



Evolution [IB302]

Integrative Biology | 4 cr. | Syllabus Spring 2024

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Things you can learn in this course

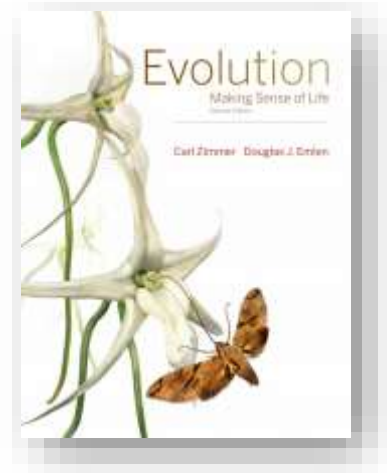
- How did we go from 1 species to 5 million species?
- How does social distancing affect evolution in COV-19?
- How do antibiotics cause antibiotic resistance?
- Did humans really evolve from monkeys?
- Is Evolution a theory or a fact?

Course description

Goals

Dobzhansky's famous quote "Nothing in biology makes sense except in the light of evolution" highlights that the mechanisms of evolution underlie the patterns we see in all of biology. In this course:

1. Students learn how evolution is the central theoretical explanation for all of life and all its diversity of form and function.
2. Students learn that evolution is a significant part of understanding who we are as humans.
3. Students learn practical skills like constructing phylogenetic trees (used in understanding the great diversity of medically important bacteria and viruses), calculating the statistics of genetic differences between populations (used in medical genetics), and calculating genetic relatedness of individuals (used in forensics).



Scheduling

Lecture Time: Mon, Wed, Fri: 1 - 1:50 pm

Room: 114 David Kinley Hall

In person only.

Lecture [schedule](#)

Lab room: 3004 Natural History Building

Lab time: By registration (check your section)

Instructors

Dr. Dominic Evangelista

Email: dominice@illinois.edu

Lab Website: www.roachbrain.com

Office: Morrill Hall 465

Office hours: [Schedule office hours \(online\)](#)

Dr. Lily Arias (Lab Coordinator)

Email: larias@illinois.edu

Office: 3010 Natural History Building

Office Hours: By appt.

Roberto Cucalon (Course Coordinator)

Email: rvc4@illinois.edu

Who do I contact?

If you have questions on course logistics, planned **absences**, **homework** or **exam questions**, contact the Course Coordinator (Roberto Cucalon). If you have questions regarding the **labs** or **lab assignments**, **first contact your lab TA**, and if that does not resolve your question/issue, contact the Lab Coordinator (Dr. Lily Arias).

Requirements

Prerequisite courses: IB 204

(NOTE: Genetic variation is the foundation of all evolutionary mechanisms. Just as you wouldn't skip the first act of a movie, you would not want to skip learning about genetics before learning about evolution.)

Format

The course is based around "Evolution – Making Sense of Life", a **textbook** by Zimmer & Emlen. The textbook is required. [See more about the format here.](#)

Course interaction

Learning management system



Paper Analyses (Homework)



Course code: Evangelista-L3Z7L

Everyone must join [PeruseAll](#) and enroll in our course. Course code: Evangelista-L3Z7L

Course Policies

Attendance/Participation (lecture)

Participation and attendance in class will be calculated using iClicker scores. Absences can be excused for religious observances if notification is provided to your TA a week ahead of time. Absences are also excused for other reasons (e.g., physical health, mental health, family emergencies) with doctor's notes or other proof provided. If you are absent, you will still need to complete all activities, and to contact your classmates for information on material you missed. Participation points may also be contingent on other assignments throughout the semester.

Attendance/Participation (lab)

- Attendance is mandatory. Labs will not be recorded or offered remotely.
- Each lab will be graded, so missing a lab entirely will result in a 0 on that lab (but see [grading policy](#) on dropping your lowest lab grades).
- Options to make up the lab include attending another lab section during the same week (at the discretion of the TA in charge of the section).
- Labs will not be accepted once the due date has passed without an excused absence.
- Absences can be excused for religious observances if notification is provided to your TA a week ahead of time. Absences are also excused for other reasons (e.g., physical health, mental health, family emergencies) with doctor's notes or other proof provided. If you are absent, you will still need to complete all activities, and to contact your classmates for information on material you missed.

