPoint presentation to explain its findings, and all members of the group will submit individual evaluations of their own contributions and the contributions of the other group members. Each of these components has its own point value:

- Milestone #1: Annotated Bibliography, 2-3 pp., double-spaced (20 points), due March 5
- Milestone #2: Abstract, 2 pp., double-spaced, explaining subject, method, audience, delivery, predicted impact, and your "theory of change" (15 points), due March 26
- Milestone #3: Progress report, 1-2 pp., single-spaced, explaining what remains to be done, and who is going to do it (15 points), due April 9
- PowerPoint/Prezi/Keynote Presentation (50 points), due last week of class (see Course Schedule)
- Deliverable (150 points), due during Exam Period
- Self-evaluation (50 points), due during Exam Period

We will grade your final deliverable according to the following scale:

- 50 points: Quality/professionalism of visual presentation and paper
- 50 points: Content of visual presentation and paper
- 30 points: Integration/evidence of group work: Is the whole greater than sum of its individual parts?
- 20 points: Execution vs. Level of Difficulty: Was your goal ambitious, even if the result was imperfect?

For suggestions and advice about "Surviving Group Projects," see <http://teamwork.umn.edu>.

**9. Field Experience in Duluth (no points, just life-long memories):** This optional but highly recommended trip will probably take place on a Saturday in late April or early May and will likely include time on UMD's Research Vessel Blue Heron (to do water sampling and measurement), as well as a visit to the Great Lakes Aquarium, the U.S. Army Corps of Engineers' Lake Superior Maritime Visitor Center, and/or the U.S. EPA National Health and Environmental Effects Research Laboratory. This is a tentative trip, based on the availability of ship time and weather conditions. More information will be available in early March. Note that the bus for this trip will be leaving from the St. Paul Student Center.

## Contact Us

### How can you contact us to help you learn?

The best way to contact us is immediately after class; we would be happy to meet with you briefly to answer a question or elaborate on a point made in class. To contact us at other times, feel free to call us at our offices, send us email, or stop by during our office hours. If our office hours are inconvenient for you, please let us know, and we can arrange to meet at another time. Even if you do not have a specific question, we encourage you to stop by our offices at some point during the semester, so that we can get to know you better as a person and so that we can talk in more detail about the subjects that interest you. The main reason we are here is to help you learn and grow, so please take advantage of this opportunity and come see us. **Our contact information appears at the top of this syllabus.**

## Course Schedule

### How is this course structured to develop your knowledge, understanding, and abilities throughout the semester?

This schedule is subject to change, so if you miss a class you should check with a classmate for the most current information. Lecture notes, handouts, and additional readings will be available on our web site.

### 1. The Great Lakes in Comparative Perspective

Tu 1/20 **Week 1.1: Welcome (Deb and Dan)**

Th 1/22 **Week 1.2: The Global Water Crisis (Deb and Dan, with Val Were)**

Required Reading: Sandra L. Postel, "Entering an Era of Water Scarcity: The Challenges Ahead"; Charles Fishman, "The Secret Life of Water"

Optional Reading: Arjen Y. Hoekstra and Mesfin M. Mekonnen, "The Water Footprint of Humanity"; Emily Gertz, "Water Tight"

DUE: Water Footprint Calculator Assignment

Tu 1/27 **Week 2.1: America's Water Crisis (Deb and Dan)**

Required Reading: Alex Prud'homme, "No Time to Waste"; Peter H. Gleick, "A Way Forward? The Soft Path for Water"

Optional Reading: Michael Wines, "States in Parched Southwest Take Steps to Bolster Lake Mead"; Eduardo Porter, "The Risks of Cheap Water"

DUE: Reading Journal #1

### 2. Coupled Human and Natural Systems in the Great Lakes

#### A. What are the Principles of Natural Systems?

Th 1/29 **Week 2.2: Geological Past and Present of the Great Lakes (Deb)**

Required Reading: Grady, *The Great Lakes*, chapter 2, "Foundation Stones"

