

EVOLUTION (BIO 4200)
Syllabus, Fall 2017

Credits: 3
Time: T/Th 2:30-3:45
Place: [0146 DRY](#) (deroy-auditorium)

Instructor: Dr. Weilong Hao
Biological Sciences Building, room 5107.1
Phone: 313 577 6450

Learning Objectives/Outcomes: As a result of mastering the material in the course, you will be able to:

1. Understand and study the mechanisms underlying the diversification of viruses, microorganisms, and multicellular systems by means of natural selection
2. Infer phylogenetic relationships using structural and genetic data
3. Apply comparative approaches to analyze and study patterns of genetic, organismal and cultural diversification
4. Study adaptive processes using molecular genetic tests
5. Understand the complementary nature of theoretical, modeling, and experimental studies of evolutionary change
6. Understand the role of kinship and reciprocity in the evolution of cooperative behavior
7. Apply game theoretical thinking
7. Understand the evolutionary origin of gender differences
8. Recognize the multiple levels of evolutionary change that affect the human sphere
9. Apply evolutionary insights to the development of biomedical and public policy

Office hours: Wednesday 1:00-2:00 (please send an email notice before you come),
Contact and communication after lecture or via email: haow@wayne.edu

Credit requirement policy: Note that prerequisite requirements as outlined below will be strictly enforced except for cases of extreme urgency, which will be decided on at the instructor's discretion.

Requirement:

- i>clicker 2 is required for BIO4200, please always bring your i>clicker to class
- Students are responsible for all the announcements in the course of the semester, including the ones announced in class, which might or might not be repeated on blackboard.

Textbook:

Evolutionary Analysis, 5/e
Herron & Freeman C2014
ISBN-13: 9780321616678

Exam formats:

- The exams may include questions that are multiple choice, fill-in-the-blank, problem solving, and short essays.
- All exams will be closed book and held in class.
- All you will need are pencils (and pens) and a calculator. And as always, bring your i>clicker
- No electronic devices of any other kind than a calculator will be allowed.
- Cell phones and pagers must be turned off.

- Anyone who leaves the exam room will not be allowed back in.
- Late-arriving students should know that admittance into the exam room will not be allowed after the first student has left the room. In the case that there are i>clicker questions in the exam, late-arriving students will NOT be allowed to re-take the missed i>clicker questions.
- Scantron forms will be supplied if required.
- Do not bring your own scantron forms to the exams as you will not be allowed to use them.

Grading:

- Each exam (4 midterms and 1 final) will count for 220 points. The best four exams will be counted towards the final grade.
- The final exam will cover all class materials.
- Class participation and attendance are strongly encouraged but will not be graded.
- There is no extra credit under any circumstances.
- Students with scheduling conflicts for any midterm exam must notify Dr. Hao in writing by class time by September 22, 2017. No make-up exams will be given unless Dr. Hao has been notified in writing by this date.
- Reasonable exceptions will be granted in cases of illness, which will require notification prior to the exam and must be followed up with an original signed note from a physician.

Honors option: Students taking the honors classification are required to study assigned reading material and present to the class. The presentation counts for 50 points, while homework counts for 50 points.

	Regular Students		Honors Students
Midterm Exam 1	220	Midterm Exam 1	220
Midterm Exam 2	220	Midterm Exam 2	220
Midterm Exam 3	220	Midterm Exam 3	220
Final Exam	220	Final Exam	220
Home work	100	Home work	50
		Presentation	50
Clicker Qs	20	Home work	20
	Total: 1000		Total: 1000

Final treatment for the clicker questions:

- If the overall points you earned are 85% or higher (17 points or higher), your points will be rounded to 100% (to 20 points).
- In case your earned clicker-points are below 85%, if your best three midterms are higher (in percentage) than your clicker points, you clicker-points will be re-calculated using your midterm scores.

The final letter grade will be determined as follows:

Percentage	Final Grade
90.00%- 100%	A
86.00%- <90%	A-
84.00%- <86%	B+
78.00%- <84%	B
76.00%- <78%	B-
74.00%- <76%	C+
68.00%- <74%	C
66.00%- <68%	C-
64.00%- <66%	D+
58.00%- <64%	D
56.00%- <58%	D-
<56%	F

EXAM GRADE DISPUTES / CHALLENGE OPTION

- Students will have one (1) week after the return of an exam or a written assignment to challenge a grade for any question with a written note providing an explanation.
- Failure to challenge the grade within this period indicates a willingness to accept the grade as is. The challenge should consist of a written description of why the answer is correct based on other published material that you cite.

