

Developmental Biology: Syllabus

I. Instructors

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LECTURES	112 Lillis	Mon & Wed	Everyone – 10:00 – 11:20
LABS	130 Huestis	Tue	Sec 21073 – 1200 to 1350
		Tue	Sec 21074 – 1400 to 1550
		Tue	Sec 21075 – 1600 to 1750

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III. Inclusive Learning

The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your participation, please let me know as early as possible, in person or via email. You may also wish to contact [Accessible Education Services](#) in 164 Oregon Hall, by phone at (541) 346-1155 or uoaec@uoregon.edu. We welcome the chance to help you learn, and will work with you to help make it a good learning opportunity and experience.

IV. Course Description and Objectives

Developmental Biology is a branch of science that easily captures human interest and is one of the fastest growing disciplines in Biology. The shaping of a complex organism from a single cell is one of nature's miracles, made so much more amazing by the fact that it is so often successful. Traditional studies of embryonic development have recently been transformed by the many tools afforded by Molecular Biology and Genetics, allowing us to better understand the how, what, when, and where of development. In this course we will explore a number of aspects of developmental biology, trying to focus on mechanisms that are shared across diverse animals. The course consists of two lectures and one lab per week. Lecture material roughly mirrors the organization of the textbook ([Developmental Biology by Scott Gilbert, 10th ed.](#)). We will begin with an overview of development, and then discuss the underlying genetics of major steps during development. We will then focus on a few interesting topics in development. Finally, we will briefly explore development in plants. You will also get a hands-on look at some of the developmental processes in the lab portion of the class. While the overall course organization will not change, the content of individual lectures and labs may be modified as necessary.

V. Course Details

1. Required Text

The readings are from the [10th edition of Developmental Biology by Scott Gilbert](#). It is the newest edition, and it therefore might be hard to find used. There will be three copies available in the science library, as well as a copy of the 8th edition of Developmental Biology. Finally, the [6th edition of Developmental Biology is also available online at PubMed Books](#). Please note that there are always some differences in page numbers for assigned readings, topic arrangement and current knowledge between editions – especially when dealing with Molecular Biology of Development. Additional readings will be posted on Canvas as PDF files.

2. Required Supplies

iClicker (available in the Duck Store).

3. Student Commitment

Since this is an advanced class, you are expected to put in a significant amount of work outside of class per week doing readings, assignments and studying for exams (see UO Student Handbook, section Academic Success). Full attendance and active participation are critical to your chances of success in this class, and will be assessed via iClicker feedback.

4. Grading

a) Quizzes:

There will be 6 quizzes, all administered through Canvas. Quizzes will be online Wed after class, and are due Friday of the same week (by 2359h). Quizzes will cover all labs and materials covered since the preceding quiz. Quizzes will be automatically graded, short-answer questions. The lowest scoring quiz will be dropped, and the remaining will count towards 10% of your total grade. Only one attempt is allowed per quiz: before starting, make sure that you have checked your browser for compatibility with the UO Canvas site. Technical difficulties, dropped internet connections etc. are not acceptable excuses for a missed quiz. If you miss a quiz, that will be the one dropped out of your 6 quizzes. There will be no make-up quizzes.

b) Exams

There will be two midterms and a final, collectively accounting for 60% of your course grade. Exams will be cumulative, because concepts will overlap substantially over the term, but the focus of each exam will be on material covered since the preceding exam. Exams can contain materials from lectures, relevant chapters from the textbook, other assigned readings and labs, and will most likely be a combination of different types of questions. The exam schedule is listed on the last page. The final is worth 25% of the overall grade, but midterms will be scored on a sliding scale (higher scoring midterm will count for 20%, while the lower scoring one will count for 15).

c) iClicker Participation

You can earn up to 10% credit for attendance and which will be scored using iClickers. Each click counts towards credit, and opportunities for clicker participation are spread through each lecture and across classes. I will often ask you to respond to MCQs, You will be scored on participation rather than correctness, but you may see similar questions in exams or quizzes, so it is a good idea to pay attention to them. Ninety percent of the total participation opportunities will be counted for credit. The remaining 10% accounts for any missed sessions, iClicker failure etc. Missing iClicker opportunities beyond that - for example by failing to bring your iClicker to class or by not registering your iClicker, will result in a lower participation score.

d) Lab Assignments

Lab participation and assignments are worth 20% of your final grade.

