

ANAT 6330, Human Embryology

Fall 2014

Course Syllabus

****Note: Additional content for the syllabus, including more detailed schedule, will be added in the next two weeks****

2 Credit Hours

Professor: Lisa MJ Lee, PhD
Office: Building 500, N5207C
E-mail: Lisa.L.Lee@ucdenver.edu
Phone: (303)724-7460
Office hours: walk-in or by appointments

TA: Matthew Diemer
E-mail: matthew.diemer@ucdenver.edu

Welcome to Anatomy 6330. This is a graduate level introductory human embryology course designed for students with basic training in cell/molecular biology, physiology and firm foundational knowledge in human histology. Main goal of the course is to provide basic fundamental embryology concepts upon which to build broader and deeper knowledge and appreciation for anatomical sciences as students progress in their respective academic careers.

This course is designed for mature, self-driven and proactive professional adult learners.

Objectives of the course

- Evaluate and assess the developmental process of human embryonic and fetal periods.
- Analyze congenital abnormalities to deduce the aberrant developmental process(es) that may have led to the clinical features and phenotypes.
- Integrate histology and apply embryology to adult human gross anatomy.
- Appraise current embryology educational resources and formulate a better/novel resource or presentation.

Required Text Book

Langman's Medical Embryology, 11th Ed. LWW (previous or newer editions are acceptable)

Recommended Text Books

1. *The Developing Human*, Moore and Persaud, 8th or 9th Ed. Saunders
2. Larsen's Human Embryology, 4th Ed. Elsevier

Class Format

Class meets every M, W & F, from 9:00am to 12:00pm in Education 2 South (L28), please check room numbers in the schedule section of the syllabus or on canvas. It is the responsibility of the students to track time and location for all classes and attend them.

****Due to limited time (7-weeks) dedicated to histology course, workload for this 2-credit hour course (~90 hrs study time devoted to embryology) will be heavy both in and outside of the class.**

****Students are expected to spend approximately 10 hours each week on study of embryology outside of the class.**

Lectures

Large class size and the quantity of complex material are not conducive to productive discussion and Q&A driven interactions. Therefore, the majority of embryology lectures will be delivered in didactic manner. The instructor will however pose numerous questions to class to promote review of material, concept integration, higher-order learning exercises and problem solving. To aid self-directed/paced learning, objectives, study guides and powerpoint slides for each class will be provided well in advance. Students are required to utilize these resources, read the assigned text chapters and learn the content on their own **before** they come to class. Should it become evident during the lecture that majority of students have not already read or studied the material beforehand, the class may be dismissed for that day.

****Not all textbook materials may be covered during the allotted time. It is the students' responsibility to adequately master all embryology concepts in the reading assignment, fulfill the provided objectives and to contact the instructor for additional help where necessary.**

Students' responsibilities:

- As mature adult learners, students are expected to take responsibility of their own learning by engaging in active learning, peer teaching and problem-solving activities.
- Arrive on time. Classes will start promptly. If you are late, please enter quietly and take care to minimize disturbing your classmates. If you are late, please wait until a break to ask content related questions – this is in case the same question may have already been discussed before your arrival.

- Students are expected to read the text book BEFORE each class; lecture should not be the first exposure to the content.
- When necessary, seek help immediately and frequently.

Course Grade:

* Points distribution to be determined

Course grade will be based on two examinations and one peer-teaching group project, each worth 100 points.

Each examination will consist mostly of multiple choice questions and a few short essay questions when appropriate. Each examination will cover only the material studied after the previous examination. However, since the mastery of embryology often depends upon the retention and utilization of previously learned material, constant reinforcement will be essential. Your retention of the previously covered material may be reexamined whenever there is relevance.

Scores from the written portions of your exams will be made available to you as soon as possible, but it may take up to one week. The results of examinations, course grades, etc. are never given out on an individual basis prior to the time that they can be distributed to all students.

Any questions or disputes about scores, validity of questions/answers, or any other aspect of grading or the examination must be brought to the attention of the Course Director as quickly as possible. NO adjustments of the examination will be made after administration of the next scheduled examination; nor will students be able to review their examinations after the next scheduled exam has been administered.

Students are encouraged to look over their exam after each test (prior to the next scheduled exam) to discuss errors or to reinforce content.

Details on the peer-teaching project will be discussed in detail at a later date.

Testing policy:

- Examination will be conducted under the student honor code.
- Multiple choice component of the exam will utilize automatic exam scanner (bubble sheets), be sure to bring a No2 pencil to the exam.
- Students will be allotted two hours for each exam.
- Other than under extraordinary circumstances, NO makeup exams or extensions will be given
- "Fishing" questions and/or definition questions will not be entertained during exams

Make-up Examinations

No make-up exams will be given for students who fail to show up for one of the assigned exams. Should a student be unable to attend one of the assigned exams due to an extraordinary circumstance, he or she should contact the Course Director as soon as possible prior to the exam date.

