



蘇州大學
Soochow University

BIO 385 Limnology

Winter 2024

Course Credits: 4

Contact Hours: 56 hours

Instructor: TBA

Email:TBA

COURSE OBJECTIVES

Limnology, a multidisciplinary field, is broadly defined as the study of inland waters. This course focuses on the ecosystem level, emphasizing the structure and function of ecosystems. The curriculum includes an examination of human impacts on inland waters. Laboratories are specifically designed to impart field and laboratory techniques to students, encompassing the use of sampling equipment and procedures for the identification and quantification of aquatic organisms. Additionally, students learn to characterize the physical and chemical properties of lakes. The laboratories emphasize experimental design to enhance practical skills. Upon completing the course, students will be well-equipped for advanced studies in limnology or other aquatic disciplines. Furthermore, they will be better prepared for careers in environmental fields.

Upon Completion of this Course, students will be able to:

1. Describe and explain ecological processes in aquatic ecosystems from individual to system levels;
2. Understand the use of limnological equipment to characterize the biological, physical and chemical characteristics of lakes;
3. Learn to identify common aquatic organisms, particularly algae, zooplankton, and macroinvertebrates;
4. Independently or in groups, plan and carry out samplings and laboratory experiments as well as compile, critically analyse and evaluate received results.

PREREQUISITES



CHM 110 General Chemistry

GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
5 Labs and Reports	30 Points
2 Assignments	10 Points
2 Quizzes	20 Points
Midterm Exam	15 Points
Final Exam	25 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F.$$

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

Introduction to Limnology, 1st Edition, by Stanley Dodson.

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	Topics: Topic 1: Introduction to Limnology Topic 2: The Diversity of Limnological Organisms Topic 3: Lake Morphology and Morphometry Topic 4: Heat and Light in Water Assessments:



	Lab #1 and Report Assignment #1
Module 2	Topics: Topic 5: Dissociation and pH/Redox Potential Topic 6: Chemicals Dissolved in Water Topic 7: Measurement of Oxygen in Lakes Topic 8: Water Movements Assessments: Lab #2 and Report Quiz #1
Module 3	Topics: Topic 9: Diversity of Aquatic Organisms: The Single-Celled and Colonial Organisms Size Topic 10: Prokaryotes (Bacteria and Archaea) Topic 11: Diversity of Aquatic Organisms: Rotifers, Annelids, and Arthropods Topic 12: The Small Invertebrates Assessments: Lab #3 and Report Assignment #2 Midterm Exam
Module 4	Topics: Topic 13: Diversity of Aquatic Organisms: Larger Organisms Topic 14: Macrophytes, Fish and Other Aquatic Vertebrates Topic 15: Population Dynamics in Limnology Topic 16: Community Ecology: Species Interactions and Community Structure Assessments: Lab # 4 and Report Quiz #2
Module 5	Topics: Topic 17: Community Ecology: Freshwater Communities Changing Through Time Topic 18: Aquatic Ecosystems and Physiology: Energy Flow Topic 19: Aquatic Ecosystems: Chemical Cycles Topic 20: Water in Landscapes Assessments: Lab #5 and Report Final Exam

ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.



Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

ACADEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors



蘇州大學
Soochow University

and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

DISABILITY ACCOMMODATION

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.