

Syllabus for ESE202A (Building a Better Textbook), Spring 2007

Background and Goal for This Course:

Most commercial texts for teaching introductory biology are excellent references, but are written as linear narratives that add new information with little guidance on how it should be integrated with prior content. As a result students never see the connections between the sub-disciplines of biology, or how principles from one discipline can be important to others. This emphasis on content rather than comprehension forces students to rely mostly on simpler affective learning skills like memorization, and hinders development of more complex (and useful) psychomotor, analytical, and cognitive skills. Many current books also fail to accommodate variations in students' educational background, or differences in learning style.

Our goal in this course is to create a prototype of a more engaging and educationally effective biology textbook, that is more student-centered, less costly, and more educationally effective than commercial books. This will require the group to conduct a needs assessment survey, and analyze the data to determine students' and instructors' needs. Based on those results, the group must complete one "proof-of-concept" chapter, that is ready to be evaluated by faculty and students.

Format and Flow of the Course:

This course is being conducted as a collaborative, problem-based seminar. The due date for the prototype chapter is the last week of the course. I have outlined our basic workflow, and three major benchmarks I think we need to achieve in order to make our ultimate goal. I have also laid out some basic ideas and questions to help us get started. After the first couple weeks, I have not planned specific assignments or class activities. By then, the group should be making most of the decisions about what to do next; at that point, I will be acting as a facilitator, not the final authority.

You will be working very closely with your colleagues in this course. Success or failure to achieve our goals rests entirely on you and your colleagues. This includes thinking about what outside expertise we need to bring in, identifying those experts, and inviting them to come in for consultation.

At the first meeting the group will decide on the topic for the prototype chapter. The first major assignment will be to read two passages about that topic, one a chapter from a widely used college biology textbook, the other from a popular science book. At the following meeting, we will discuss how the writing style, organization, conceptual flow, and other elements in each passage contribute to their educational effectiveness.

For the balance of the course, participants will split into project teams. Each team will be responsible for specific tasks within the overall development process. If necessary I will give outside reading assignments to each team that relates directly to their particular part of the project. Team members will be expected to discuss those readings, answer related questions about their part of the project, identify and consult outside resources or specialists in their own disciplines, and report their progress back to the rest of the group.

Tentative Schedule, Benchmarks, and Guide Questions, Spring 2007

<i>Meeting Date</i>	<i>Guiding Questions</i>	<i>Things To Do</i>
Jan. 17	<ul style="list-style-type: none"> • What is a reasonable way to assign grades for the course • How do we conduct the needs assessment? 	<ul style="list-style-type: none"> • Define course rules, grading strategies. • Finalize short-term course goals, deadlines needed to achieve targets • Choose topic for prototype chapter
Jan. 24		<ul style="list-style-type: none"> • Finalize assessment instruments • Get comparative readings on subject of prototype chapter
Jan. 31	<ul style="list-style-type: none"> • What is a reasonable preliminary features list? 	<ul style="list-style-type: none"> • Start survey data collection
Feb. 7		<ul style="list-style-type: none"> • Continue survey data collection • Individual research on publishing costs
Feb. 14	<ul style="list-style-type: none"> • What issues, needs do the survey show us? 	<ul style="list-style-type: none"> • Collate and present findings from needs assessment.
Feb. 21	<ul style="list-style-type: none"> • Which features do we want to have, eliminate? 	<i>Finalize features list and physical structure (First target goal)</i>
Feb. 28		
Mar. 7	<ul style="list-style-type: none"> • What will be the major concepts to cover in the prototype chapter? 	<ul style="list-style-type: none"> • Submit midterm self and peer evaluations.
Mar. 14	Spring Break: No Class	
Mar. 21		<i>Finalize content for prototype chapter (Second target goal)</i>
Mar. 28		
April 4		
April 11		
April 18		
April 25		<i>Finish text of prototype chapter (Third target goal)</i>
May 2	<ul style="list-style-type: none"> • How will we assess students' attitudes to prototype? 	<ul style="list-style-type: none"> • Give prototype chapter to non-major students for review.
May 9	<ul style="list-style-type: none"> • Where should this project go from here? 	<ul style="list-style-type: none"> • Collect survey results from students who reviewed the prototype chapter. • Collate data, review, and report • Submit final evaluations, self-reflection paper

Grading:

The collaborative structure of this course extends to the grading as well. There will be no formal tests. Instead, I will be asking you to decide as a group how you want to be graded. The only rule is that the final decision must reflect a group consensus. To give you some idea how this might work, this is the strategy students used in a similar problem-based seminar.