CHEATING

- A strict zero-tolerance policy for cheating will be enforced.
- Anyone caught cheating on an exam will receive a score of 0 (zero) for that portion of the grade.
- Students found to be cheating during an exam (using a “cheat sheet”, looking at another’s paper, or allowing another to look at yours), will receive a zero for that test with no opportunity to drop or replace that score.
- A second episode of cheating will result in a grade of F for the course and may also result in initiation of university disciplinary action.

POSTING OF EXAM GRADES

Exam grades will be posted on Black Board by Student ID Number as soon as possible after the exam has been administered. The distribution of scores will also be provided in class.

SPECIAL CONSIDERATIONS FOR INDIVIDUALS WITH DISABILITIES

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs.

RELIGIOUS HOLIDAY CONFLICTS

- If you have a conflict with any of the scheduled class or exam times due to religious reasons, you must notify Dr. Hao in writing by class time on **September 22, 2017**.
- No make-up exams will be given unless s/he is notified in writing by this date.

UNEXPECTED UNIVERSITY CLOSURES

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day.

OTHER

- I am happy to write letters of recommendations for students who earn a grade of B+ and better.
- Please turn all cell phones off during class and during exams.
- Any specific issue not covered by this syllabus will be resolved using University policies.
- Disputes that cannot be resolved following the guidelines present in this syllabus will be resolved by following the guidelines of the University “Student Due Process”.

ADD/DROP POLICY

- Add forms will not be signed after the second week of class.
- Drop forms must be signed before the end of “study day”, which is the day after the last day of classes.

Tentative lecture schedule (subject to change as class progresses)

The chapters are according to the textbook Evolutionary Analysis by Herron and Freeman 2014.

Thr Aug 31	2:30-3:45	L01	Introduction to Evolution (chapter 1)
Tue Sep 5	2:30-3:45	L02	The Pattern of Evolution (chapter 2)
Thr Sep 7	2:30-3:45	L03	Evolution by Natural Selection (chapter 3)
Tue Sep 12	2:30-3:45	L04	Estimating Evolutionary trees 1 (chpt 4)
Thr Sep 14	2:30-3:45	L05	Estimating Evolutionary trees 2 (chpt 4)
Tue Sep 19	2:30-3:45	-	Midterm exam 1
Thr Sep 21	2:30-3:45	L06	Variation Among Individuals (chapter 5)
Tue Sep 26	2:30-3:45	L07	Selection and Mutation (chapter 6)
Thr Sep 28	2:30-3:45	L08	Migration, Drift, and Nonrandom Mating (chpt 7)
Tue Oct 3	2:30-3:45	L09	Linkage and Sex 1 (chapter 8)
Thr Oct 5	2:30-3:45	L10	Linkage and Sex 2 (chapter 8)
Tue Oct 10	2:30-3:45	-	Midterm exam 2
Thr Oct 12	2:30-3:45	L11	Studying Adaptation (chapter 10)
Tue Oct 17	2:30-3:45	L12	Sexual Selection (chapter 11)
Thr Oct 19	2:30-3:45	L13	Evolution of Social Behavior (chpt 12)
Tue Oct 24	2:30-3:45	L14	Aging and Life-History Characters (chpt13)
Thr Oct 26	2:30-3:45	L15	Evolution and Human Health (chapter 14)
Tue Oct 31	2:30-3:45	-	Midterm exam 3
Thr Nov 2	2:30-3:45	L16	Genome Evolution and Molecular Basis (chpt 15)
Tue Nov 7	2:30-3:45	L17	Origins of Life (chapter 17)
Thr Nov 9	2:30-3:45	L18	Speciation (chapter 16)
Tue Nov 14	2:30-3:45	L19	Evolution and Development 1 (chapter 19)
Thr Nov 16	2:30-3:45	L20	Evolution and Development 2 (chapter 19)
Tue Nov 21	2:30-3:45	L21	Human Evolution (chapter 20)
Tue Nov 28	2:30-3:45	-	Honors student presentations
Thr Nov 30	2:30-3:45	-	Honors student presentations
Tue Dec 5	2:30-3:45	-	Midterm exam 4
Thr Dec 7	2:30-3:45	-	Review
Thr Dec 14	2:45-4:45	-	Final Exam

(please double-check university calendar for accuracy)