

**University of Victoria**  
**Department of Biology**  
**BIOL 336 – Biology of Algae**  
**Winter Session – Second Term 2017 (201701)**  
**A01 – CRN 20348 – 1.5 units**

**Course Description:**

We will examine aquatic and terrestrial algal diversity, with a special emphasis on marine algae. We will consider the ecology, physiology, cell biology, evolution and technological applications of algae. Laboratories will include observations of microscopic and macroscopic algal specimens, a local field trip to the intertidal, and a presentation on a subject of your choice.

**Course Instructor:**

Dr. Diana Varela  
Bob Wright Centre A333  
250-472-5425  
Email: [dvarela@uvic.ca](mailto:dvarela@uvic.ca)  
Office hours: By appointment

**Lectures:**

- Monday and Thursday - 11:30 p.m. – 12:50 p.m., Engineering/Computer Sciences building (ECS) 108.
- Lectures start on Thursday January 5, and end on Monday April 3.

**Laboratories:**

- Monday and Tuesday - 2:30 p.m. – 5:20 p.m., Petch building (PCH) 107.
- Lab sections are full so you can only attend the one section in which you are officially registered.
- Labs start on the week of January 16 and end on the week of March 27.
- Please bring a copy of the Laboratory Manual to every laboratory (we will let you know when the Manual is available for purchase).
- Refer to the Laboratory Manual for the lab schedule (page 4) and for other relevant information related to the lab component of the course.

**Laboratory personnel:**

Senior Laboratory Instructor: Dr. Katy Hind; Email: [khind@uvic.ca](mailto:khind@uvic.ca)  
Teaching assistant: Curtis Martin; Email: [curtism@uvic.ca](mailto:curtism@uvic.ca)

**Textbook:**

*Algae*, by Graham, Graham, Wilcox and Cook (3<sup>rd</sup> Ed), is optional. The newest 3<sup>rd</sup> edition of this book is available as a digital purchase (US\$40) through the author's website ([www.ljlmpr.com/algae.html](http://www.ljlmpr.com/algae.html)). If you find a used textbook (hardcopy) for sale from other sources, please note that both the 1<sup>st</sup> and 2<sup>nd</sup> editions are also acceptable (mainly the 2<sup>nd</sup>). The 1<sup>st</sup> and 2<sup>nd</sup> Eds of this book will also be available in the reserve section of the library, and there are a few copies in the lab (which can be used during lab time only).

## **Course Website:**

The instructor will post lecture notes on the UVic CourseSpaces site regularly. There will also be lab-related material, results from exams and general announcements. Students are responsible to check the site for postings and updates before coming to the lectures and labs.

## **Evaluation:**

### *Lecture Component:*

<i>Midterm Exam</i> (Thursday February 9) .....	20%
<i>Final Exam</i> (Date TBD) .....	40%

### *Laboratory Component:*

Individual In-class Assignments (Labs 1-6 @ 1% each) .....	6%
Lab Exam (week of March 13) .....	20%
Field Trip Data Collection (week of March 6) and Written Report (week of April 3) .....	8%
Poster/Oral Presentation (week of March 27) .....	6%

*Final Course Mark:* 100%

## **Exams and Grading Policy:**

- ***Students must achieve a passing grade (≥50%) in BOTH the lecture (≥ 30/60) and the laboratory (≥ 20/40) components to pass the course.***
- As indicated in the University Calendar, students who do not pass the laboratory component will not be permitted to write the Final course examination.
- You are required to write all exams. If you must miss the Midterm exam for a *valid well-documented reason* (illness, accident, family affliction or sporting commitments as a UVic athlete), you must notify Dr. Varela as soon as possible and provide suitable and *original* written documentation (from a medical doctor, counselor or UVic coach). If excused, your Final exam will be worth 60% of your final course mark. If you are not excused from the missed exam, you will receive a zero for the missed midterm.
- Exams cannot be written early under any circumstances. However, the Final exam (only) can be deferred for a valid well-documented reason (see above). If you miss or expect to miss the Final exam for any of these reasons, please notify the course instructor as soon as possible. When you are able to do so, you must go to the Records office with your supporting documentation and fill out a Request for Academic Concession form.
- You are also required to attend the weekly laboratory sections, complete all laboratory assignments and write the lab exam. If you must miss a laboratory section, the field trip, the presentation and/or the lab exam for a valid well-documented reason you must notify Dr. Varela and Dr. Hind as soon as possible and provide suitable and original written documentation (see above). If you are excused from the missed lab work, the course instructor will inform you as to how your final lab mark will be calculated; you will not incur any penalty. However, please note that the deadline for the field trip written report cannot be postponed for ***any*** reason.
- You must complete all portion of the course (including the lab exam, presentation, and written report) to get credits for this course.
- You cannot miss more than 2 weekly laboratory sections, even for valid well-documented reasons, to get credits for this course.

- Travel plans are not a valid reason for missing laboratories, the presentation, exams or any assignment deadlines. The date for the BIOL 336 Final exam will not be known until the Final exam schedule is posted later in the term. The last day for Final exams this term is Tuesday April 25. You are safe to make travel arrangements for *after* that date.
- No supplemental exams or assignments will be offered in this course. In other words, you cannot rewrite any exams or provide extra assignments in order to improve your grade.
- Students who require special arrangements for testing should obtain a referral from the Resource Centre for Students with a Disability (RCSD) office *at the beginning* of the term.
- All exams may be of mixed format (definitions, multiple choice, short answer, and longer multi-part or essay questions). All lecture course materials (*i.e.* instructor commentaries, class discussions and figures, posted notes, assigned textbook readings, and assigned readings from papers from the primary literature) are fair game for lecture exams. The textbook readings will help you to supplement the lecture material and provide you with additional insight and illustrations, and in-depth explanations. The lab exam will also include visual identification of specimens and/or their parts that were studied during the weekly lab sections.