<u>Component</u>	<u>Percent of Total Grade</u>
Completion of prototype chapter (shared grade)	40%
Participation (completing homework readings, contributing to group discussions)	20%
Midterm peer and self-evaluation	10%
Final peer and self-evaluation	10%
Final self-reflection paper (1-3 pages)	20%
Total	100%

Examples of the forms used to collect peer and self-evaluation data for a prior course, as well as instructions for the final self-reflection paper, are attached.

Who Is Teaching This Course:

I am a Senior Lecturer in Biology, who has been teaching in various settings for more than 20 years. I was trained as a cell biologist working on cardiovascular disease. However, my current research and professional interests are finding ways to make biology more approachable for college students, particularly non-majors.

ESE202: Reporting Form for Midterm Evaluations

Directions:

Please rate yourself on a scale of 1 to 10 for each of the listed items. Write in the name of each of the two people I asked you to rate, and put down their scores. This is due by the Wednesday after Spring Break. Once everyone has turned in their forms, I will give you back a summary sheet listing your rating of yourself, my rating, and those from your two peers.

Item and Description	Max. Possible Rating	Rating You Give Yourself	Ratings You Give Your Peers	
			Their Name: _____	Their Name: _____
Attendance & Preparation Comes to class ready to work, and is not absent without a legitimate excuse.	10			
Completing Projects: Work promised is done in a timely manner, or there is a legitimate reason for delay.	10			
Contribution to Problem-Solving: Thinks about what problems the project faces, and how to resolve them.	10			
Contributions to Discussion: Adds relevant facts and ideas to our discussion of chapter's content, order.	10			
Resource Identification: Brings new resources, contacts, methods to the project not originally planned.	10			
TOTAL RATING (out of a possible 50)	50			

Any other comments?

Midterm Evaluation for ESE202: Building a Better Textbook

Student's Name: _____

The table summarizes the rating you gave yourself, my rating for you, and the rating you received from two of your peers in this class. At the end of the page, I have added any explanation I feel is needed, what you are already doing well, and what I think you can do (if anything) to improve your performance.

Item and Description	Max. Possible Rating	Rating You Gave Yourself	My Rating for You	Rating From Your Peers	
				From Reviewer A	From Reviewer B
Attendance & Preparation Comes to class ready to work, and is not absent without a legitimate excuse.	10				
Completing Projects: Work promised is done in a timely manner, or there is a legitimate reason for delay.	10				
Contribution to Problem-Solving: Thinks about what problems the project faces, and how to resolve them.	10				
Contributions to Discussion: Adds relevant facts and ideas to our discussion of chapter's content, order.	10				
Resource Identification: Brings new resources, contacts, methods to the project not originally planned.	10				
TOTAL RATING (out of a possible 50)	50				

Comments

Your Current Strengths:

Your Areas for Improvement:

ESE202: Reporting Form for Final Evaluations

Directions:

Please rate yourself on a scale of 1 to 10 for the listed items. I will rate you, and I will ask two other students to rate you anonymously. Once everyone has turned in paperwork, I will give you this form back, with my ratings and those from your two peers. (Due 5/4/7)

Item and Description	Max. Possible Rating	Rating You Give Yourself	Rating You Give Your Peers	
			Name of 1 st person you reviewed?	Name of 2 nd person you reviewed?
Attendance & Preparation Comes to class ready to work, and is not absent without a legitimate reason.	10			
Completing Project Tasks: Work promised is done in a timely manner, or there is a legitimate reason for delay.	10			
Contribution to Problem-Solving: Thinks about what problems the project faces, and how to resolve them.	10			
Contributions to Discussion: Adds relevant facts and ideas to our discussion of chapter's content, order.	10			
Resource Identification: Brings new resources, contacts, methods to the project not originally planned.	10			
TOTAL RATING (out of a possible 50)	50			

Any other comments?

Directions for Final Reflection Paper

What I want is for you to spend some time thinking about what you personally gained from participating in this seminar course. Things you might consider: what was surprising to you about the data we collected, or working with your colleagues? What did you learn about your own work style or habits? What ideas or habits will you take away from this experience?

Second, looking back over the entire course, what do you think we should change the next time? What do you think the group could have done differently or better? What could I have done to make the course more interesting, engaging, or valuable to you as a learning experience. Do not hold back; I have a thick skin, and want your honest opinion, not flattery.

Finally, do not plan to write an extensive or formal document. Say what you have to say, then stop. I am not putting a page limit (maximum or minimum), but as a guideline, 1–2 pages is reasonably long. I do ask that you submit it typed rather than handwritten.

The last day to turn this assignment in will be Friday, May 4th.