In case of severe illness, funeral of a close family member or other catastrophic event (excused absences according to the rules of the university) an ESSAY or Oral makeup exam may be scheduled with the Course Director. Make-up exams are to be scheduled as soon as possible after the regularly scheduled examination at a time that is mutually agreeable to the instructor(s) and the student(s).

Grading Scale:

Grade	Percentage
A	93-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-63
F	<60

Disability Services

If you have documented disabilities, please inform the course director as soon as possible to arrange necessary accommodations

Course Schedule

Subject to change at course director's discretion

WEEK 1	10/20	M	Ed2 South 2206	Course Orientation Gametogenesis, Fertilization Week1
	10/22	W	Ed2 South 2206	Week2, Week 3
	10/24	F	Ed2 South 1307	Week 4, Neurulation & Nervous System

WEEK 2	10/27	M	Ed2 South 2206	Folding, body cavities,pacenta & membranes
	10/29	W	Ed2 South 2206	No class
	10/31	F	Ed2 South 2201	Cardiovascular system I

WEEK 3	11/3	M	Ed2 South 2206	Cardiovascular system II
	11/5	W	Ed2 South 2206	Musculoskeletal system
	11/7	F	Ed2 South 2304	Review

WEEK 4	11/10	M	Ed2 South 2206	Exam 1
	11/12	W	Ed2 South 2206	Group presentation orientation & topic assignment
	11/14	F	Ed2 South 2304	Respiratory system

WEEK 5	11/17	M	Ed2 South 2206	Digestive system
	11/19	W	Ed2 South 2206	Digestive system
	11/21	F	Ed2 South 2304	Pharyngeal Apparatus

WEEK 6	11/24	M	Ed2 South 2206	Development of the Face, thyroid, tongue and teeth
	11/26	W	Ed2 South 2206	Urinary system, male genital system

WEEK 7	12/1	M	Ed2 South 2206	Female genital system, Male & Female external genitalia
	12/3	W	Ed2 South 2206	Eye, ear

	12/5	F	Ed2 South 2304	Review
--	------	---	-------------------	--------

WEEK 8	12/8	M	Ed2 South 2206	Exam 2
--------	------	---	-------------------	---------------

Teaching Project Topic Options:

1. Respiratory system
2. Digestive system – Foregut
3. Digestive system - Midgut
4. Pharyngeal apparatus
5. Tongue, thyroid and teeth
6. Development of the face
7. Urinary system
8. Male genital system – Gonads and genital tracts
9. Female genital system – Gonads and genital tracts
10. Male vs. Female external genitalia

Date	Details	
Mon Oct 20, 2014	Course Orientation, Fertilization, Week 1	9am to 12pm
Wed Oct 22, 2014	Week 2 & 3 Development	9am to 12pm
Fri Oct 24, 2014	Week 4, Neurulation & Nervous System	9am to 12pm
Mon Oct 27, 2014	Folding, Body cavities, placenta & membranes	9am to 12pm

Date	Details	
Fri Oct 31, 2014	Musculoskeletal System	9am to 12pm
Mon Nov 3, 2014	Cardiovascular system I	9am to 12pm
Wed Nov 5, 2014	Cardiovascular System II	9am to 12pm
Fri Nov 7, 2014	Optional Review	9am to 12pm
Mon Nov 10, 2014	Exam 1	9am to 12pm
Wed Nov 12, 2014	Group Project Orientation, Topic Assignment, Exam Construction	9am to 12pm
	Essay 1	due by 11:59pm
	MCQ 1	due by 11:59pm
Fri Nov 14, 2014	Respiratory System	9am to 12pm
Mon Nov 17, 2014	Digestive System I	9am to 12pm
Wed Nov 19, 2014	Digestive System II	9am to 12pm
Fri Nov 21, 2014	Pharyngeal apparatus	9am to 12pm
Mon Nov 24, 2014	Face, thyroid, tongue & teeth	9am to 12pm
Wed Nov 26, 2014	Urinary System & Female Reproductive system	9am to 12pm
Mon Dec 1, 2014	Male reproductive system, Male vs. Female external genitalia	9am to 12pm
Wed Dec 3, 2014	Eye & Ear	9am to 12pm
Fri Dec 5, 2014	Optional Review	9am to 12pm
Mon Dec 8, 2014	Exam 2	9am to 12pm
Fri Dec 12, 2014	Capstone participation bonus	due by 11:59pm
	MCQ 2	due by 11:59pm

Date	Details	
	Essay 2	due by 11:59pm
	Exam construction	due by 11:59pm
	Lecture	due by 11:59pm
	Objectives & Study guide	due by 11:59pm
	Student evaluation	due by 11:59pm