### **Grading and Posting:**

The following table shows the official grading system for the University of Victoria: page 64 in [http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701\\_Part4.pdf](http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701_Part4.pdf)

A+	90 - 100%	B+	77 - 79%	C+	65 - 69%	F	0 - 49%
A	85 - 89%	B	73 - 76%	C	60 - 64%	N	0 - 49%
A-	80 - 84%	B-	70 - 72%	D	50 - 59%		

F: Unsatisfactory performance, wrote final exam and completed course requirements, no supplemental.

N: Did not write exam or complete course requirements by the end of term, no supplemental.

Freedom of information legislation allows the instructors to post full student numbers and grades, with names stripped out. Students have the right to refuse grade posting but must inform the instructor in writing at the beginning of the course. Final grades will be made available no sooner than one week after the Final Exam.

### **Academic Regulations:**

- It is your responsibility to understand the University's policy on academic integrity. Please check the University's Academic Integrity Policy: pages 55-58 in [http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701\\_Part4.pdf](http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701_Part4.pdf) and the UVic library's website on plagiarism: <https://www.uvic.ca/library/research/citation/plagiarism/index.php>

Academic integrity is intellectual honesty and responsibility for academic work that you submit individually or as group work. It involves commitment to the values of honesty, trust, and responsibility. It is expected that students will respect these ethical values in all activities related to learning, teaching, research, and service. Therefore, plagiarism and other acts against academic integrity are serious academic offences.

#### *The responsibility of the institution*

Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects.

### *The responsibility of the student*

Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations or for referencing your sources, ask your instructor. Depending on the severity of the case, penalties include a warning, a failing grade, a record on the student's transcript, or a suspension. Read pages 11 and 12 of the Lab Manual for additional information.

- Please read the appropriate section of the 2017 University Calendar (<http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701.pdf>), particularly the Undergraduate and Faculty of Science sections, regarding your rights and obligations. **For important dates, please check** [http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701\\_Part2.pdf](http://web.uvic.ca/calendar2017-01/pdfs/undergraduate-201701_Part2.pdf). It is the student's responsibility to attend to ADD/DROP dates published in the Calendar and posted on the Undergraduate Records website. Students must not assume they will be dropped automatically from any course they do not attend. It is also the students' responsibility to check their records and registration status (<http://www.uvic.ca/registrar/>). In addition, students need to check the Calendar course descriptions for all currently registered courses and transfer credit to check for duplicate or mutually exclusive (DUP or M/X) courses that would result in denial of course credit and/or influence eligibility for student loans.

### **Course Experience Survey (CES)**

Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback regarding the course and the instructor's teaching, as well as to help the department improve the overall program for students in the future. Results are available to course instructors only after final grades have been submitted.

The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device. You will be reminded and provided with more detailed information nearer the time. Please consider this important activity.

*UVic is committed to promoting, providing and protecting a supportive and safe learning and working environment for all its members.*

## LECTURE SCHEDULE

BIOL 336 - 201701

Lectures are held in ECS 108

Date Range	Lecture Topic
Jan 05 – Feb 06	Introduction to Algae and Algal Diversity
	Origins of Photosynthetic Organisms
	Algae and Nutrient Cycles
	Prokaryotic Algae: Cyanobacteria
	Evolution of Eukaryotic Algae
	Euglenoids
	Cryptomonads
	Haptophytes
	Dinoflagellates
	Photosynthetic Stramenopiles I: Diatoms
	<b>Feb 09 (Thursday)</b>
<i>Feb 13 – 17</i>	<i>READING BREAK - No lectures or labs</i>
Feb 20 – Apr 03	Photosynthetic Stramenopiles I: Diatoms (cont.)
	Photosynthetic Stramenopiles II: Chrysophyceans, Raphidophyceans and Xantophyceans
	Photosynthetic Stramenopiles III: Phaeophyceans
	Red Algae
	Green Algae
	Phytoplankton Eco-Physiology
	Seaweed Eco-Physiology
	Harmful Algal Blooms
	Algae in Extreme Environments and in Biotic Associations
Technological Applications of Algae	
<b>TBD (between Apr 07 - 25)</b>	<b>LECTURE FINAL EXAM – 3 hours</b>

## **LABORATORY SCHEDULE**

BIOL 336 - 201701

Labs are held in PCH 107

<b>Lab</b>	<b>Date (Week of)</b>	<b>Lab Topic</b>
1	Jan 16	Introduction, Review and Classification
2	Jan 23	Cyanobacteria
3	Jan 30	Euglenoids, Haptophytes and Dinoflagellates
4	Feb 06	Photosynthetic Stramenopiles Part 1 (Diatoms, Chrysophytes, Xanthophytes)
-	<i>Feb 13</i>	<i>READING BREAK - No lectures or labs</i>
5	Feb 20	Photosynthetic Stramenopiles Part 2 (Phaeophytes)
6	Feb 27	Rhodophytes, Chlorophytes and Streptophytes
7	Mar 06	Clover Point Field Trip
<b>8</b>	<b>Mar 13</b>	<b><i>Lab Exam</i></b>
9	Mar 20	Field Trip Data Analysis and Preparation for Presentations
10	Mar 27	Oral/Poster Presentations
-	Apr 03	No formal labs - Field Trip Written Report Due at 4 PM on Apr 3