Course description:

Limnology is the study of inland freshwaters which includes lakes, ponds, reservoirs, rivers, streams and wetlands. This course will focus on the largest inland waters (lakes, streams and rivers) while we explore the physical, chemical and biological functioning of these vital ecosystems. We will also explore the current events surrounding these systems and the cultural significance of freshwater.

Learning objectives

1) Develop a strong understanding of the physical, chemical and biological functioning of lakes rivers and streams and how they impact one another in the ecosystem and identify key relationships and interactions between biotic and abiotic factors.
2) Understand relationships and interactions between aquatic organisms with their habitats and how that impacts community structure and other ecosystem processes.
3) Critically read and evaluate scientific literature.
4) Explore how humans and societies impact these freshwater systems.
5) Develop an understanding surrounding historical and cultural significance of freshwater systems with an emphasis with Minnesotan waters.
Required Readings

We will be using Jacob Kalff’s Limnology textbook as a basis for the course and study materials (available for free online). Reading requirements will be listed on the course schedule and may include scientific articles or other reading pertaining to freshwater with links supplied in Moodle.

Course expectations

1) Attendance at lectures is required and necessary. I expect you not only to be present, but mentally engaged.
2) Lectures will be structured with a mix of group work, current events presentations, and traditional lectures.
3) You will be expected to work with me, the instructor, on a project idea/proposal and completing the project by the end of the semester.
4) Respectful and inclusive environment fostering good communication and increased capacity in learning.
5) Assigned/Required readings will be completed before the lecture it is scheduled for, so you are ready to discuss and grow in that learning.
6) The schedule is not set in stone and can be changed. Changes will be announced in Moodle and during lecture.

Course Policies

In general, please communicate with me in advance if something arises that prevents you from completing your work or attending class.

Attendance: Arrive on time, provide your full attention and be actively engaged. We will be exploring topics, discussing articles and other group exercises in class that will help you engage with the material. Lecture material is stressed on exams, and most other points are obtained while being IN CLASS.

Missing Class: Almost all points come from being in lecture, so attendance is REQUIRED. Please inform me ahead of time if you will be missing a class for any reason. Excused absences will result in performing the in-class work on your own to be turned by the end of the week of the absence. You get one unexcused absence (emergencies happen) without penalty, but after that results in zero points for the in-class activities for that day.

Late work: Make up tests will not be given without prior conversation or documented extenuating circumstances. Late Final Projects will be deducted 10 points for every day it is late.

Assignments, Activities and Tests
**Article Discussions (100 points):** Required reading to be done BEFORE the class period is assigned for and will lead to critical, small group discussions. These are designed to improve critical thinking skills and expand your knowledge and comfortability with peer reviewed scientific articles or to learn how to incorporate art and cultural context into science. Each discussion will require participation of all students in the group and there are no wrong answers or stupid questions. These points are all gained IN LECTURE.

**Project (100 points):** There will be one project completed by the end of the semester pertaining to water. This project will be something you have nearly complete autonomy over but will need to be approved by me. I want you to be able to work on something that speaks to your relationship and interests surrounding freshwater systems. This can be an art installation, a series of interviews gathering information and stories around water put into a collection, a research paper on a subject that has really inspired you, an experiment involving water/water quality, etc... I know this autonomy over a project can be overwhelming or exciting! Just know you aren’t alone in developing these ideas or executing it. We can work on getting you a project outline done together! We will confirm these projects by spring break so you have the second half of the semester to work on and finish these projects to be turned in by the last day of lecture.

**Tests (300 points):** All tests are open book/notes/lecture slides within the class period on the schedule. Tests are a combination of multiple choice, short answer and essay questions. Format of tests will be either on Moodle or on paper in class depending on what students prefer and technology assistance. The final will not be cumulative.

**Current events/participation (20 points):** Students will present once in the semester on a current event/in-the-news/cultural significance involving water. This is a single slide presentation that will be done at the start of the class in which the student is expected to present on a current event involving water.

**Grading Scale**

Grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>93-100</th>
<th>90-92</th>
<th>87-89</th>
<th>80-82</th>
<th>77-79</th>
<th>73-76</th>
<th>70-72</th>
<th>67-69</th>
<th>63-66</th>
<th>60-62</th>
<th>&lt;50</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>C-</td>
<td>D+</td>
<td>D</td>
<td>D-</td>
<td>F</td>
</tr>
</tbody>
</table>

A curve MAY be added as instructor deems necessary at the end of the semester.

**Academic Integrity**

Students are expected to maintain the highest standards of honesty in their college work; violations of academic integrity are serious offenses. Students found guilty of any form of
academic dishonesty — including, for instance, forgery, cheating, and plagiarism — are subject to disciplinary action. Examples of behavior that violates this policy, as well as the process and sanctions involved, can be found on the Academic Programs website, https://www.macalester.edu/academicprograms/academicpolicies/academicintegrity/

Statement on Inclusivity

I strive to foster a welcoming and inclusive classroom community where everyone feels comfortable contributing ideas and questions. To that end:

• This class welcomes all people regardless of race, ethnicity, religion, gender, gender identity, socioeconomic status, disability status or sexual orientation
• This course affirms people of all gender expressions and gender identities. If you have a different name or pronouns you would like to be called/used than what is on the class roster, please let me know. Using correct gender pronouns and names is important to me, so you are encouraged to share your information and correct me if a mistake is made.
• If you have concerns about the perspectives or ideas shared in class, please come talk to me so we can address the issue in a positive way.
• I expect you to respect everyone in the class which includes making space for others to contribute and actively listening to other ideas. You can disagree without being disagreeable!
• Infringements of civility will not be tolerated.

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, Macalester College works hard to ensure that all facilities and programs are accessible to all students. Accommodations are based on individual need substantiated by the appropriate process. What is reasonable is also determined by what is essential to this course. Any students who believe that they may need accommodations due to disability impacts should contact the Disability Services office by emailing disabilityservices@macalester.edu, or by calling 651-696-6974 to schedule an appointment to discuss your individual needs. Students should then follow up with me directly to discuss accommodations for this course.