

Human Embryology and Reproduction

Below is an overview of the topics we'll discuss this semester. Blocks in blue will be discussions led by one of the instructors (KS or CW). Before each class you will be given reading assignments and presented with several questions. You will be expected to complete the reading and be prepared to discuss the questions. In addition, there will generally be a short in-class quiz on this material. The readings provided here are preliminary as additional reading will be assigned each week.

The blocks colored in turquoise are discussions that will be student led (SLD). There will be several formats for these discussions; approximately half of the class will be responsible for each session.

CC indicates a clinical correlation presentation. Each student will give one of these during the semester – each presentation will be no more than 10 minutes long. We will schedule these the first week of classes and more information will be presented at that time.

Under the “assignment” column you will find readings (in italics), and also the due dates for specific written assignments in bold. As stated above, additional readings will be assigned throughout the semester. Under readings “embryology.ch” refers to a wonderful online resource for embryology www.embryology.ch (this is available in several languages, so don't panic if German comes up when you link to it' press on the English link). “Larsen” refers to specific chapters in your textbook, *Larsen's Human Embryology*. “Origins” refers to the book “Origins” by Annie Murphy Paul.

Week	Date	Topic	Assignments
1	January 14	Introduction to the course Gametogenesis and fertilization - KS	<i>Larsen chapter 1</i> <i>embryology.ch – 1-4</i>
2	Jan 19	Cleavage, implantation, basic structure of the placenta – KS	<i>Larsen, chapters 2 & 6</i> <i>embryology.ch – 5,6,10</i>
	Jan 21	Gastrulation and formation of the embryo - KS	<i>Larsen, chapters 3 & 4</i> <i>embryology.ch – 7,8</i>
3	Jan 26	A discussion on ethics CW+KS	Pre-discussion reflection on ethics
	Jan 28	SLD: When does life begin? Biology, religious, legal and bioethical approaches and definitions – (CW)	revised reflection on ethics due
4	Feb 2	SLD: When does life begin: policy: birth control, abortion, “personhood” status (KS)	
	Feb 4	The mesoderm – skin, bone and muscles – CW CC: muscular dystrophy	Reflection on when life begins due <i>Larsen chapters 4, 7, 8</i> <i>embryology.ch – 9,13,14</i>

5	Feb 9	Limb development- KS cc: thalidomide	<i>Larsen, chapter 20 embryology.ch - 15</i>
	Feb 11	SLD: Assisted reproduction1: Presentation of the issues – (KS)	Topic of first white paper due Friday Feb. 12.
6	Feb 16	SLD: Assisted reproduction 2: proposal of legislation/best practices guidelines- (CW) Cc: twinning	
	Feb 18	Pregnancy 1 – maternal fetal interactions - KS Cc: gestational diabetes	Reflection on assisted reproduction due <i>“Origins” first half</i> DRAFT PAPER 1 DUE FEB 19
7	Feb 23	Pregnancy 2 – environmental influences - CW Cc: environmental teratogens Cc: Fetal alcohol syndrome	<i>“Origins” Second half</i>
	Feb 25	Debate 1: Maternal responsibility during pregnancy- (KS)	FINAL FIRST PAPER DUE, BEFORE MONDAY FEBRUARY 28
8	March 1	Energy of reproduction – evolution and environment – CW Cc: amenorrhea	Reflection on maternal-fetal interactions due
	March 3	Nervous system and sense organ development - CW Cc: neural tube defects	<i>Larsen, chapters 9 & 10 embryology.ch – 22</i>
9	March 8	Neural crest and branchial arches - KS Cc: neural crest defects CC: Accutane and birth defects	<i>Larsen, chapter 17</i>
	March 10	Facial development - KS Cc: cleft lip and palate	<i>Larsen, chapter 17</i> Topic of second paper due Friday March 11
10	March 15	Spring break	
	March 17		

11	March 22	Discussion: Using the arts to portray complex issues - KS	"My Sister's Keeper", GATTACA, "The Island", "Never Let Me Go" and other movies/novels.
	March 24	Debate 2: Embryo selection – sex selection, genetic matching, disease avoidance – (CW)	DRAFT 2ND PAPER DUE FRIDAY March 25
12	March 29	Digestive system development- CW Cc: intestinal malformations	Reflection on embryo selection <i>Larsen, chapter 14 embryology.ch - 19</i>
	March 31	Lung development – CW Cc: lungs in premature infants	<i>Larsen, chapter 11 embryology.ch – 18</i> 2ND PAPER FINAL COPY DUE BEFORE MONDAY April 4
13	April 5	Cardiovascular system - CW Cc: congenital heart defects	<i>Larsen, chapters 12 & 13 embryology.ch – 16,17</i>
	April 7	Debate 3: Genome modification and CRISPR technology. (CW)	
14	April 12	Debate 4: Human cloning – (KS)	Topic of final Paper Due
	April 14	Urogenital differentiation CW Cc: endocrine disruptors	Reflection on cloning/ genome modification <i>Larsen, chapters 15 & 16 embryology.ch 20-21</i>
15	April 19	Sex and Gender - KS Cc: indeterminate sex differentiation	DRAFT FINAL PAPER DUE
	April 21	Birth - KS Cc: preeclampsia	<i>Larsen, chapter 6</i>
16	April 26	Final discussion – issues and predictions: the next 10 years – KS+CW	Final paper due Friday April 29

THE LAST DAY TO TURN IN THE REVISED FINAL PAPER IS MONDAY May 2nd – THE FIRST DAY OF FINAL EXAMS. THERE WILL BE NO EXTENSIONS BEYOND THIS DATE