Lateness

Deadlines allow assignments to be more (i) fair for all students, and (ii) easily graded. To incentivize timeliness, the maximum possible grade on an assignment will be reduced by 10% every 24-hour period after the assignment is late.

Accessibility

All students are entitled to having fair access and opportunity to all course materials, assignments and assessments within reasonable accommodation. If an accessibility issue

prevents you from participating in lab or on the field trips (which are optional) you should discuss this with Dr. Evangelista and/or your TA. We will make special accommodations for those in need. You can also contact the student access office to arrange individual accommodations (e.g., extra time on exams, access to technology):

<https://dres.illinois.edu/>

<https://oae.illinois.edu/our-services/accessibility-and-accommodations/>.

Academic Integrity Policy

University of Illinois

The Student Code (http://studentcode.illinois.edu/article1_part4_1-401.html) outlines cases that constitute violations of academic integrity as well as the process for dealing with accusations, and potential consequences. The violations include: cheating, plagiarism, fabrication, academic interference, facilitating violations from others (e.g., letting someone copy your work), and bribes. Please read the code for specifics of each, the process for dealing with violations, and consequences. Keep in mind that academic integrity violations are reported to the campus-wide system.

This course

This course will uphold each of the academic honesty points listed in the U of I Student Code. In accordance with the code, your instructor will determine the appropriate punishment. Penalties for violating this policy will be dealt with based on the weight of the assignment and severity of the infraction. Here is a guide:

- Major assignments (i.e., those worth $\geq 5\%$ of the total course grade)
 - Minimum penalty of 0 on the assignment with no possibility of repeating it
 - Likely penalty of a grade of F in the course
- Minor assignments (i.e., those worth $\leq 5\%$ of the total course grade)
 - Minimum penalty of 0 on the assignment, with option to repeat the assignment

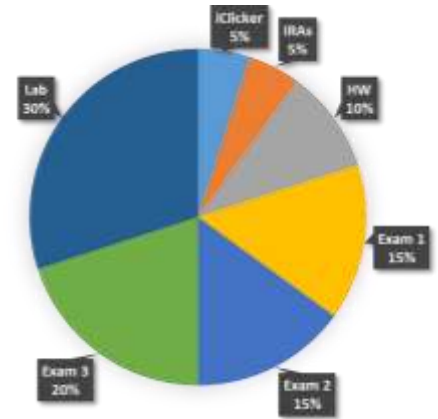
A second minor assignment infraction will be treated as a major assignment infraction, and you thus will risk failing the course.

Grading

Assignments & Grades

There are 800 course points in total. The number of points is calculated as follows

	pts per assignment	# of assignments	Proportion of total grade	Total pts
iClicker	-	-	5%	40
IRAs (quizzes)	4	10	5%	40
HW	10	8	10%	80
Exam 1	120	1	15%	120
Exam 2	120	1	15%	120
Exam 3	160	1	20%	160
Lab*	20	12	30%	240



Lab policies and syllabi will be given by your TA.

Other grade policies

Curves. There will be no curves, except maybe on homework grades.

Drops. Each student is allowed to drop their lowest HW and Lab score. IRAs, and exam grades will not be dropped. iClicker scores (participation/attendance) will be calculated to allow for an average of two absences per semester without a decrease in grade.

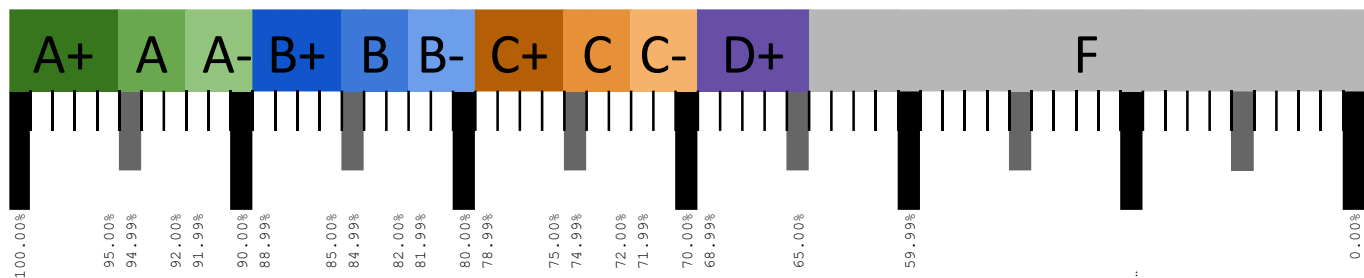
Exam explanation

- Exam 2 is cumulative with Exam 1. In other words, Exam 2 will cover the same material as Exam 1 in addition to some other topics.
- Exam 3 will only explicitly test on the material after Exam 2. However, all the course material is still important, and it is assumed you have mastered those learning objectives.