Optional Reading and Viewing: Larson and Schaetzl, "Origin and Evolution of the Great Lakes"; "Paddle to the Sea" film

DUE: Water Autobiography

Tu 2/3 **Week 3.1: Complexity, Sustainability, and Systems Thinking (Dan; Deb gone)**

Required Reading: Grady, *The Great Lakes*, preface and chapter 1, "The Freshwater Seas"; Liu, et al., "Complexity of Coupled Human and Natural Systems"

Optional Reading: Maude Barlow, "Our Great Lakes Commons: A People's Plan to Protect the Great Lakes Forever"; Barry G. Rabe, "Sustainability in a Regional Context: The Case of the Great Lakes Basin"; Michael Wines, "E.P.A. Unveils Second Phase of Plan to Reverse Great Lakes Damage"



DUE: Reading Journal #2

- Th 2/5 **Week 3.2: Hydrology and Ecology of the Great Lakes (Deb)**  
 Required Reading: Grady, The Great Lakes, chapter 6, "Life in the Margins," and first two-thirds of chapter 7, "Water World"

B. How Do Human Cultures Interact with Natural Systems?

- Tu 2/10 **Week 4.1: Native American Inhabitation (Dan; Deb gone)**  
 Required Reading: Callicott and Nelson, American Indian Environmental Ethics, pp. 1-12, 32-37; three Ojibwe stories; William Ashworth, "Contact"; Henry R. Schoolcraft, from Narrative Journal of Travels (1821)  
 Optional Reading: Melissa K. Nelson, "Rivers of Memory, Lakes of Survival: Indigenous Water Traditions and the Anishinaabeg Nation"  
 DUE: Reading Journal #3

- Th 2/12 **Week 4.2: European Settlement (Dan)**  
 Required Reading: Grady, The Great Lakes, chapter 4, "The Great Lakes–St. Lawrence Forest"; William Ashworth, "Furs"; Jim O'Brien, "A Beaver's Perspective on North American History"  
 Optional Reading: Curt Meine, "Inherit the Grid"  
 In class: Identification of Library Resources for Projects  
 DUE: Water Journal #1

- Tu 2/17 **Week 5.1: Project Identification (Deb and Dan)**  
 DUE: Analysis of Dennis, The Living Great Lakes

C. How Do Human Technologies and Economies Interact with Natural Systems?

- Th 2/19 **Week 5.2: Industrial Technology and Resource Exploitation in the Basin (Dan)**  
 Required Reading: William Ashworth, "The Big Cut"; Christopher C. Andrews, "Forestry and Conservation"  
 Optional Reading: Grady, The Great Lakes, chapters 3 and 5, "The Boreal Forest" and "The Carolinian Forest"  
 DUE: Reading Journal #4

- Tu 2/24 **Week 6.1: Industrial Technology and Resource Exploitation of the Lakes (Deb)**  
 Required Reading: Grady, The Great Lakes, last third of chapter 7, "Water World"

D. How Does the Human Imagination Interact with Natural Systems?

- Th 2/26 **Week 6.2: Writing the Great Lakes: Laurie Allmann**  
 Required Reading: Laurie Allmann, Far from Tame: Reflections from the Heart of a Continent, Intro and Ecoregions IV and V  
 In class: Study Guide for Exam #1 distributed; mid-semester evaluations

- Tu 3/3 **Week 7.1: Literature and Culture (Dan)**  
 Required Reading: The Long-Shining Waters  
 DUE: Reading Journal #5

E. How Do Human Laws, Governance, and Management Interact with Natural Systems?

- Th 3/5 **Week 7.2: Laws, Governance, and Management (Deb and Dan)**  
 Required Reading: Ostrom, Stern, and Dietz, "Water Rights in the Commons"; Peter Schulte, "The Great Lakes Water Agreements"

Optional Reading: Botts and Muldoon, "Evolution of the Great Lakes Water Quality Agreement";  
 US-Canada Great Lakes Water Quality Agreement 2013  
 DUE: Milestone #1 (Project Bibliography)

