

**University of Victoria**  
**Department of Biology**  
**BIOL 336 ±Biology of Algae**  
**Winter Session ±Second Term 2023 (202301)**  
**A01 - CRN 20413 ±1.5 units**

**Course Description:**

This course will examine aquatic and terrestrial algal diversity, with a special emphasis on marine algae. By the end of the course, you will know about the ecology, physiology, cell biology, evolution and technological applications of algae. Through discussions in this course, you will be able to critically reflect on the current and future effects of climate change on algal eco-physiology and therefore, on biological systems. You will also observe and identify microscopic and macroscopic algal specimens in the laboratory, conduct a field trip to a coastal local environment (intertidal) and learn how to critically analyze and interpret data collection from the field.

We aim to delivery an enjoyable course experience and provide you with the opportunity to become knowledgeable about the diversity and importance of algae on Earth. We are committed to providing and protecting a supportive and respectful learning environment for all of you. We care about your learning and will provide you with the necessary tools to help you succeed in the course. At the same time, you need to understand the course expectations and requirements (see below).

**Course Instructor:**

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

**Laboratory personnel:**

Laboratory Coordinator and Teaching Assistant: Viktorie Kolatkova; [vkolatkova@uvic.ca](mailto:vkolatkova@uvic.ca)  
Teaching Assistant: Brian Timmer; [briantimmer@uvic.ca](mailto:briantimmer@uvic.ca)

**Delivery mode:**

Face-to-Face (lectures, laboratories and exams)

**Lectures:**

- x Monday and Thursday, 11:30 AM ±12:50 PM, Cunningham Building, Room 146.
- x Face-to-Face lectures start on Monday January 9, and end on Thursday April 6.
- x Lecture schedule can be found in a separate document posted in Brightspace.

**Laboratories:**

- x Monday, Tuesday and Wednesday, 2:30 PM ±5:20 PM, Petch Building, Room 107.
- x Face-to-Face labs start on the week of January 16, and end on the week of March 27.
- x You can only attend the lab section in which you are officially registered.

- x There is no printed laboratory manual for purchase. Sections of the manual required for each lab will be posted in the course Brightspace site a week before the lab. Please download and read the documents/files before the start of each lab.
- x Lab schedule can be found in a separate document posted in Brightspace and in the General Introduction of the lab manual.
- x Relevant information related to the lab component of the course is provided in this syllabus, the lab manual and will be discussed during the first lecture and the first lab.

**Textbook:**

We will use *Algae*, by **Graham, Graham, Wilcox and Cook (3<sup>rd</sup> Ed)**, which is available digitally through the UVic library using your Netlink and password [here](#) F O L F N R Q μ Y L H Z I X O O W H

Please note that, as a UVic student, you are permitted to view and download the PDF for the purpose of education and research without cost, but due to copyrights you cannot share this PDF with anyone or post it in file-sharing websites. An e-copy of this book is available through the [DXWKRU1](#) as a digital L W H purchase. Note that a new edition (4<sup>th</sup>) of this e-book is available (USD40) at this site.

Hardcopies of the 1<sup>st</sup> and 2<sup>nd</sup> Ed. of this book are also available in the lab (to use during lab time).

**Course Brightspace site:**

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

**Evaluation:**

***Lecture Component:***

- Midterm Exam 1 (February 9<sup>th</sup>)** « . « . « « . **15%**
- Midterm Exam 2 (March 16<sup>th</sup>)** « « . « « ..... **15%**
- Final Exam (during Final Exam Period, date TBD)** « « « .. « « « « « « « .. « « « .... **30%**

***Laboratory Component:***

- Lab Exam (March 6<sup>th</sup>)** « .. « **18%**
- Individual Weekly Lab Assignments (Labs 1-9 @ 1.5% each)** « « « « .. « « .. « « « . **13.5%**
- Individual Field Trip Written Report (due April 3<sup>rd</sup>)** ..... **8.5%**

Final Course Mark 4.792.7(.)7(.):13(...1.0.0.1.274.13.464.9.Tm..0.GQ...EMC../Span.<</MCID00%Lang (en)



- x Please read carefully the Academic Concession Regulation and Guidelines (links below).
- x All exams may be of mixed format (definitions, multiple choice, short answer, and longer multi-part or essay questions). All lecture course materials (e.g. instructor commentaries, class discussions and figures, posted notes, 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.

**Academic important dates:**





Check [here](#). Add/Drop Dates Published in the Calendar  
Students must not assume they will be dropped automatically from any course they do not attend.  
It is also th H VWXGHQWV UHVS RQVLELOLW\ WR FKH In addition, LU UHFR  
students need to check the Calendar course descriptions for all currently registered courses and  
transfer credits 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.

**Other helpful UVic links:**

- x [UVic Learn Anywhere](#)
  
- x [Sexualized Violence Prevention and Response](#)
  
- x [Student Affairs:](#)
  - x [Academic Advising Centre for the Faculties of Humanities, Science and Social Sciences](#)
  
  - x [Student Wellness Centre:](#)

If you need to book an appointment to meet with a counsellor, nurse, physician or spiritual care provider, call 250-721-8563, or book in-person at the Student Wellness Centre (HWB).
  
  - x [Office of Student Life](#)
  
  - x [International Centre for Students](#)

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We acknowledge and respect the     peoples on whose traditional territory the university stands and the Songhees, Esquimalt and 6 É 1 ( peoples whose historical relationships with the land continue to this day.

## **LECTURE SCHEDULE**

BIOL 336 - 202301

Face-to-Face lectures are held in the **Cunningham Building, Room 146**

### **LECTURE TOPICS** (January 9 to April 6):

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  
Photosynthetic Stramenopiles II: Chrysophyceans, Raphidophyceans and Xantophyceans  
Photosynthetic Stramenopiles III: Phaeophyceans  
Red Algae  
Green Algae  
Phytoplankton Eco-Physiology  
Seaweed Eco-Physiology  
Harmful Algal Blooms  
Technological Applications of Algae  
Algae in Extreme Environments and in Biotic Associations  
Current Topics in Climate Change

### **LECTURE EXAMS and READING BREAK:**

## LABORATORY SCHEDULE

BIOL 336 - 202301

Face-to-Face labs and Lab Exam are held in the **Petch Building, Room 107**  
(except when specified\*)

Lab #	Date (Week of)	Lab Topic
1	Jan 16	Introduction, Review and Classification
2	Jan 23	Cyanobacteria
3	Jan 30	Euglenoids, Haptophytes and Dinoflagellates
4	Feb 6	Photosynthetic Stramenopiles Part 1 (Diatoms, Chrysophytes, Xanthophytes)
5	Feb 13	Photosynthetic Stramenopiles Part 2 (Phaeophytes) and Kelp Biomechanics
-	<i>Feb 20</i>	<i>READING BREAK - No labs or lectures</i>
6	Feb 27	Rhodophytes, Chlorophytes and Streptophytes
-	<b>Mar 6</b>	<b>LAB EXAM</b>
7*	Mar 13	Seaweed Intertidal Field Trip – Data Collection*
8	Mar 20	Field Trip Data Analysis
9	Mar 27	Phytoplankton Eco-Physiology
-	<b>Apr 3</b>	No formal labs - <b><i>Field Trip Written REPORT Due 11:59 PM (i.e. before midnight)</i></b>

\*Lab #7 will not be held in the Petch 107 room, but will take place