

DEVELOPMENTAL BIOLOGY
Biology 4104/5984 (Spring 2008) CRN: 10918/17444
TR 8:00-9:15 AM, Robeson 105

Instructor: Dr. Jill C. Sible and Nassiba Adjerid
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Course Information: posted on Blackboard
Text: *Developmental Biology*, Gilbert 7th ed. 2003 or 8th ed. 2006
Bioethics and the New Embryology: Springboards for Debate, Gilbert, Tyler and Zakin, 2005
Prerequisites: BIOL 2104
Office Hours: Jill: Tuesdays and Thursdays 2-3 or by appointment
Nassiba: Mondays and Wednesdays 10 – 11 or by appointment

Learning Goals:

To paraphrase Scott Gilbert, the developmental biologist is driven by questions about becoming, rather than being. This fascinating discipline synthesizes much of the information you have already learned in courses such as anatomy, zoology, evolutionary biology, cell biology and genetics, to try to understand the wonderfully complicated process of how we go from a single cell through embryonic and juvenile stages to adulthood, eventually leading to the formation of the next generation starting again from a single cell. Developmental biology has fascinated brilliant minds from the time of Aristotle through today. Our understanding of development has been advanced by methodologies ranging from the observation of a developing chicken embryo with the naked eye to the tracing of embryonic cells labeled with quantum dots using advanced fluorescent laser confocal microscopy. Issues in developmental biology impact each and every one of your lives. These issues include: the therapeutic potential and ethical concerns of using human embryonic stem cells, our personal beliefs about when human life begins, and whether or not we should select the sex or other genetic traits of our children.

It is our hope that each and every student completing the course will have developed an appreciation for the fascinating questions in developmental biology and a solid understanding of how a single fertilized egg gives rise to a multicellular adult organism. Furthermore, we hope that the factual information will be considered in the historical and social context in which it is presented, so that students appreciate that developmental biology, like all science, is highly influenced by the culture in which it is practiced. Finally, we hope that all students feel empowered to make decisions related to current issues in developmental biology based on a solid understanding of the science and consistent with their own personal code of ethics.

Evaluation: The grade for the course will be based on the following:

Exam 1	25%
Exam 2	25%
Exam 3	25%
Graded Assignments	25%

Exams 1 – 3 will be in short answer/short essay format and will cover the material indicated in the class schedule. The text and accompanying website are critical supplements for material presented in class, but text material that is not mentioned in class will not be on the exam.

Make-up Exams: You must take the exams during the times indicated in the syllabus. Make up exams will be given only with a letter from a physician or from the Dean's office. The make-up exams must be taken within one week of the originally scheduled exam time.

Graded Assignments: Assignments will be posted in the "Assignments" section of Blackboard and are due on the date indicated on the course schedule. They should be submitted via the "Digital Dropbox" on Blackboard. Assignments will consist of policy questions on ethical issues in developmental biology and questions based on interviews with developmental biologists. To complete the homework, you may consult any source including each other, but the final product should be your own work IN YOUR OWN WORDS.

Grading: A = 90-100% B= 80-89% C= 70-79% D= 60-69% F= <60%

Handouts:

Handouts will be posted on the web site before each class meeting. These handouts should be printed and brought to class. The handouts are not comprehensive class notes but will allow students to take fewer notes and to focus on listening, understanding, and discussion during class meetings. It is recommended that students read over the handouts before coming to class so that they are somewhat familiar with the vocabulary and material and better prepared and organized to learn. Most handouts will contain the basics of the Power Points but not necessarily the details.

Honor Code:

All participants in this course are expected to abide by the honor code.

Accommodations: Any students with disabilities or requiring special accommodations, please see me as soon as possible. I will respect your privacy and do everything I can to provide a supportive, comfortable learning environment.

A note on 8 AM: Regular class attendance is key to success in this class. I realize that 8 AM is not the favored class time for most students. If you really cannot attend 8 AM classes on a regular basis, please consider dropping the class and taking something else. For those of you committed to the course, bring coffee, breakfast, whatever it takes to come to class, participate and enjoy! At the end of last semester, we did a few yoga stretches at the beginning of class to get the blood circulating. I'd like to try that again!

BIOL 5884 Graduate Developmental Biology
Spring 2008

In anticipation of converting BIOL 4104, Developmental Biology, to a 4000/5000 level course, this spring I am offering graduate students a 4 credit, special-study (BIOL 5984). This is the second semester I have done so.

Three credits will be earned in the combined undergraduate/graduate lecture section of the course.

The additional credit will be earned in a one-hour journal club each week. Graduate students will read and discuss papers from the primary literature, and each student will assume primary responsibility for presenting a paper at least once per semester. Last semester, we had a group of graduate students from very diverse areas of science. Students presented papers related to their own background and we all learned a lot from one another.

Grading will be 75% from the group class and 25% from the journal club.