

The University of Texas at El Paso  
Department of Biological Sciences  
College of Science

**Course # and Title:** BIOL 4370, History and Philosophy of Biology (CRN 28172)

**Credit Hours:** 3 credit hours upper division

**Term:** Spring, 2018

**Course Meetings and Location:** MW 1:30-3:30, PSYCH 308

**Prerequisite Course:** BIOL 1306-1108 [or equivalent]

*N.B.: Student enrollees are warned that, despite these modest prerequisites, **this offering is a biology course at the senior level!***

**Instructor:** Dr. Carl S. Lieb

**Office Location:** “Old Biology” Building B-204

**Contact Information:** Office telephone: 747-6987 email: clieb@utep.edu

Warning: The office telephone is the most reliable means for time-sensitive communication. If you insist on using email, and do not receive a reply within a few days, send it again (... and again).

**Office Hours:** MWR 10:00-11:00 AM; W: 4:00-5:00 PM, and by appointment (see contact info, above).

**Textbook : There is *no* textbook.** It is highly recommended, however, that each student have available to them a modern introductory biology textbook for emergency use when “holes” in their scholarly background in biological sciences are manifested. The longer it has been since the student completed BIOL 1306-1108 (and its own prerequisite, BIOL 1305-1107), the more necessary such a reference will be to avoid reaching a biological content event horizon.

**Course Objectives (Learning Outcomes):** From taking this course, the student should come away with 1) a knowledge of the historical development of biological concepts in four major conceptual areas: Genetics, Evolution, Ecology, and Physiology/Medicine, 2) an understanding of why biological science has a unique philosophical and epistemological foundations when compared with the physical sciences, and 3) an appreciation the public-perception challenges this discipline has faced not only in the past, but also currently in the 21<sup>st</sup> century.

**Course Activities/Assignments:** This edition of BIOL 4370 is a lecture class. However, a written term, paper will be required, the **final, complete** draft of which must be turned in no later than 4:30 PM on the 11<sup>th</sup> of April, and a final revised version (which must be accompanied by the original marked-up draft version) is due at 4:30 PM on Friday, 4 May (“Dead Day”).

**Assessment of Learning:** Three examinations will be given of the course (21 February, 26 March, 9 May) in the classroom where the lectures are inflicted (PSYCH 308). The examination on 9 May will start at 4PM (a time slot for the Final Examination); the others will begin promptly at 1:30 PM.

**Graduate Students Enrolled in this Class:** Rules of the Graduate School allow BIOL 4370 to be taken by graduate students, provided the expectations of them exceed those of the undergraduate enrollees. Therefore, each graduate student enrolled will be assigned a topic to prepare and present as a class lecture with concomitant discussion on a specific date. Graduate students in the class should perform discuss this assignment with Dr. Lieb at the earliest opportunity.

**Grading Policy:** The examinations will be given on the following dates, and will contribute proportionately to the final grade as follows:

Examination I (21 February, 1:30 PM): 25%

Examination II (26 March , 1:30 PM): 25%

Examination III (non-comprehensive, during Final Exam Period, 9 May, 4 PM): 25%

The balance of the grade will come from: Complete draft of term paper, submitted on-time (10%), final version of term paper (5%), and Attendance (10% , including random checks, see Attendance Policy, below).

There is NO 'EXTRA CREDIT' in this course.

**Examination No-show Policy:** Failure to take Exam I (and square it in prompt fashion with Dr. Lieb; see "no show" policy below) *may* result in the student being summarily dropped from the class roll.

A missed examination contributes zero percent toward the student's final course grade, and thus represents a serious perturbation in his/her class progress and a catastrophe for grade expectations. These problems must be handled on a case-by-case basis at the discretion of Dr. Lieb, who **INSISTS** that the following two rules be observed: 1) If a student must miss an examination because of illness, death in the family, University-sponsored event, or other reasonably legitimate reason, he or she must contact Dr. Lieb by telephone (*not email!* @ 747-6987), either BEFORE the test or **WITHIN 48 HOURS following the time of the start of the examination and BEFORE the next class period** [for examinations I and II]; and 2) subsequently, the student will have one week to personally discuss the situation with Dr. Lieb and arrange an immediate disposition of the case.

