

PART B. REQUIRED COURSE FORM

Course title:	Principles of Developmental Biology
Sponsoring department or unit:	Department of Cell Biology
Name of course director:	Shannon Fisher, M.D., Ph.D.

List all organizational units (e.g., physiology department, nursing school, library), including the lead department, with ongoing involvement in the course, and the number of instructional staff from each such unit:

Organizational Unit	Number of Teaching Staff Involved
Dept. of Cell Biology	4
Dept. of Molecular Biology and Genetics	2
Dept. of Physiology	2
Dept. of Ophthalmology	1
Dept. of Surgery	1

Course Objectives

Are there written objectives for the course? (check)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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Briefly summarize the objectives/content areas covered in the course.

The course covers fundamental principles of early development, equivalent to events of the first two months of human embryogenesis. The emphasis is placed on the genetic and molecular control of developmental events rather than on descriptive embryology. We are trying to convey an understanding to the students of the mechanisms that control development and the types of experiments that reveal those mechanisms.

Preparation for Teaching

If graduate students, postdoctoral fellows in the biomedical sciences, or residents teach in the course (as lecturers, small group facilitators, laboratory instructors), describe how they are informed about the course objectives and prepared for their teaching role.

1. They must have taken the course (or equivalent at another institution) previously and performed well.
2. They attend the daily staff meetings during the course, along with all of the faculty.

If the entire course is taught at more than one site (e.g., at geographically separate campuses), describe how faculty members at all sites are oriented to the objectives and grading system.

Student Evaluation

If NBME subject (shelf) examinations are used, give the mean scores for the last three classes:

Year:			
Score:			

Check all the formats that are used in examinations or other evaluations that students must take in order to pass the course:

X	Multiple-choice, true/false, matching questions		Laboratory practical items
X	Fill-in, short answer questions	X	Problem-solving exercises
	Essay questions or papers		Presentations
	Oral exams		Other (describe)

Briefly describe any formative assessment activities (practice exams, quizzes, etc.)

Every day for the small discussion groups there are assigned questions. The students are asked to solve the problems on their own before the session, and the answers are discussed with the group.

Is there a narrative evaluation submitted in addition to the course grade? (check)

Yes		No	X
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Course Outcomes/Evaluation

Comment on the adequacy of faculty and other resources to teach the course (e.g., educational space, computer hardware and software, support personnel).

Because this course is not taught entirely by the faculty of one department, it is perhaps more complicated to coordinate. Also, there is no authority of a single chairman backing up the director, which makes it somewhat more difficult to recruit new faculty or to implement changes.

Provide a summary of student feedback on the course (and any other available evaluation data) for the past two years. If the course is new or significantly revised, provide evaluation data for the new version of the course only. If problems have been identified by student evaluations or other data, describe how they are being addressed.

This is my first year as course director, and I do not have the evaluations from last year, so I will address the comments from this year's evaluations only. There were several criticisms that recurred frequently in the comments:

1. Many students requested that the answers to the discussion questions be posted after each discussion section. It would have really been impractical to do so this year, since the answers as written were mostly designed as guides for the section leaders. Over the next year, we will give consideration to this suggestion; if we do not make the answers available, we will at least reduce the number of questions, and make the ones we keep more effective as tools for reviewing the lecture material. At least some students did not seem to find the questions very useful or representative of the information we expect them to learn.
2. Because our course comes before Anatomy, it is difficult for the students to understand many of the anatomical structures we are trying to describe, and they have not had any of the terminology from anatomy. We may need to give them more of a basis in descriptive embryology at the very beginning. However, this runs the risk of being too redundant with the material they already receive in the Embryology segment of Anatomy. We may need to coordinate more closely with them, and perhaps incorporate some of their material into our course so the students see it sooner.
3. Many students are upset that our exam is given after Thanksgiving. We tried to explain that scheduling at that level is beyond our control, but many do not seem to agree with our explanation. They want us to compress the lectures or eliminate some of the material, and give the exam on the Wednesday before Thanksgiving. We already struggle to explain our material in the allotted time, and have to leave out many topics we feel would be very interesting. Compressing the course would make it more difficult to keep up with, and I think would leave the

students even more frantic in preparing for the exam. I think in this case we are victims of the placement of our course in the curriculum, and any other course would face the same dilemma. Also, the fact that our course is only two weeks long makes losing a day's worth of lecture time extremely significant.

4. The exam varies somewhat from year to year in difficulty and length. While this does not normally cause problems, since the course is graded on a curve, the exam was too long this year for many of the students to finish comfortably in the allotted time. This caused a great deal of anxiety, and probably made the overall course evaluations more negative than in the past several years. However, the students did quite well on the exam anyway, and in fact several fewer students are going to fail this year than last. This problem was a misjudgement on our part, and we will be careful not to make the exam too long next year.

Identify major successes in the course and problems to be overcome.

Successes

Judging by the exam scores, especially this year when the exam was quite difficult, we are teaching a complicated body of information successfully to the vast majority of the students.

Problems

There seems to be a perception among some students that the information we teach is not relevant to their future careers in medicine, and there is apparently a rumor going around that Developmental Biology is not going to be tested on the Boards anymore. I'd like to do a better job in the future of demonstrating to the students that our course material is extremely important, and in fact will become even more important in the future as we come to understand more about the genetic and developmental basis of human disease.