

BISC 480 – Biology of Development (Spring 2014)

Instructors:

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Meeting times:

Lec **13046R** **2:00-3:20pm** **Tu:RRI 221** **Th:RRI421**
Dis **13048R** **3:30-4:20** **Th: RRI 221**

Overview and Course:

Content:

The aim of this course is to introduce students to the advanced aspects of developmental biology, from the molecular level to the level of the cells, tissues, and organs, including:

- * Fundamentals of gene regulation in developmental context
- * Methods of manipulating developmental processes
- * Systems biology
- * Cell populations

Prerequisite:

Biological Sciences 220/221

Recommended preparation:

Biological Sciences 120 or 121, Introduction to Biology I

Biological Sciences 311 -or- 320, Molecular Biology

Biological Sciences 325, Genetics

Week	Date	Topic	Reading	Instructor	Discussion
1	Jan 09 Jan 11	Class Intro	Chapter 1	Sergey	Papers: Quail Kelp Flies
2	Jan 16 Jan 18	Vertebrate 1	Chapter 3	Rusty	Literature research, forming plans
3	Jan 23 Jan 25	Invertebrate 1	Chapter 2	Sergey	Research 1
4	Jan 30 Feb 01	Vertebrate 2	Chapter 5	Rusty	Review Session, Research 2
5	Feb 06 Feb 08	Invertebrate 2	Chapter 6	Sergey	Exam style MIDTERM 1
6	Feb 13 Feb 15	Plant Development	Chapter 7	Sergey	Research 3
7	Feb 20 Feb 22	Cell differentiation and stem cells	Chapter 8	Rusty	Cutting cadavers in HSC, Mike Habib
8	Feb 27 Mar 01	Morphogenesis	Chapter 9	Rusty	Research 4
9	Mar 06 Mar 08	Organogenesis I	Chapter 11	Rusty	Research 5
	Mar 11-18	SPRING BREAK			
10	Mar 20 Mar 22	Organogenesis II	Chapter 11	Rusty	Review Session

11	Mar 27 Mar 29	Evolutionary Development I	Chapter 14	Sergey	MIDTERM 2
12	Apr 03 Apr 05	Evolutionary Development II	Chapter 14	Sergey	Research 6
13	Apr 10 Apr 12	Regeneration	Chapter 13	Sergey	Literature Research, preparation for presentations.
14	Apr 17 Apr 19	Nervous system, Invertebrate	Chapter 12	Sergey	-“-
15	Apr 24 Apr 26	Nervous system, Vertebrate	Chapter 12	Rusty	Presentations
		FINAL EXAM 2-4 PM			

Permission of instructor can be requested if you have not met the prerequisites. Familiarity with basic chemistry and physics is assumed. Facility with algebra is recommended.

Text: *Principles of Development*, Lewis Wolpert (Author), Cheryll Tickle (Author), 5th edition

Web Site: Course materials and announcements will be posted to Blackboard. You are responsible for checking the website.

Course E-mails will be sent only to your official USC email address.

Course Credit:

Midterm Exam 1 30% (chapters 1, 2, 3)

Midterm Exam 2 30% (chapters 4, 7, 8, 10, 11)

Final Exam 40% (20% chapters 12, 14, 15; 20% cumulative – presentations on research projects)

Discussion sections will be led by Teaching Assistants and will supplement and complement lectures. Some lectures and discussion sessions will be implemented as practical hands on wet lab exercises.

The syllabus may change slightly during the semester. Exam dates are firm.

Course Policies:

1) Exam dates are firm. There are no makeup exams in the course. Performance on the final may be prorated to substitute for a missing midterm exam, if an excuse considered valid by faculty is presented in a timely fashion. An acceptable written excuse or documentation must be provided to the faculty. The final exam will be administered only on the date and time set by the University.

2) Midterm exams will be returned to students by the TAs during discussion section. The final examination will not be returned but will be retained for one semester by the faculty.

3) Regrades: If you think an answer you have provided was graded incorrectly or if there is an arithmetic error, you may seek a regrade. You must provide a written explanation of why you think your answer was graded incorrectly. Regrade requests are to be submitted to your TA. If a regrade is agreed upon, then the ENTIRE EXAMINATION may be subject to a regrade. Your grade may therefore go up, go down, or remain the same. Regrade requests must be received within one week of when the exam key is posted for midterms, or by the second week of classes the following semester for the final exam.

4) No special assignments for extra credit are permitted.

5) Academic integrity policies of the University will be strictly followed. Infractions can result in severe penalties. There may be assigned seating for exams. No student may be admitted to an exam after the first student has left the exam.

Statement on academic integrity: USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be

submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

6) Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to one of the Professors as early in the semester as possible. DSP is located in STU 301 and is open 8:30 AM – 5:00 PM, Monday thru Friday, Phone number: 213-740-0776.

7) It may be necessary to make adjustments to the syllabus during the semester. Check the course web site or class announcements on Blackboard for updates. **Exam dates will not be changed.**

8) Any questions or concerns regarding these policies should be addressed to the faculty.