

The Biology of Peatlands

Biology 4610-SDE

COURSE OUTLINE SPRING 2018

Instructor:

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Office hours:

Private chatroom: TBD depending on student feedback; or by appt.

Email for course correspondence:

I will typically respond daily from 7-9 pm. For this course, please use the MyCourseLink email rather than my LU gmail account. Consider posting general questions to the discussion board since this will contribute to your participation grade.

Prerequisites:

Biology 1130FA or an equivalent basic botany or general science course with botany content.

Course description:

Students will examine a range of topics while studying the biology and ecology of peatland ecosystems. We will study how they are formed, how they function, their role in the global economy, and their role in global carbon cycling. Students will better understand how to best manage, conserve, and restore these global resources. Major project includes producing a scientific poster encompassing themes examined throughout the course.

Course Goals:

After successful completion of this course you will be able to...

- Describe and assess peatland forms and functions.
- Explain the role of *Sphagnum* sp. in building and maintaining peatlands.
- Describe how peatlands develop and their relevance as archeological records.
- Describe and assess the biology, hydrology, geology, and chemistry of peatlands.
- Explain common practices used to manage, conserve, and restore the world's peatlands used for economic purposes.
- Describe the role of peatlands in the global carbon cycle as it relates to climate change.

Structure:

- **Lecture notes:** PDF PowerPoints are provided at the start of each week highlighting key themes for each topic.
- **Textbook readings:** Readings from the textbook are assigned each week.
- **Additional readings:** Additional readings from peer reviewed journals, government publications, and interest groups are assigned for some topics.
- **Online participation:** Students are expected to participate in the course by contributing to on-line discussion topics and posting relevant content and thoughts. The digital record of students accessing materials on the site is also considered in this grade.
- **On-line assessments:** There are weekly quizzes/assignments to ensure students read and comprehend material. Quizzes/assignments consist of multiple-choice, multi-select, matching, short answer, and/or long answer questions. These **MUST** be completed within the posted time-frame or else a grade of 0 will be assessed.
- **Major presentation:** Each student is expected to prepare a poster on a major local, national, or international peatland or peatland complex. Students may choose their peatland but it must be approved by the instructor. No duplicates are allowed (first come first served). Poster content is to consist of 3-4 major themes examined during the course and must also be approved by the instructor. There is a 10% per day late deduction.

Performance Evaluation:

Activity	Weight
On-line participation	25%
On-line assessments	35%
Poster presentation	40%

Time requirement:

Since this course is condensed into 6 weeks, topics move fast. Students are expected to spend 6-10 hours per week on course work. Students should review the weekly package each Monday to prevent falling behind.

Missed work:

Since this course is condensed into 6 weeks, missed work cannot be made up and extensions shall not be granted. It is suggested that students missing extreme amounts of work drop the course until such time they can successfully fulfill course requirements.

MyCourseLink:

As a web based course, access to the instructor and course materials is exclusively delivered through BrightSpace's Desire to Learn platform accessible through MyCourseLink. This site will open on the first day of classes!

Mandatory textbook:

Rydin, H. and Jeglum, J.K. The Biology of Peatlands, 2nd ed., 2013. Oxford University Press.

Although a hard copy of first edition is available on 2 hour reserve in the TBay library and E-versions are accessible via the library, significant changes to latter chapters were made. Therefore, students are expected to obtain a copy of the latest edition.

Schedule of textbook readings:

Week of	Topics	Text
May 1	Definitions, classifications, ecosystems, diversity	Chapters 1-2
	Select poster peatland	Chapter 11
May 8	Plant adaptations, <i>Sphagnum</i> as peatland builders	Chapters 3-4
May 15	Soils, succession	Chapters 5-7
May 22	Hydrology, nutrients, patterns	Chapter 8-10
May 29	Productivity and peat accumulation	Chapter 12
June 5	Management, conservation, restoration, climate change	Chapters 13-14
June 12	Last day of classes	Poster due at noon!
June 19	Marks due	

Weekly outline

A weekly package of materials will be posted each **TUESDAY by 11:59 am**. The package will detail the requirements students are to complete the following **MONDAY by 11:59 pm**. Package items typically include lecture notes, text readings, additional readings, worksheets for online assessments, quizzes/tests, and details concerning discussion topics. View each package under the relevant Course Content section.

Academic Dishonesty and Plagiarism

This course will have a zero-tolerance for academic dishonesty and plagiarism. For further information, please refer to the Code of Student Conduct and the Lakehead University Calendar (Section IX).

Plagiarism is taking the ideas or words of others and passing them off as your own. Plagiarism is a type of intellectual theft. Plagiarism can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. Plagiarism can have serious consequences, so it is important that students be aware of what it is, and how to avoid it. If you are citing information from other sources on tests and assignments, REFERENCE IT! If you are using photos from other sources, reference it. Use open source and free images (try Google advanced search, labeled for reuse or non-commercial use).

It is also plagiarism when you submit an assessment item that has already been submitted for academic credit elsewhere, or to knowingly permit your work to be copied by another student.

There are very serious penalties for plagiarism, ranging from re-submission, reduction of marks (including to zero), failure of the course, and exclusion from the university.

Copyright

Quiz, test, and lecture content is owned by the instructor. Reproduction (e.g. photographing, printing and copying), and/or distribution of content shall be considered a form of academic dishonesty.