5. Labs

An important part of learning about Development is to experience some of the processes first-hand. This will give you some perspectives about techniques and methods used to study development and to some extent, how research in the field is carried out. By using as wide an array of model animals as possible, we will try and give you a perspective that is difficult to gain only from reading.

Lab sections are held on Tuesdays, starting second week of term and are mandatory. General information about each lab is provided in the class schedule (last page), and more information will be provided during class and will be made available online. Grading for the lab section of the course will be split between attendance /participation (5%) and completion of lab assignments (15%). You are expected to follow all safety guidelines and staff instructions. Assignments for each lab will be available on Canvas during the preceding week, and should be downloaded, printed, and brought to the lab section. Completed lab assignments are due at start of class the following Monday. It is extremely difficult to make up for a missed lab by attending another section: section sizes are limited by the Fire Code. Contact your GTF if you know that you are going to miss your normal lab section.

6. Classroom Etiquette

Please arrive on time. Lectures and labs begin promptly on the hour. Questions are welcome, but Instructor may postpone lengthy discussions to a later time. Laptops and other electronic devices are not to be used unless explicitly permitted. Please do not leave early as this is disruptive to everyone. If you have an unusual circumstance and must leave early, please inform the instructor, and sit near the exit so your leaving is not disruptive. Finally, please be respectful of your fellow students.

7. Email Etiquette

Please include "Bi328" in the subject line, so your email can be attended to in time. We will try to answer your email in a timely manner; however, we do not always check our email in the late evenings or during weekends.

8. Inclement Weather

If road conditions are dangerous, it is possible that class may be canceled even if the University remains open. Cancellation notices specific to BI328 will be posted on the class Canvas site, while university-wide announcements will be posted on the UO home page.

VI. Grading

- 60% Exams
 - Final: 25%;
 - Midterms: 35% (20% from higher & 15% from lower scoring midterm)
- 10% Canvas Quizzes
- 10% Participation / Class Assignments / Discussion
- 20% Laboratory Attendance, Work and Assignments

VII. General Policy on Missed Assignments

Assignments must be turned in on time and there are no early exams or make-up exams. If you are ill, or have an emergency where you cannot attend class, miss an assignment, or miss an exam please contact the instructor. Again, it's best if you contact the instructor before missing the assignment or exam so that we can make necessary arrangements so that you can receive credit.

VIII. Plagiarism and Cheating

Academic Misconduct will not be tolerated. You are expected to do your own work on all assignments and exams. Using another student's iClicker during class constitutes cheating. You are encouraged to discuss ideas with other students and study together, but do not copy someone else's work or allow anyone to copy yours. All students are expected to conform to the [Student Conduct Code](#). Please note that Instructors are **required** to file a written report of any academic misconduct with the Director of Student Conduct and Community Standards.

IX. Class Schedule

Wk	Date	Venue	Topic	Post-class
1	Mon, Jan 4	Lecture 1	Principles of Development	
	Wed, Jan 6	Lecture 2	Cell Signaling and Cell Fate Specification	
2	Mon, Jan 11	Lecture 3	Fertilization and Cleavage	
	Wed, Jan 13	Lecture 4	Cleavage	
3	Mon, Jan 18		No Class (Martin Luther King Day)	
	Wed, Jan 20	Lecture 5	Gastrulation & the Organizer	
4	Mon, Jan 25	Lecture 6	Axis Formation	
	Wed, Jan 27	EXAM	MIDTERM-1	
5	Mon, Feb 1	Lecture 7	Developmental Genetics of Drosophila I	
	Wed, Feb 3	Lecture 8	Developmental Genetics of Drosophila II	
6	Mon, Feb 8	Lecture 9	Body-plan Genes and Morphogen Gradients	
	Wed, Feb 10	Lecture 10	Ectodermal Development	
7	Mon, Feb 15	Lecture 11	Ectoderm - Neural Tube	
	Wed, Feb 17	EXAM	MIDTERM-2	
8	Mon, Feb 22	Lecture 12	Neural Crest & Mesoderm	
	Wed, Feb 24	Lecture 13	Guest Lecture; The Circulatory System	
9	Mon, Feb 29	Lecture 14	Limb Development	
	Wed, Mar 2	Lecture 15	Sex Determination	
10	Mon, Mar 7	Lecture 16	Post-natal Development	
	Wed, Mar 9	Lecture 17	Common Themes in Development	
11	Thu, Mar 17	FINAL	FINAL EXAM (10:15 hrs)	

NOTE: Class schedule is not fixed, and is subject to change depending on pace of lectures..