



Course BIOL 4360.001
Evolution and Development
Instructor Elizabeth Pickett, PhD
Term Spring 2018
Meetings Mon & Wed, 11:30-12:45, CB 1.214

Instructor's Contact Information

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Office Hours Wednesdays 1-2:30pm or by appointment

General Course Information

Pre-requisites, Co-requisites, & other restrictions

BIOL 3301

Course Description

The objective of the course is to integrate evolutionary biology and developmental biology into a common framework, focusing on the evolution of developmental pathways in order to explain the evolution of animal morphology. This is a reading intensive course with a heavy focus on scientific research.

Learning Outcomes

By completion of the course students should be able to:

1. Identify experimental approaches used to study the developmental basis of evolutionary change.
2. Interpret data presented in both historic and current scientific literature.
3. Explain how evolution works by altering the course of egg-to-adult development.

Textbook & Materials

Evolution: A Developmental Approach, by Wallace Arthur (Wiley-Blackwell publishing)
Journal publications available online and through eLearning

Course Policies

Class Attendance	Attendance is expected and failure to attend will impact your participation score in a negative manner. Participation points will be assigned during all journal club discussions (which will occur on days when a paper set is the assigned reading.) If you are unable to attend due to a scheduled event (interview, UTD sport/club event, etc.), notify the instructor of your absence in advance. If you are unable to attend due to illness or personal emergency, contact the instructor as soon as possible regarding your situation.
Readings	Paper sets <u>must be read before</u> the associated journal club. Chapter readings can be done before or after the associated lecture.

Grading Criteria	<p>Points are allocated as follows:</p> <ul style="list-style-type: none"> --300 points from exams (3 exams at 100 points each) --104 points from assignments/homework/quizzes --96 points from participation during journal club discussions <p>Grades will be based on total number of points earned:</p> <ul style="list-style-type: none"> 485 or more for A+ 465 - 484 for A 450 - 464 for A- 435 - 449 for B+ 415 - 434 for B 400 - 414 for B- 385 - 399 for C+ 365 - 384 for C 350 - 364 for C- 335 - 349 for D+ 315 - 334 for D 300 - 314 for D- 299 or less for F
Late Work	Late work will only be accepted if due to extenuating circumstances as judged by the instructor.
Make-up Exams	Make-up exams will be given only if: (a) you were seriously ill and have verifiable documentation from a physician, (b) you were detained the day and time of the exam, or (c) you made arrangements prior to the exam to attend an urgent family affair (e.g., funeral). In any of these cases, you must notify the instructor in advance of the scheduled time of the exam. Otherwise, you will receive a 0. It is your responsibility to make sure that an exam is made up within one week of the originally scheduled time.
Classroom Citizenship	Please turn off your cell phones or set them to vibrate. If you must take an urgent call, step outside the classroom to answer it. You are welcome to use a computer (laptop etc.) in class, but please be considerate and refrain from playing games, videos, etc., in the sight-lines of others. Audio recording of lectures is permitted.
Comet Creed	<i>This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:</i> <i>"As a Comet, I pledge honesty, integrity, and service in all that I do."</i>
UT Dallas Syllabus Policies and Procedures	The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to http://go.utdallas.edu/syllabus-policies for these policies.

Academic Calendar – Spring 2018

Day	Date	Class Meeting - Activity: Topic	Reading
M	Jan 8	1 – Course Policies and Round Table Introductions	Chapters 1-2
W	Jan 10	2 – Lecture: Foundations	Chapters 3-5
M	Jan 15	NO CLASS (MLK Day)	
W	Jan 17	3 – Journal club	Paper set 1
M	Jan 22	4 – Lecture: Changes in Time and Space	Chapters 6-7
W	Jan 24	5 – Journal club	Paper set 2
M	Jan 29	6 – Journal club	Paper set 3
W	Jan 31	7 – Lecture: Changes in Amount and “Type”	Chapters 8-9
M	Feb 5	8 – Journal club	Paper set 4
W	Feb 7	9 – Journal club	Paper set 5
M	Feb 12	10 – EXAM 1 (class meetings 1-9 & related readings)	
W	Feb 14	11 – Lecture: Developmental Repatterning	Chapters 10-11
M	Feb 19	12 – Journal club	Paper set 6
W	Feb 21	13 – Lecture: Developmental Bias in Evolution	Chapters 12-13
M	Feb 26	14 – Journal club	Paper set 7
W	Feb 28	15 – Journal club	Paper set 8
M	March 5	16 – Lecture: Developmental Genes and Evolution	Chapter 14
W	March 7	17 – Journal club	Paper set 9
M/W	March 12/14	SPRING BREAK	
M	March 19	18 – Journal club	Paper set 10
W	March 21	19 – Journal club	Paper set 11
M	March 26	20 – EXAM 2 (class meetings 11-19 & related readings)	
W	March 28	21 – Lecture: Co-option and Plasticity	Chapters 15-16
M	April 2	22 – Journal club	Paper set 12
W	April 4	23 – Lecture: Evolution of Species, Novelty, and Body Plans	Chapter 17
M	April 9	24 – Journal club	Paper set 13
W	April 11	25 – Lecture: Evolving Complexity & Putting it All Together	Chapter 18-20
M	April 16	26 – Journal club	Paper set 14
W	April 18	27 – Journal club	Paper set 15
M	April 23	28 – Journal club	Paper set 16
W	April 25	29 – EXAM 3 (class meetings 21-28 & related readings)	

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the instructor.