

*This syllabus is a general representation of the course as previously offered and is subject to change.*

## **BIOL 446 – History and Philosophy of Biology**

General Course Syllabus (Last updated: March 2020)

### **About the Course:**

**Course Description:** This course examines the history of conceptual change in Biology from the ancient Greeks to the present day through selected readings in the history and philosophy of science. Topics include the nature of science and philosophy and its relevance to Biology.

**Course Format:** Lecture

**Credits:** 3

**Prerequisites:** Minimum fourth-year standing in any degree program.

### **Course Learning Outcomes:**

By the end of this course, students should be able to explain how conceptual change in Biology is embedded in the ways human beings interact with their world (including how people of different eras lived, how their knowledge had developed historically, what technologies allowed them to interact with the world and what values they espoused.)

### **Textbooks and Additional Resources:**

No required textbook; handouts and materials used in Biol 446 will be posted on the course website in PDF format (Acrobat reader is available free off the Web):

<https://www.zoology.ubc.ca/~adamson/Biol446/>

### **Grading Scheme:**

<b>Assessment</b>	<b>Weight</b>
Field Guide to Biology and Biological thought (initial assignment review 5 marks + finished report 15)	20%
Reading assignment reports (two x 20 marks)	40%
Term project	30%
Participation	10%

**Field guide:** an exercise in which students compile a field guide of key contributors to Biological thought. The idea is for students to get thinking about the ideas in Biology, and when and by whom they were developed. Students will initially summarize the time period the individuals lived and their key contributions, then build on this guide throughout the term with data on the technological developments and the philosophical environments associated with each era.

**Reading assignment reports** (~500 words): short assignments to answer guiding questions relevant to the week's reading materials. Topics vary with year.

**Term project:** a 1500-word paper to be written on a topic that examines a biological idea in an historical context. A total of 30 marks will come from:

- An outline of the problem and representative bibliography (10 marks).
- The final report (20 marks).

**Participation:** Periodically (unannounced) through the term, the instructor may ask questions and have students submit responses in class. Note that the correctness of the response will be less important than the effort from the student to respond sincerely to the question.

### **Schedule of Topics:**

1. Introduction to the course
2. The Greeks
3. Greeks continued: Epicurus
4. Greeks continued: Anatomy, Physiology, Medicine in the ancient world
5. Islam and Science
6. Materialism
7. Sex and Fertilisation to 1800s
8. Metabolism and Ecology
9. Lamarck and Darwin
10. Post-Darwin

### **University Policies:**

*UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence.*

*UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom.*

*UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances.*

*UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.*

*Details of the policies and how to access support are available on [the UBC Senate website](#).*