Comparative Developmental Biology
Biology 475/675 (3 Credits)
T/R 12:30 – 13:45
Heritage Hall Building (HHB) 126

“This is a sample syllabus only. The instructor may make changes to the syllabus in future courses.”

INSTRUCTOR INFORMATION:
Peggy R. Biga, Ph.D.
Office: Campbell Hall 173
UAB E-Mail: pegbiga@uab.edu
Telephone: (205) 934-9684
Office Hours: M 1-2 pm, and R 2-3, or by appointment

COURSE INFORMATION:
Course Prerequisites: BY 210 (Genetics), BY 314 (Embryology)
Course Description: Mechanisms of development with emphasis on comparative biology, from gametogenesis through completion of embryogenesis.

Course Objectives:
The goal of this course is to introduce students to the mechanisms of how organisms develop from a single cell. The students will learn how to critically think about development and science. The objectives include:
• To gain an understanding of the complexities of how life begins and results in a multi-cellular organism.
• To gain an understanding of the evolution of complexity in the animal kingdom.
• To learn how gene expression regulation is the overarching regulatory unit for development.
• To understand controversial topics in developmental biology from a scientific perspective.

Tentative Topics Outline (See Course Schedule for More Detailed Outline)
Overview of animal development
Gametogenesis and Fertilization
Early Embryonic Development
  Cleavage & Gastrulation
Later Embryonic Development
  Organogenesis
  Mesoderm and Ectoderm
  Metamorphosis
Morphogenesis
  Cell and Tissue Interactions
Molecular Biology of Development
  Gene Expression Regulation
  Regulatory Networks in Development
  Adaptations in Development

Required Texts:


The University of Alabama at Birmingham  
College of Arts and Sciences  
Fall 2013


Some course materials are available on Blackboard available through BlazerNet or
http://www.uab.edu/bblearn/.

**Recommended Text:**


***Outside readings will be posted on Blackboard.***

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**Course Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Portfolio (5)</td>
<td>300 Points (60 pts each)</td>
</tr>
<tr>
<td>Semester Projects</td>
<td>75 Points (total)</td>
</tr>
<tr>
<td>Exams (2)</td>
<td>100</td>
</tr>
<tr>
<td>Participation</td>
<td>25 Points*</td>
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<tr>
<td>Total</td>
<td>500 Points</td>
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* Participation will be evaluated based on in class attendance, quizzes and discussions of outside readings.

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**Grading Procedure**

College Scale (A=100-90, B=89-80, C=79-70, D=69-60, F=59 and below);

Exams (2) to be scaled to the maximum # points earned

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**Course Attendance**

Attendance is required for this course. The student is responsible for attending class and obtaining required materials from Blackboard. A few classes might be posted online via Blackboard, and in accordance with the attendance policy for this course, it is the responsibility of the student to view these online classes. Tardiness in excess of 5 minutes past the start of class time will be considered an absence. ***Please come to class on time, as tardiness is disruptive to the class.***

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**Graduate Credit**

Students enrolled for graduate credit (BY 675) will have a choice of which type of extra ‘work’ to do: 1) prepare a presentation/lecture on a topic in development; 2) write a mini-grant on an experiment relevant to course material; or 3) mentor students (~4) at an elementary or middle school for science fair. This component will be worth 50 points bringing the total points for the course to a total of 630 points. The instructor and student will work together to decide which project is best for the student. Once a decision is made, changes may not be made.

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**Classroom Etiquette**

Please silence all cell phones and DO NOT answer phone calls or text messages during class time. In the event you are expecting an ‘emergency’ phone call during our class time, please place
your phone on vibrate and deal with the call in a manner that is the least disruptive for the rest of the class. Thank you for your compliance.

**Special Needs**
If you are registered with Disability Support Services (DSS), please make an appointment with me as soon as possible to discuss any accommodations that may be necessary. If you have a disability requiring special accommodations but have not contacted DSS, please call 934-4205, or visit them at 516 Hill University Center. Special considerations will not be given unless requested by DSS. You may also access them on line at [www.uab.edu/dss](http://www.uab.edu/dss).

**Academic Responsibility**
The academic community is operated on the basis of honesty, integrity, and fair play. The Code of Academic Misconduct applies to cases in which cheating, plagiarism, or other academic misconduct has occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Academic misconduct or dishonesty includes, but is not limited to cheating, helping someone else cheat, fabrication, misrepresentation of work, and plagiarism (presenting someone else’s work as your own). Violations will be dealt with to the fullest extent allowed by UAB policies on academic misconduct.
Please see the Academic Honor Code: [http://main.uab.edu/Sites/undergraduate-programs/general-studies/academic-success/67537/](http://main.uab.edu/Sites/undergraduate-programs/general-studies/academic-success/67537/)

"Veterans and student soldiers with special circumstances or who are activated are encouraged to notify the instructor in advance."

**The instructor reserves the right to change/update this syllabus to enhance the course.**