Final Course Grades

Your final course grade will be calculated according to the scale below.

No grades will be rounded up by request.



Grade Appeals

For all assignments, you should appeal any problem/question you feel is unfair. Appropriate grounds for appeal are:

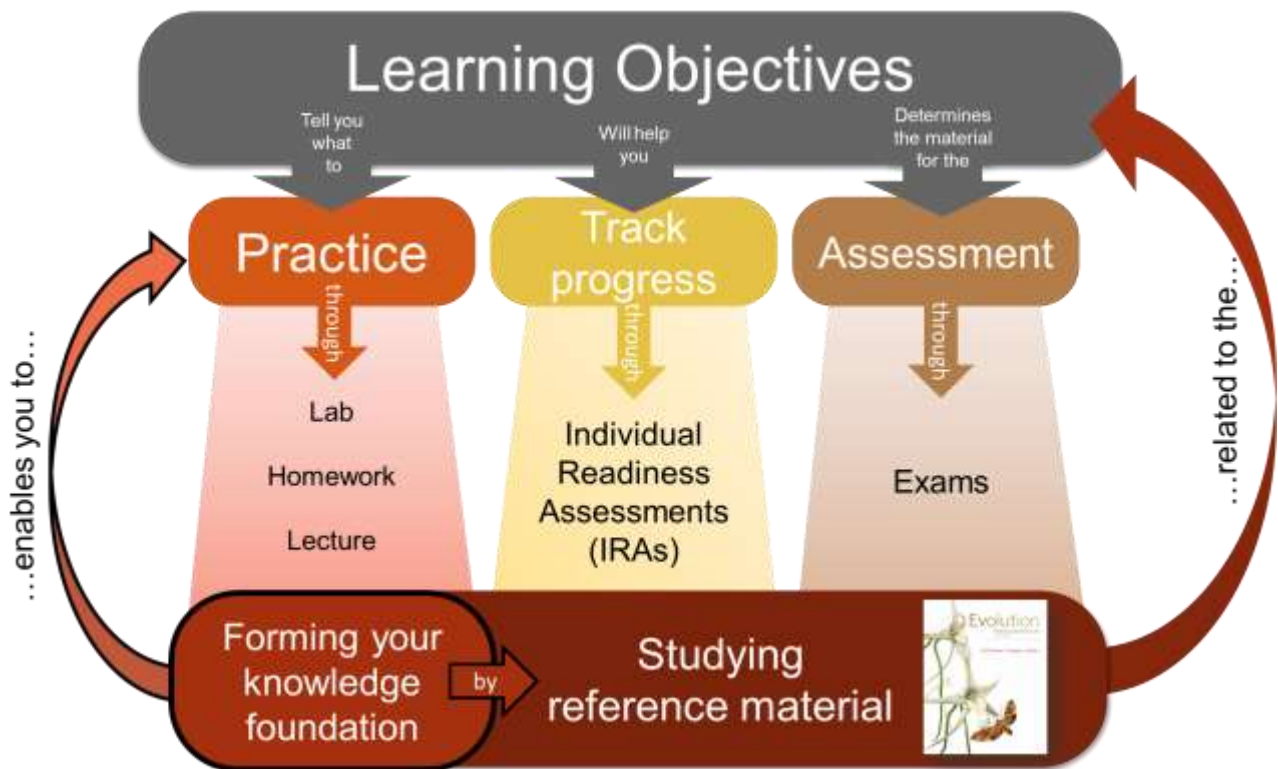
1. The question/problem is flawed...
 - a. The “best answer” as given by the professor is not the best answer

- b. The problem was worded so ineffectively that the “best answer” could not possibly be determined
- 2. The foundation is flawed...
 - a. Given a perfect understanding of the learning objectives (relative to the reading material) it was not possible to determine the “best answer”.
 - b. The learning objective being tested was not effectively/appropriately framed
 - c. The learning objective being tested was not effectively supported by information in the reading material
- 3. The grade is flawed...
 - a. The professor did not grade the answer correctly

Ideally, you should write your appeal, but you can just speak to the professor/TA about it in order to save time. For all appeals, please refer to one of the above reasons for your appeal. Grounds 1a, 2a, 2b, 2c require that you give supporting information in your textbook, or another reliable source. Grounds 1b and 2b require strongly formulated reasoning. Ground 3a just requires that you show it to me, and I will fix it.

