

Embryology

Spring 2009

Text: Wright: *A Photographic Atlas of Developmental Biology*
 Lab: Packet from online

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#	Date	Topic	Reading (Wright)
1	6-Jan	Introduction / Histology	Chapters 1 and 2
2	8-Jan	Mitosis / Meiosis / Spermatogenesis	Chapter 3
3	13-Jan	Spermatogenesis / Oogenesis	Chapters 3 and 4
4	15-Jan	Oogenesis / Menstruation / Egg specializations	Chapter 4
5	20-Jan	Fertilization /lecture in lab etc...	Chapter 5
6	22-Jan	Cleavage through amphibian	Chapter 6
7	27-Jan	Gastrulation (sea urchin and amphibian)	Chapter 7
8	29-Jan	EXAM 1 (Intro through cleavage)	
9	3-Feb	Avian/mammalian gastrulation, neurulation	Chapters 7 and 8
10	5-Feb	mesodermal regionalization/Extraemb. membranes (chick)	Chapters 7 and 11
11	10-Feb	Implantation / placenta-structure	
12	12-Feb	Placenta structure/function; Contraception/birth control?	
13	17-Feb	Nervous system (to crainial nerves)	
14	19-Feb	EXAM 2	
		SPRING BREAK	
15	3-Mar	Nervous system (brain vesicles)	
16	5-Mar	Brain LS / Autonomic NS / Branchial arches	
17	10-Mar	C.N./Arches diagram / Vascular intro / Intro to cavities	
18	12-Mar	Eye	
19	17-Mar	Finish Eye / Ear	
20	19-Mar	Mouth / palate / tongue	
21	24-Mar	Foregut to liver and pancreas	
22	26-Mar	Digestive foregut/mesenteries	
23	31-Mar	Cavities / Heart	
24	2-Apr	EXAM 3	
25	7-Apr	Heart / Vessels	
		EASTER BREAK	
26	14-Apr	Arteries / Veins / Excretory	
27	16-Apr	Reproductive	
28	21-Apr	Reporductive	
29	23-Apr	Skeletomuscular	
	29-Apr	Final EXAM (Wednesday, 8:30-10:30)	

Biology 402

Embryology Laboratory Schedule

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Lab	Date	Topic	Figures (Wright)
Unit I			
1	1/6	Histology	Web images
2	1/8	Mitosis	Video ?
3	1/13	Spermatogenesis	Chapter 3
4	1/15	Oogenesis / review	Chapter 4
5	1/20	Fertilization	Chapter 5
6	1/22	Cleavage: echinoderm amphibian	Chapter 6
7	1/27	Gastrulation echinoderm amphibian chick	Chapter 7
8	1/29	Lecture ? / Neurulation	Chapter 8
9	2/3	Neurulation amphibian chick	Chapter 8
10	2/5	REVIEW day	
11	2/10	Lab EXAM 1	Microscopes w/pointers
Unit II			
12-20	2/12 3/19	Chick development	Chapter 11
21	3/24	Chick lab Exam (?)	DVD
Unit III			
22-28 25 1/2	3/26 4/9	Pig development Chick egg - coloring	Chapter 12 Optional
28	4/24	Pig lab Exam	DVD

BOOKS:

There were several text books to choose from. The textbook I used several years ago was by Gilbert and is entitled *Developmental Biology*. It is very strong in the comparative embryology that we will be doing in the beginning of the semester. It is an experimental book, and also has some good introductory cell and molecular biology as applied to developmental biology. For those students interested in graduate studies (in any science), this book describes how science works in addition to lots of interesting historical information. Many of the overheads I use are from this book. This book will not be in the bookstore, but you can probably find a copy (e.g., amazon.com). Another text I used is by Moore and Persaud and is called "*Before We are Born*." This book is an excellent resource for the human development last part of the course. All of these books are excellent resources.

The Lab manual by Shirley Wright will be essential for the second and third lab exams on chick and pig development. You will each probably want your own. In addition, there will be several other resources in the laboratory that you should feel free to utilize in lab.

COLORED PENCILS: Useful during lectures and labs. **Red (mesoderm)**, **yellow (endoderm)**, and **blue (ectoderm)** are the embryologists favorite colors. We will also be looking at some derivatives in **green (urogenital system)**.

ATTENDANCE:

Although I do not formally take attendance every day, by the time I get names and faces hooked up I notice who doesn't attend, especially when it is reflected in grades. If you know you will be missing class, let me know ahead of time and I'll try to give you some idea of what you'll be missing and some related reading. If you arrange to copy someone's notes, you should be OK.

THE LABORATORY:

For the first 8 labs (Unit I), there will be introductory material presented at the beginning of the lab. Please be on time. Units 2 and 3 will be slightly more flexible. The lab is the best place not only to be exposed to the material, but also to study it and to have questions answered. Use your time effectively.

We may have an opportunity to make observations on living embryos (amphibian and chick). If the live material cooperates, you will be expected to make routine observations and sketches of the developmental process in some form of lab notebook to turn in. More details will be given later as needed.

ACADEMIC HONESTY AND INTEGRITY:

A Policy on Academic Responsibility was adopted by both the Faculty Senate and the Student Association Senate and states that both the faculty and students are expected to act "with academic honesty and integrity." The policy further states, "It is expected of students that they not plagiarize, cheat or in any other way misrepresent the nature of their contribution." Plagiarism is to take someone else's ideas and pass them off as your own. If you have not read the Policy, see me and we will get you a copy. You are expected to comply with the policy. Anyone caught cheating will receive a ZERO on the assignment in question and will be reported to the Academic Responsibility Board (ARB). Anyone caught cheating a second time risks failing the entire class.

EXAMS:

I will be collecting and keeping exams when you are done looking at them. They may be worth points at the end of the semester, if I have them all on file.

MISC: If you have any question about the course, (or life, the universe and everything), I'll be glad to try to help.

The WEB: I am constructing a web page with some links of interest to the class. Feel free to check it out and let me know what else you may find.

