Syllabus
Developmental Biology
BIOL 4438
Fall 2008

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Campus Closing (e.g., Hurricanes):
Call the emergency line 281-283-2221.
or http://www.uhclemergency.info/
Message is updated every 30 minutes

Office hours: Wednesday, 2:00 to 4:00 pm, and Friday 1:00 to 5:00 pm. If necessary, appointments can also be scheduled. I can also be contacted by e-mail or voice mail. Sometimes I am in the lab (B3108, B3125 or B3126) at the above times, if you need to see me and have not set an appointment, ask our secretary (Maria Winters) to contact me by phone.

Section: BIOL 4438, Wednesday 7:00 pm to 9:50 pm, BAYU 1235

Prerequisites: Genetics (BIOL 3431) and Cellular Physiology (BIOL 4437) or Cell Biology (BIOL 3037)

Text:

Developmental Biology (8th Edition) by Scott Gilbert. REQUIRED Sinauer Associates, INC. Bring the book to class. The book has a CD called the vade mecum (means Manual). It has been my experience that CDs will sometimes break. So, if possible, make a copy of the CD and use the copy when studying.


Course Objectives:

This course is designed to provide students with a thorough examination of the fundamental principles of Developmental Biology. The course integrates the molecular, cellular, organismal, and ecological methodologies that are currently utilized in developmental biology research. Since this is an upper level course, the student should be familiar with common biological terms. In addition, since developmental biology is considered a discipline of biology, a lot of new terminology will be introduced to the student.

Drop Date: October 27, 2008
Testing:

All the material covered in the exams will be based on information from the textbook. In order to do well in this course, the assigned reading must be read before lecture to help you grasp the problems and to ask for clarification of concepts when necessary. Remember that during the lecture because of time limitations you will get just a brief introduction to the topics you must know to pass this course. So let me emphasize that the **bulk of the information will come from reading the textbook.**

UHCL Honesty Policy:

The Academic Honesty Policy at UHCL (found on pages 75-77 of the 2007-2008 catalog) states:

"**Academic honesty is the cornerstone of the academic integrity of the university. It is the foundation upon which the student builds personal integrity and establishes a standard of personal behavior.**"

The Honesty Code of UHCL states:

"**I will be honest in all my academic activities and will not tolerate dishonesty.**"

Because honesty and integrity are such important factors, you should be aware that failure to perform within the bounds of these ethical standards is sufficient grounds to receive a grade of "F" in this course and be recommended for suspension from UHCL.

Exam Rules  The following rules will be followed during tests:

1) Keep your eyes on your own test. If I catch you looking at someone else’s exam, I will warn you first with a cold stare and second vocally. **The third time I will take up your exam and give you a Zero!!!!!!**

2) All cell phones (including Bluetooth), e-mail devices (e.g. Blackberry) and iPods will be turned off and put away. **DO NOT ANSWER OR USE YOUR communication devices!!!!!!!** Tell your family and friends that you will not be allowed to use your communication device during test time. This has unfortunately become a way to cheat and will not be tolerated in my classroom.

3) You will need a **regular, classic calculator** when taking an exam. Do not use Dictionary/translator-type PCs, pocket-type PCs, or any calculators that allows you to type in text. **You will not be allowed to share calculators.** I have extra calculators if needed.
Grades:

<table>
<thead>
<tr>
<th>Exam Type</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lecture Exams</td>
<td>75%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Grading Scale:

- **A**: 94-100
- **A-**: 90-93
- **B+**: 87-89
- **B**: 83-86
- **B-**: 80-82
- **C+**: 75-79
- **C**: 70-74
- **C-**: 67-69
- **D+**: 64-66
- **D**: 61-63
- **D-**: 58-60
- **F**: < 57

Lecture Exam (75% of grade):

There will be four lecture exams during the semester. You will have the entire class period to take the lecture exam. The exam will consist of three sections: The first section will consist of 5 essay questions (answer 4 of the 5 questions) worth 40 percent of grade. The second section will be worth 60 percent and will consist of multiple choices, true/false, matching and fill-in-the-blank. The third section will consist of 10 bonus points. **The lowest lecture exam will be dropped in this course.**

Final Exam (25% of grade):

The final will focus on the last chapters covered. Its format will be the same as the lecture exams. **The final, which will not be dropped, has to be taken by all students.**

Special questions:

It is becoming increasingly apparent that biology students are not well versed on the metric system, the calculations for dilutions or the procedures for making complex solutions. Since these skills are an important part of a biology student’s education, a few questions on each exam will cover these mathematical skills.

If you are going to study science and work in this field, there are certain mathematical skills you will need. The following mathematical problems, which are basic to biology, will be addressed in the exam:

1) Making dilutions using the \( V_1C_1 = V_2C_2 \) formula.

2) Generating a certain volume of a solution with a specific molarity using the molecular weight or how to make a percent solution (see #5).
3) Generating complex solutions using stock solutions. You should be able to make a 250 ml solution of 100 mM Tris-HCL, 50 mM NaCl, 0.1% SDS and 1 mM EDTA using the following stock solutions: 1 M Tris-HCl, 5 M NaCl, 10% SDS, 0.5 M EDTA and then bringing it up 250 ml with water.

4) Understanding and using the metric system for measuring length (meters), weight (grams) and volume (liters). You should be able, for example, to convert nanometers into meters.

5) **Remember this relationship between meters, grams and liters:**
At room temperature at 1 atmosphere of pressure

One milliliter of water = One gram of water = One cubic centimeter of water. How does one cubic millimeter fit in this relationship? How can this be used to make a 10% solution of a particular compound, e.g., SDS?

**Make-Up Exams:**

You will have one week to make up exams 1 and 2. A make up exam for the final will not be available. The make-up exams will consist of ten essays questions. Exceptions to this rule:

1) Work requires that you miss the test. You will need a letter (on letterhead and with a signature/phone number) from your supervisor.

2) Medical reasons prevent you from taking the test. You will need a letter (on letterhead and with a signature/phone number) from your Doctor.

**I will call to confirm your absence!!!!!!**
This Course Schedule is Tentative and is Subject to Change.

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<thead>
<tr>
<th>Course Schedule:</th>
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<th>Chapter</th>
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<td>August 27</td>
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<td></td>
<td>September 3</td>
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<td>September 10</td>
<td>Exam 1</td>
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<td>October 1</td>
<td>Exam 2</td>
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<td>December 10</td>
<td>Final Exam</td>
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