IBS 8102  
Cell, Molecular, and Developmental Biology  
Spring 2008  
Syllabus

Instructors:  Patrick Schoff (course director)  
253A SSB  
437 NRRI  
720-4368  
Office hours: M, W, 10-11 or by appointment  
pschoff@nrri.umn.edu

Grant Anderson  
328 SMed  
726-6007  
ander163@d.umn.edu

Jon Holy  
213 SMed  
726-7902  
jholy@d.umn.edu

Janet Fitzakerley  
307 SMed  
726-7012  
jfitzake@d.umn.edu

Course objectives:  
1) To educate graduate students in advanced cell, molecular and developmental biology.  
2) To provide information on basic topics to a greater depth than normally provided in a basic molecular and cell biology course.  
3) To cover topics that extend the student’s knowledge of molecular and cell or developmental biology into topics beyond those usually offered in a basic course.  
4) To train students to evaluate critically research reports as they appear in the scientific literature.  
5) To teach students to use literature resources available to the practicing scientist.  
6) To educate students to integrate knowledge and data from the molecular level to the organismal level.

Students will learn advanced biological concepts using specific research topics that illustrate the integrated nature of modern science. In addition, students will learn to critically evaluate primary research literature and to present their analyses in a cogent form. While students will be expected to have a background in concepts of molecular and cellular biology, as well as in the fundamentals of development (e.g. fertilization, embryogenesis), we recognize that this program will attract students with widely varying scientific backgrounds. Therefore, the course begins with a series of
introductory lectures and discussion sessions, which will provide a common base of knowledge in the three disciplines. The lectures in this portion will be text based (Gilbert, Developmental Biology, 8th Edition). The course then proceeds with a series of lectures discussions of review articles and student-led discussions of primary literature focused on advanced topics. Background and supplementary materials for the lectures will be text or review-based, while the student-led discussions will be based on primary literature.

**Student Responsibilities**
Students in IBS 8102 will be expected to lead discussions of primary literature, participate in discussions of review and primary literature, and complete quizzes covering material presented in the lecture and review sessions. Quizzes will be in a take-home format and will be due at the following class period. Students are expected to be fully engaged in discussions of all review papers and primary literature, and participation will be assessed at the instructor’s discretion throughout the semester. Finally, each student will be responsible for leading discussions of primary literature two times during the semester.

**Grading**
This course will be graded on an A-F scale, with points apportioned about equally between participation and tests. Points will be distributed in the following proportions:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student presentations</td>
<td>52</td>
</tr>
<tr>
<td>presentation 1 = 20 points</td>
<td></td>
</tr>
<tr>
<td>presentation 2 = 32 points</td>
<td></td>
</tr>
<tr>
<td>Student participation during review and primary lit. sessions</td>
<td>24</td>
</tr>
<tr>
<td>4 review participation grades/student @ 6 points each</td>
<td></td>
</tr>
<tr>
<td>4 primary lit. participation grades/ student @ 6 point each</td>
<td></td>
</tr>
<tr>
<td>Quizzes - post review; take-home; due at next meeting</td>
<td>100</td>
</tr>
<tr>
<td>11 quizzes total; count 10 @ 10 points each</td>
<td></td>
</tr>
</tbody>
</table>

**Total** 200
University Policies

Access For Student With Disabilities: Individuals with any disability, either temporary or permanent, which might affect their ability to perform in this class, are encouraged to inform the instructor at the start of the semester. Adaptation of methods, materials, and/or testing may be modified as required to provide for equitable participation.

Promotion Of Bias-Free Instruction: The University of Minnesota is committed to the practice that all of its students shall have equal educational opportunities. The University expressly forbids discrimination on the basis of race, color, gender, sexual orientation, disability, veteran’s status, ethnicity, religion, creed, national origin, or marital status. If you believe that your biology instructor has not followed this policy, you are invited to bring this to the attention of the Biology Department Head (207 Swenson Science Building, 726-7263) or to the Associate Dean of the College of Science and Engineering (140 Engineering, 726-7585). Your conference will be kept confidential.