OCSC 2500 - Introduction to Practical Ocean Sciences (Spring 2020)

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Course Format:

Two-week, team taught, online course: 18 to 29 May, 2020, from 09:00 to 16:00, with preparatory/recap evening work as required.

- Lectures, discussions, assignments: online (connection details provided separately by each instructor)

Course Description (original, from 2019/2020 MUN Calendar):

Introduction to Practical Ocean Sciences explores the instruments, techniques, and analytical methods commonly used to study marine life and processes, chiefly focusing on the interaction between living organisms and their chemical, physical and geological environment. The course combines ship-based or shore-based sampling and data collection with laboratory investigation in an intensive 2-week long format. It is primarily intended for mid-level undergraduate students majoring in Ocean Sciences and Marine Biology. This course will either be offered during a special session following the Winter semester, or in the Spring semester.

Learning Objectives:

In this online version of the course, students will learn to:

- Apply efficient and safe operating techniques to the use of modern field and laboratory instruments common in ocean studies;
- Extract, synthesize, compare, and interpret oceanographic data;
- Report basic research results, including statistical and graphical exploration of data;
- Formulate the results of data analysis and interpretation in writing and orally;
- Appraise the advantages and limitations of various laboratory and field methods in ocean sciences.
Course Schedule (subject to change based on online delivery efficiency):

This course is divided in five (5) thematic modules. Each instructor is responsible for one or two module(s) based on her/his area of expertise. Each module typically addresses a collection of instruments and associated techniques and analytical methods belonging to a specific domain of ocean sciences. Each module is divided differently based on particular content and instructors’ goals but generally contains the following segments:

**Segment 1** is largely theoretical / conceptual, addressing, in a lecture format, the nature and importance of key ocean characteristics and the instruments commonly used to measure these characteristics. This segment provides the background knowledge necessary to undertake Segment 2.

**Segment 2** is practical (as much as is possible, considering the online format), addressing how to configure, deploy, operate, and recover instruments. This segment is used to provide data from the instruments that will be analyzed in Segment 3.

**Segment 3** is analytical, addressing how to extract, synthesize, and interpret data from Segment 2.

A detailed, per-module overview, schedule of activities, and key assigned readings will be posted on the Brightspace shell the week before the course begins.

**Recommended Textbooks:**

None. Material for the course such as links to websites and scientific articles from MUN-subscribed journals will be accessible via the Brightspace course shell. Material to consult will be communicated ahead of modules.

**Prerequisites:**

Science 1807, OCSC 1000, at least three of OCSC 2000 (or BIOL 3710), 2001, 2100, 2200, 2300

**Evaluation:**

- Readings (4 main modules @ 7% each) 28%
- Quizzes (4 main modules @ 8% each) 32%
- Oral Presentation (Friday, May 29th) 20%
- Written Report (due Friday, June 5th , at the latest) 20%

**Readings:** Students will be expected to read assigned papers for each thematic module. Understanding of these papers will be assessed with questionnaires, critiques, and/or group discussions.

**Quizzes:** Understanding of each thematic module’s content will be assessed with online quizzes (number and content vary across modules)

**Oral Presentation:** Each student’s presentation skills will be evaluated as each team of students delivers, on the last day of the course, a power point presentation on 2 thematic modules of their choice. Advice to create efficient slideshows will be provided on the first day of class. A detailed presentation template and rubric for grading the presentation will be provided on the first day of class.
Written Report: Students will be required to submit a final written report that encapsulates 2 thematic modules of their choice (which may differ from those covered in the oral presentation) by the last weekday of the week that follows the 2-week online course. A detailed report template and rubric for grading the report will be provided on the first day of class.

Participation: Students are expected to participate actively in all aspects of the course. Every student is assessed continuously throughout the course on his/her level of involvement, from the sharing of ideas and opinions during discussions to the general attitude and level of preparation before and during online activities. Timely completion/submission of each module’s deliverables and overall course assignments will also be considered in the participation grade. Grades may be subtracted from any of the above mentioned evaluation components if participation is deemed unsatisfactory.

Plagiarism:

As outlined in Section 4.12.4 of MUN’s Calendar, plagiarism (the act of presenting the ideas or works of another as one’s own) is a form of academic offence. Plagiarism will not be tolerated in this course. Any student who plagiarizes another’s work exposes himself/herself to the disciplinary measures outlined in section 4.12 of MUN’s Calendar, which includes course expulsion. We will provide clear guidelines on how to avoid this problem on the first day of class.

Suggested strategy to do well in this course:

1) Show up on time and prepare. This course is loaded with interesting activities, which require working singly or collaboratively on tight schedules. If you are late, everyone will be. Follow all the instructions for preparation carefully. Instructors will begin their scheduled activities as per the times indicated in the detailed per-module schedules. We will not be able to wait for you if you are late so please make sure to join all the online meetings ahead of meetings start times to make sure your connection works well.

2) Ask questions. If a question comes to mind, chances are that most classmates have the same question. Do not hesitate to ask for clarification.

3) Seek help outside of daily schedules. Do not hesitate to ask the co-instructor(s) or teaching assistant if you experience any difficulty that could not be addressed during normal daily schedules. We are flexible and certainly willing to help you do well in the course!

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