PCB 4674 – Evolution (online)

Class Numbers 13970, 13971, 17035
Syllabus for Fall 2025

I. Course Description and Prerequisites

Processes and mechanisms of evolution, including population genetics, speciation, patterns of evolution and molecular evolution. 4 credits.

Prerequisites: BSC 2010/2011 and labs or the equivalent. Familiarity with Mendelian genetics, basic molecular biology, and high-school algebra.

II. Sections

Class Numbers 13970, 13971, 17035
First day of classes: 8/21/25
Last day of classes: 12/3/25

III. Instructors

Course Instructor:
Norm Douglas, PhD
Department of Biology
Office: Carr 618a
Office Hours: See "Office Hours", Section VII, g. below.
Primary contact: Canvas messaging
E-mail (only if no response on Canvas for >24h)
nadouglas@ufl.edu

TA:
George Glen
george.glen@ufl.edu

IV. Course Communications

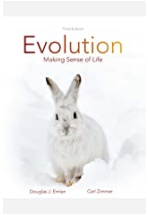
A. Contacting Your Instructors:
Please use the inbox function on Canvas to email your instructors. If for some reason this doesn't work, any e-mail correspondence must originate from your UF email account, have your full name in the body of the e- mail, and contain "PCB4674" in the subject line. E-mails not meeting these requirements may not be recognized by our e-mail filters, and thus may not be answered. Non-grade-related questions can also be posted to the "Course Mechanics" and "Raise Your Hand" discussion boards, from which you may get an answer from any of the instructors or your fellow students more promptly (see Section IX, "Getting Help"). Barring unusual circumstances, expect a reply within 24 hours during the week, and 48 hours over the weekend. E-mails and Discussion Board posts are checked at least once per day, but sometimes not more than that.

B. Communications From Your Instructors:
Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus and on the course webpage. Not having read the information in this syllabus, on the

webpage, or in course announcements will not constitute an excuse for missing deadlines, assignments, or other assessments. Please set your preferences in Canvas so that you receive timely notifications of course announcements and other information.

V. Course Resources

A. Textbook



Evolution: Making Sense of Life, 3ed by Douglas Emlen & Carl Zimmer. W.H. Freeman, 2019. The e-book comes bundled with access to Achieve, which give you access to the adaptive quizzing that will help you understand the material better. Textbook publisher web site.

B. Course Website (Canvas)

Class material - including the syllabus, handouts, assignments, and gradebook – will be posted on the course Canvas website. For help with Canvas, call the UF Computing Help Desk at 352-392-4357, or visit the e-Learning support website.

VI. Course Objectives

This course will provide a comprehensive introduction to the current field of evolutionary biology, including the theoretical background as well as an introduction to current research in experimental evolution. By the end of this course you should be able to:

Describe how evolution provides a framework for the broader field of biology.

Demonstrate a general understanding of the major topics in evolutionary biology including the theory of evolution by natural selection, the history of evolutionary thought, population genetics, sexual and kin selection, evolutionary trees/phylogenies, how new species form, and macroevolutionary patterns such as extinction.

Explain the conceptual basis of these various topics in detail, break that theoretical basis down into its underlying components, and qualitatively describe the mathematical theory underlying the main ideas.

Demonstrate competency though a series of discussions, workshop activities, and computer exercises in the context of the "laboratory" portion of the course.

Use computer simulations to explore a variety of concepts and methods of analysis used in modern evolutionary biology.

Interpret readings from the primary literature and other sources and demonstrate critical thinking, analysis, and synthesis, using presentations, analysis, and online discussion by groups of students.

Show how evolutionary theory can be applied to real-world examples, particularly in issues relevant to medicine, agriculture, conservation, and sociology.

VII. Course Policies

A. Time Commitment

The UF College of Liberal Arts and Sciences assumes that each student will devote 3-4 hours per week per credit-hour to each course during the regular semester. Because PCB 4674 is 4 credits, each student should therefore expect to devote 12-16 hours per week to this course in a 15-week semester.

B. Attendance

Students are responsible for all material presented in lectures, labs and in the assigned readings. Active,

timely participation in graded group discussions is essential. Please note that due to the online nature of the course, neither assignment or discussion points can be made up, regardless of the reason.

C. Quizzes

Quizzes must be completed by the end of the module deadline. There will be no make-up quizzes.

D. Exams

Any material covered in the lecture videos, the "lab" assignments, or assigned in the reading or discussions may be included in the exams. This can include textbook illustrations, films, Powerpoint slides. Take notes! Exams will be multiple choice, and questions will reflect a level of difficulty and sophistication appropriate to an upper-division course for majors. Make-up exams will only be available in cases of medical and/or family emergencies when the instructor receives an accommodation request from the Dean of Students office (please do not share your private medical information with your instructor), or for official academic activities (in which case the instructor should be contacted a minimum of two weeks in advance). The student is responsible for scheduling timely make-up exams with the instructor.

Honorlock will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software or schedule an appointment in advance. Honorlock is available 24/7 and all that is needed is a computer, a working webcam, and a stable Internet connection.

To get started, you will need Google Chrome and to download the Honorlock Chrome Extension. You can download the extension at www.honorlock.com/extension/install.