Tu 3/10 **Week 8.1: EXAM #1**  
 To assess understanding of facts and context of the Great Lakes

Th 3/12 **Week 8.2: Project Development (Deb and Dan)**  
 Attendance required—please plan your travel accordingly  
 Required Reading: Grady, The Great Lakes, chapter 9, "The Future of the Great Lakes"  
 DUE: Water Journal #2

Tu 3/17 **SPRING BREAK**

Th 3/19 **SPRING BREAK**

### **3. Public Policy Challenges in the Great Lakes**

#### A. Overextraction

Tu 3/24 **Week 9.1: Dave Dempsey, author, On the Brink: The Great Lakes in the 21st Century and Great Lakes for Sale: From Whitecaps to Bottlecaps (tentative)**  
 Required Reading: Dempsey, "A Giant Loophole"  
 DUE: Reading Journal #6

Th 3/26 **Week 9.2: Stakeholder activity**  
 Required Reading: NOAA Coastal Services Center, "Introduction to Stakeholder Participation";  
 Joshua T. Newton, "Stakeholder Participation in Transboundary Water Management"  
 Optional Reading: Mark S. Reed, "Stakeholder Participation for Environmental Management";  
 John Jackson, "Bi-National Citizen Action: Grassroots Environmentalism in the Watershed"  
 DUE: Milestone #2 (Project Abstract)

#### B. Invasive Species

Tu 3/31 **Week 10.1: Invasive Species Overview (Deb; Dan gone)**  
 Required Reading: Grady, The Great Lakes, chapter 8, "Invasions"  
 Optional Reading: Emma Marris, "It's Time to Stop Thinking That All Non-Native Species Are Evil"  
 DUE: Reading Journal #7

Th 4/2 **Week 10.2: Week 12.2: Doug Jensen, Coordinator, Aquatic Invasive Species Program, Minn. Sea Grant (Dan gone)**

#### C. Shoreline Development: The Case of Lake Erie

Tu 4/7 **Week 11.1: Speaker TBA**  
 Required Reading: Michael Wines, "Behind Toledo's Water Crisis, a Long-Troubled Lake Erie"  
 Optional Reading: Tom Philpott, "The Toxic Algae Are Not Done With Toledo. Not By a Long Stretch."; David S. Beckman, "The Threats to Our Drinking Water"  
 DUE: Reading Journal #8

Th 4/9 **Week 11.2: Stakeholder activity**  
 DUE: Milestone #3 (Project Progress Report) and Suggested Questions for the Final Exam

D. Pollution

- Tu 4/14 **Week 12.1: Deb Swackhamer**  
 Required Reading: Deb Swackhamer, "Water Quality in the Great Lakes: Persistent Organic Pollutants"; Deb Swackhamer, "Water Quality and Future Generations" (TEDxUMN video)  
 DUE: Reading Journal #9
- Th 4/16 **Stakeholder activity (Deb; Dan gone)**  
 In class: Study Guide for Exam #2 distributed

E. Climate Change

- Tu 4/21 **Week 13.1: Climate Change: Speaker TBA**  
 Required Reading: UCS/ESA, "Confronting Climate Change in the Great Lakes Region: Impacts on Our Communities and Ecosystems"; Chris Bentley, "Low Waters and High Anxiety"  
 Optional Reading: Mortsch, Alden, and Scheraga, "Climate Change and Water Quality in the Great Lakes Region: Risks, Opportunities, and Responses"; Scheraga, "Linking Science to Decision Making in the Great Lakes Region"  
 DUE: Reading Journal #10
- Th 4/23 **Week 13.2: Stakeholder activity**  
 DUE: Water Journal #3
- Tu 4/28 **Week 14.1: EXAM #2**  
 To assess skills in critical thinking and comparative analysis

**4. Project Presentations**

- Th 4/30 **Week 14.2: Presentation Day #1**
- Tu 5/5 **Week 15.1: Presentation Day #2**
- Th 5/7 **Week 15.2: Conclusion**  
 In class: Course Evaluations