Course format explanation

How do you study for this course? Why are we doing so many kinds of assignments? Do you need the textbook? What is the purpose of IRAs, exams, and homework? These questions are answered by the diagram below.



More explanation:

- Studying the textbook **before** we cover it in class is the best way to be prepared for group assignments or to be able to follow lecture.

- Some of the LOs will not be lectured on. **You will need to study these on your own.** It is your responsibility to be aware of all LOs and study them given the information available to you.
- IRAs are intentionally difficult but not worth many points.
- IRAS will take ~20 minutes and consist of multiple-choice questions. You will do them on your own time in CANVAS. You will be allowed multiple attempts.
- Exams will consist of a mix of question types.
- Overall, exam questions will be of a lower difficulty compared to the IRAs but will assess a wider breadth and greater complexity of knowledge.
- IRAs, HWs and labs are meant to give you opportunities to practice for the exam. **There is no practice exam.**
- The LOs tell you what you will be tested on. This is your study guide. **There will not be any other study guide.**

Community Standards

Professor's expectations of the student

- (Assuming you have been assessed thoroughly and fairly) You take responsibility for all your course grades, no matter how high or low they may be.
- You are fully informed about what plagiarism is (i.e., you have watched Professor Evangelista's lecture on plagiarism; you have taken [this quiz](#), viewed your score, and read the explanation of correct answers)
- You have read any assigned textbook sections **before** attending class. You cannot effectively participate in class if you have not done the readings.
- You will ask questions during class to clarify issues you are unclear about.
- You are aware of where to find course materials (Canvas), how to contact the professor (also Canvas), and the information in this document (the syllabus).
- You will maintain a professional demeanor with the professor, classmates, and your group members.
- You will not dominate the classroom discussions by being aware of other people's right to speak, inviting others to speak, and being patient.
- You will not violate the University of Illinois [code of academic honesty](#)

Professor's Responsibility

It is my professor's responsibility to...

1. Assess my knowledge thoroughly and fairly
2. Promptly inform me of what is expected of me for every class
3. Clarify misconceptions and bad thinking that arise in class
5. Give me opportunities to be informed of my grades and progress in the course
6. Ensure that my class is an effective learning environment while also respecting each students' rights, freedom, and autonomy

Inclusivity

An effective learning environment is one where students can focus on learning, feel supported by their peers and teacher, and are empowered to take charge of their own learning. If a student cannot focus on learning because they feel judged, belittled, or excluded this is ineffective for learning. As such, exclusionary, derogatory, or other harmful speech (such as racism, sexism,

homophobia, transphobia, etc.) will not be tolerated and in some cases subject to University harassment procedures. Since this is a biology course, there are also cases where such speech would demonstrate gross misunderstanding of biological principles and may be grounds for a grade deduction. Every person in the course is responsible for upholding the rights of other students, giving respect to others' opinions, and utilize a humility as a buffer towards ignorance. We each take responsibility for our own learning, behavior, and human decency.

Support Resources

As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regards to their well-being or yours, we encourage you to refer this behavior to the Student Assistance Center (1-217-333-0050) or online at odos.illinois.edu/community-of-care/referral/

As a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a challenge and that it is interfering with your coursework, you are encouraged to contact the Student Assistance Center (SAC) in the Office of the Dean of Students for support and referrals to campus and/or community resources. The SAC has a Dean on Duty available to see students who walk in, call, or email the office during business hours. For mental health emergencies, you can call 911 or contact the Counseling Center.

Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <https://registrar.illinois.edu/academicrecords/ferpa/> for more information on FERPA.

Sexual Misconduct Policy and Reporting

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: <https://wecare.illinois.edu/resources/students/#confidential>
Other information about resources and reporting is available here: wecare.illinois.edu