Biology 209 EMBRYOLOGY 2011

Dr. Carolyn Jaslow
e-mail: cjaslow
Phone: x3563; or 272-7148 (home) **BEFORE** 9 pm

Office: FJ 144W
Hours: Wed, Th, Fri: 10-11,
or by appt.

	TUESDAY	**THURSDAY**
Jan 11, 13	no class	Intro., Reproductive Structures
Jan 18, 20	Gametogenesis	Gametogenesis
Jan 25, 27	**QUIZ;** Fertilization	Cleavage
Feb 1, 3	Gastrulation	LAB I (Gastrulation)
Feb 8, 10	Gastrulation in Mammals	Implantation in Mammals
Feb 15, 17	**EXAM I**	Neurulation
Feb 22, 24	Review exam; 1 presentation: **CNS development and the effects of alcohol:**	LAB II (Chick Development I)
Mar 1, 3	Development of Body Form	LAB III (Chick Development II)
Mar 8, 10	Cardiovascular Development	Cardiovascular Development
Mar 15, 17	SPRING BREAK	SPRING BREAK
Mar 22, 24	2 presentations **Pharyngeal arches (retinoic acid):** **Palate (valproic acid):**	2 presentations **Ear (CMV):** **Eye (toxoplasmosis):**

	TUESDAY	**THURSDAY**
Mar 29, **31**	LAB IV (Live Embryo Physiology)	**EXAM II**
Apr 5, 7	Review exam, lecture catch-up	**2 presentations** **Urinary tract (cocaine):** _____ **Reprod. organs (estrogens):** _____
Apr 12, 14	**2 presentations** **Limbs (thalidomide):** _____ **Teeth (tetracycline):** _____	Recap; 1 presentation **Lung development (diabetes)** _____
Apr 19, 21	Fetal period	EASTER BREAK
Apr 26, 28	Placenta & Fetal Membranes; 1 presentation **Amnion & fluid** **ACE inhibitors):** _____	Multiples and Parturition (Birth!)

MONDAY MAY 2 8:30 AM EXAM III

COURSE OBJECTIVES:

The physical changes that occur from a single fertilized egg to a complex multicellular organism represent one of the most amazing transitions that can be observed in biology. The goals of this course are to learn the patterns of morphological changes that occur in animals, from the formation of eggs and sperm to birth. We will look primarily at the development of the major organ systems and body plan of vertebrates, including comparisons of developmental patterns among vertebrates. In addition, you will learn to find and use primary literature sources to analyze data, and to prepare a presentation. Through the presentation you will teach the class about a specific event in human embryonic development, and how a teratogen may interrupt or alter that event to produce particular birth defects.

To achieve the course objectives we will do the following:

1) Review how eggs and sperm are formed and the process of fertilization.
2) Study how a single cell forms the variety of organ systems that make up the body of a vertebrate animal.
3) Discover how patterns of embryology differ among vertebrates.
4) Learn developmental stages and events through examination of preserved embryos and experimentation on live embryos.
5) Learn about the effects of teratogens on embryonic development through student presentations

TEXT AND OTHER READINGS:

Required Text:

Moore , K. L. and T. V. N. Persaud. 2008. *Before We Are Born. Essentials of Embryology and Birth Defects*. 7th ed. W. B. Saunders Co., Philadelphia.

Recommended Texts (on reserve in library):

Carlson, B. M. 1996. *Patten's Foundations of Embryology*. 6th ed. McGraw Hill, New York.

Gilbert, S. F. 2003. *Developmental Biology*. 7th ed. Sinauer Associates, Inc., Sunderland, MA

GRADING:

You will be given three 100 point exams, two during the semester and one during finals week. There will also be a 20 point quiz and a class presentation/paper. Lab exercises (worksheets and a short paper) will be worth 80 points (this includes a 40 pt. lab report for Lab IV). You will also be asked to attend one of the Biology Department seminars and write a brief summary and critique of the presentation (the critique should describe what aspects of the talk and slides were good or bad). All Biology seminars are scheduled on Mondays at 4:15 PM in FJ-B. At 4:00, refreshments are served in the Biology library, where you will have the opportunity to meet with the speaker if you choose. If you cannot attend any of these seminars it will be your responsibility to find an acceptable seminar to attend at another institution such as the University of Memphis, UT Med Center etc.

3 exams:	300 pts
quiz:	20 pts
oral presentation/paper	100 pts
lab work	80 pts
summary/critique of a seminar	10 pts

Exams and the quiz will be based on material presented in lecture and lab, plus certain assigned readings. You are expected to attend all lectures and laboratory exercises

Grading Scale:

	87% $\leq$ B+ < 90%	77% $\leq$ C+ < 80%	67% $\leq$ D+ < 70%
93% $\leq$ A	83% $\leq$ B < 87%	73% $\leq$ C < 77%	63% $\leq$ D < 67%
90% $\leq$ A- < 93%	80% $\leq$ B- < 83%	70% $\leq$ C- < 73%	60% $\leq$ D- < 63%
			F < 60%

Seminars TBA