When you are ready to test, log into Canvas, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session by webcam as well as recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Good luck! Honorlock support is available 24/7/365. If you encounter any issues, you may contact them by live chat, phone (844-243-2500), and/or email (support@honorlock.com).

E. Late Work

Assignments should be submitted by the assigned deadline. Late work *may* be accepted, subject to a 20% penalty for every day it is late. For example, an assignment initially worth 10 points will be subject to a 2 point penalty if it is submitted up to 24 hours after the deadline, a 4 point penalty up to 48 hours, etc. Graded lecture and lab assignments should be submitted to the course website by the posted deadline, unless otherwise noted.

F. Courtesy and Behavior

Online forums are unfortunately prone to misunderstandings and inappropriate behavior. Please consult the document entitled "Netiquette Guidelines" in the Start Here section of the course for information on how to interact appropriately with peers in an online environment.

G. Office Hours

There are no official office hours, rather, there will be a weekly online "open office hours" available to discuss material, and the instructors will be available to meet via Zoom privately at other times by arrangement. For help, consult section IX, C. below. If you cannot or should not seek help via the discussion boards, then please contact Dr. Douglas directly through the Conversations tab in Canvas.

H. Grammar

Correct grammar, punctuation, spelling, capitalization and paragraphing should be used in any college

level submission, including exams and typed reports. We will take note of spelling and grammar and we will grade accordingly.

VIII. UF Policies

A. Compliance with UF Academic Policies

This course complies with all UF academic policies. For information on those polices and for resources for students, please see this link: https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

A note on academic honesty

In this course, academic dishonesty includes (but is not limited to) collaborating with others on course assignments or quizzes without specific authorization, utilizing prohibited materials during quizzes, copying the work of other students in whole or in part, allowing other students to copy your work or otherwise sharing completed assignments in person or online (during the semester or in the future), discussing or sharing quiz questions or answers with other students, giving other students the password for locked quizzes, and plagiarism, including insufficient paraphrasing.

All materials for this course, including but not limited to lectures, quizzes, and worksheets, are the intellectual property of the professor, TAs, or textbook publisher, and are provided solely for the personal use of the currently enrolled students. These materials may not be distributed to other students or online repositories (e.g. Chegg, CourseHero) without express written permission, even after the conclusion of the course at the end of the semester. Doing so will be considered a violation of the UF Honor Code.

Use of GroupMe, Discord, and similar group chats facilitate communication and can be an important part of creating community in a course, especially an online course. They can be valuable for studying and group projects. However, such groups typically exclude instructional staff and present great temptation for unauthorized academic dishonesty as described above. In this course, the use of GroupMe, etc. to share answers, screenshots of quizzes, "compare" work, etc. is not authorized unless the assignment is specifically a group assignment. *Discussion of exam content, questions, in any fashion, on any medium, will result in an Honor Code report for everyone who participates in the forum on which the exam information is shared.* All students participating in such forums will be presumed to have benefitted from answers posted to a GroupMe or other chat will be subject to penalties as determined by the SCCR.

IX. Assessments and Grading

A. Course Structure

Final grades will be based on 2 midterm exams (20% each), several "lab" and other assignments to be completed (30% total), graded discussions (20%), and end-of-module quizzes in Achieve (10%).

B. Evolution in the News

Each student is responsible for preparing a brief (5 min) narrated presentation summarizing a news item related to Evolution. A signup page will be made available early in the semester to allow students to specify which week they will present. Presentations could be produced in PowerPoint (with voice recorded using OfficeMix). Other formats may be considered, if it is possible to upload a single stable link to your presentation. Once shared to your group, you will need to answer questions posed by your other

group members who view your presentation. For additional details, see the Evolution in the News assignment.

C. Grading

Minimum grade cutoffs are listed below. These cutoffs will not be raised; in other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. A curve may be applied to individual exams, depending on the class average, and will be communicated clearly. However, we will not adjust grades on an individual basis at the end of the term. Emails requesting that your grade be rounded up will be ignored, as such requests for special treatment are inherently unfair to the rest of the students.

Point Range (%)	Letter Grade
≥ 90.00	A
≥ 86.66	A–
≥ 83.33	B+
≥ 80.00	B
≥ 76.66	B–
≥ 73.33	C+
≥ 70	C
≥ 66.66	C–
≥ 63.33	D+
≥ 60	D
≥ 56.66	D–
< 56.66	E

Note that the current UF policy for assigning grade points is available at the undergraduate catalog web page.

Here is the point breakdown for each assignment, which corresponds to the percentages given above:

D. Incomplete ("I")

If a student has completed the majority of the course work with a passing grade and particular DOCUMENTED circumstances prevent completion of the course in the time allotted, the student may, with the agreement of the instructor, be assigned an "I" pending resolution of the grade. All incompletes MUST be resolved by the end of the following term or the student will receive a grade of "E" (failing)

E. Special Treatment

Please do not request individual special treatment regarding grading at the end of the semester; we do not adjust grades for individuals for any reason nor are grades rounded up. Emails requesting higher grades will be ignored. Plan to do well on all exams and other assignments from the beginning of the semester. If you are having difficulty in the class, please let your instructors know sooner rather than later.

Disclaimer

This syllabus represents the current plans and objectives; however, schedules, requirements, and assignments may change throughout the semester as the need arises. Such changes, communicated clearly, are not unusual and should be expected.