**Drop Policy:** The student drop date is 29 March 2018. The results of the first two lecture examinations should be known by that time, and students are thus expected to act wisely in their own interest. The instructor will **NOT** drop a student who has taken any examination, committed to a term paper subject, or has been recorded as coming to class even once; withdrawal action must be taken by the student's own initiative by this 29 March deadline. After 29 March, the office of the Dean of Science will not process "W"s except in cases of complete withdrawal from the University. Therefore, sStudents who find themselves in academic trouble during the semester should promptly consult with Dr. Lieb so that their options can be explored (that is, don't wait until the end of the semester to relate a tale of woe).

**Attendance Policy:** Attendance at every class meeting by every student is expected.

Attendance will be checked randomly during the semester, and being "caught" AWOL (Absent Without Leave, that is, an *unexcused* absence) will lose 2% of their attendance component of their final grade for each detected absence until that 10% is lost completely.

*More importantly*, in attendance or not, students are held responsible for all materials presented, discussed, or assigned during class time.

**Academic Integrity Policy:** Despite his outward cynicism, Dr. Lieb more-or-less believes in the general goodness and honesty of his fellow human beings. Nevertheless, those who try to shatter his illusions and betray the norms of academic integrity will be turned in to the Dean of Students for disciplinary action. You may review UTEP policy in these matters at <http://academics.utep.edu/Default.aspx?tabid=23785>. Since each student will be writing an individual term paper, it would be wise for all to review the regulations concerning plagiarism.

**Civility Policy:** Civility between the student members of the class, and between the instructor and the students, is expected. Please use temperate language when speaking to one another and with Dr. Lieb.

Silence your cell phone before entering the classroom; please do not take calls during class time. Avoid all noisy endeavors not related to the matter at hand (talking, eating, snapping chewing gum, and, of course, snoring).

Your instructor will do his best to be there by the start of the class (1:30PM), please emulate him with timely appearances as well. *Nevertheless, he would prefer you to be a few minutes late to being completely absent for the entire period (as a rare event, not something that happens frequently!).* The general rule is: if you must enter or leave the room when class is in session, do so as quietly and quickly as possible

Timeliness is especially important for examinations. In general a late-coming student will not be allowed to take an examination after the first student to complete it has left the room.

**Disability Policy:** If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the Center for Accommodations and Support Services (CASS) at 747-5148 or at <cass@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any CASS accommodation letters and instructions. *In these matters, communicate with Dr. Lieb in person rather than use e-mail.*

**Military Call-up:** Your instructor understands that students engaged in military service may be called up and deployed at any time, an event that can affect their family members as well as themselves. Please consult with Dr. Lieb as soon as the orders come through, so arrangements for completion or suspension of academic work can be attempted.

**Course Schedule/Calendar:** The following ambitious schedule of lecture topics may be subject to modification as the semester deteriorates. **Examination dates, however, are fixed.** Moreover, should the lecture topics fall behind (or get ahead) in the schedule, the examinations will in that case follow the pace of the lecture material present.

### Course Calendar

17 January – Introduction to course, review of course policies and expectations. *You are expected to be present on the first class day, even if you are not yet formally enrolled.*

22 January – Nature of science; Physical sciences versus biological science

24 January -- Biology's uniqueness, its ancient roots, and the current Tower of Babel

29 & 31 January – Pre-Mendelian genetics, Mendel and his immediate heirs

5 & 7 February - 20<sup>th</sup> Century Genetics before Watson & Crick DNA model

12 & 14 February – The rise of molecular genetics

19 February – Bioethics and the Brave New World, 21<sup>st</sup> Century Version

### **21 February– Examination I**

26 February - Evolutionary Thinking, pre-Darwin

28 February - Darwinian Evolution and the “Synthetic Theory”

5 & 7 March - The “Synthetic Theory of Evolution,” and subsequent problems with it

12 & 14 March – Days within Spring Break Week – no classes

19 & 21 March – The history and current state of popular resistance to evolutionary thinking

### **26 March – Examination II**

28 March – The early history of ecology as a discipline

2 & 4 April – Late 20<sup>th</sup> century maturation of concepts and approaches to ecology and environmental science

9 & 11 April – Modern ecological thought and practice Also: **11 April is the deadline for the complete, final, as good as you can make it version of the Term Paper**

16 & 18 April – Ancient roots of medicine through the “physician as scientist” of the Enlightenment

23-25 April - Post-enlightenment physiology & medicine

30 April & 2 May: The flourishing of cell and molecular biology; concluding remarks on the future of biological thought and knowledge

**4 May – Dead Day: both revised version and original marked copy of Term Paper due today by 4:30 PM**

**9 May, 4:00-6:45 PM – Examination III**