

Health Sciences



4320B

HUMAN EMBRYOLOGY, DEVELOPMENT AND DISEASE

Course Instructor: Dr. Christine Bell, Ph.D.
School of Health Studies
Faculty of Health Sciences

2021



Western University is committed to a **thriving campus**; therefore, your health and wellness matter to us! The following link provides information about the resources available on and off campus to support students: <https://www.uwo.ca/health/> Your course coordinator can also **guide you** to resources and/or services should you need them.

HS 4320B

Human Embryology, Development and Disease

The prerequisite for this course is HS 3300A/B or KIN 3222A/B. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

January – April 2021

COURSE OUTLINE

This course will study the development of the human from fertilization through to parturition. Clinical implications of congenital anomalies and developmental disorders will be discussed from a morphological perspective. An understanding of the origin of various tissues and organs will provide the student a better understanding of the normal anatomy of the adult human.

There are 3 lecture hours per week, delivered asynchronously, online. The course will investigate human development from multiple perspectives and students will be evaluated by examinations consisting of multiple choice and short answer questions. Groups of students will work together to develop a health communication piece on a developmental disorder to gain a greater understanding of such conditions. In class and on-line discussions will elaborate upon lecture material.

COURSE OBJECTIVES

The purpose of this course is to provide the student with an advanced understanding of the key phenomena that occur during human developmental and the potential consequences that result due to anomalous developmental events.

Following completion of this course, students will be able to

- Describe key events during all stages of human development
- Illustrate the significance of coordinated development by offering examples of congenital and abnormal developmental occurrences

- Distinguish between the various stages of normal development or root causes of abnormal development
- Create a summary of relevant developmental events and related abnormal sequelae for use by non-experts

COURSE ADMINISTRATION

INSTRUCTOR

Dr. Christine Bell

OWL site course messenger

OFFICE HOURS

Fridays at 9:30 – 10 AM online through Zoom.

Due to the nature of the professoriate, there are times when unforeseen circumstances may prevent me from being present during scheduled office hours. I am always interested in hearing from students so feel free to contact me with some potential meetings times and I will respond with a mutually suitable date and time.

COURSE CONTACT

Course E-mail address: Please direct all communication to me via the OWL site messaging system. I will endeavor to answer your e-mail within 24 hours during the hours of Monday to Friday from 9 AM to 5 PM. I will rarely respond to emails during the weekend. Some external email services may encounter SPAM blocking or filtering. It is essential that you use your UWO account, otherwise, important and timely information may not get to you if you are using another email service.

Web site address: <https://owl.uwo.ca/portal>, Log onto OWL using your user name and password. You must be registered in this course to have access to the site and you must have an account established with UWO. All course-related materials are delivered through OWL.

HEALTH AND WELLNESS

SUPPORT SERVICES

There are various support services around campus and these include, but are not limited to:

1. Student Development Centre -- <http://www.sdc.uwo.ca/ssd/>
2. Student Health -- <http://www.shs.uwo.ca/student/studenthealthservices.html>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

ACADEMIC CONSIDERATION AND ACCOMMODATIONS FOR MISSED WORK

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances, including short-term illness or injury. Reasonable academic consideration is a cooperative process between the University, the student, and academic staff. All participants in the process must act in good faith, and fulfil their respective obligations, if it is to succeed.

Students who experience an extenuating circumstance (illness, injury, or other extenuating circumstance) sufficiently significant as to temporarily render them unable to meet academic requirements, may submit a request for academic consideration through the following routes:

- (i) Submitting a Self-Reported Absence form, provided that the conditions for submission are met;
- (ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner, in order to be eligible for Academic Consideration; or
- (iii) For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to Academic Counselling in their Faculty of registration, in order to be eligible for academic consideration.

Students seeking academic consideration:

- Are advised to consider carefully the implications of postponing tests or midterm exams or delaying handing in work;
- Are encouraged to make appropriate decisions, based on their specific circumstances, recognizing that minor ailments (e.g., upset stomach) or upsets (e.g., argument with a friend) are not normally an appropriate basis for a self-reported absence;
- **Must communicate with their instructors no later than 24 hours** after the end of the period covered by either the self-reported absence or SMC, or immediately upon their return following a documented absence;
- **Are advised that all necessary documentation, forms, etc. are to be submitted to academic counselling within two business days after the date specified for resuming responsibilities**

Students who experience an unexpected illness or injury or an extenuating circumstance (48 hours or less) that is sufficiently severe as to temporarily render them unable to meet academic requirements (e.g., attending lectures or labs, writing tests or midterm exams, completing and submitting assignments, participating in presentations) should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less. The following conditions are in place for self-reporting of medical or extenuating circumstances:

- a. Students will be allowed a maximum of two self-reported absences between September and April, and one self-reported absence between May and August;
- b. The duration of the excused absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30am the following morning if the form is submitted after 4:30pm;
- c. The duration of the excused absence will terminate prior to the end of the 48 hour period, should the student undertake significant academic responsibilities (e.g., write a test, submit a paper) during that time;
- d. The duration of an excused absence will terminate at 8:30am on the day following the last day of classes each semester, regardless of how many days of absence have elapsed;

- e. Self-reported absences will not be allowed for scheduled final examinations; for midterm examinations scheduled during the December examination period; or for final lab examinations (i.e., “bellringers”);
- f. Self-reporting may not be used for assessments (e.g., midterm exams, tests, reports, presentations, or essays) worth more than 30% of any given course;
- g. Students must be in touch with their instructors no later than 24 hours after the end of the period covered by the Self-Reported Absence form, to clarify how they will be expected to fulfil the academic expectations they may have missed

EXAMINATIONS

Exams will consist of short and long answer questions, case study and image based questions from the lecture material, text book and peer assignments.

GRADING:	Midterm exam February 26th 2020 (Online)	35%	Short and long answer and case study questions.
	Final exam April exam period	35%	Short and long answer and case study questions.
	Lecture review quizzes (various dates, see schedule below) 6 quizzes in total, each worth 5%	30%	An evaluation of understanding of material learned during various sections of the course. Quizzes are completed online through the tests and quizzes tab.

MAKE-UP EXAMINATIONS

*You must contact me, your course instructor, if you missed an exam. You may self-report your absence or provide **proper documentation** to the School office (academic counselor) as soon as physically possible (see university policies below for further instruction). The counselor will advise the course instructor of their support for accommodation.*

LECTURE REVIEW QUIZZES

Lecture review quizzes will be there to help students evaluate their understanding of course material to date. No make up quizzes will be provided.

Information about late or missed evaluations:

- Missed quizzes without a self-reported absence or approved submitted documentation to academic counselling will be given a grade of zero.
- A quiz cannot be submitted after it has been returned to the class. With a self-reported absence or approved documentation, weight will be distributed to the other quizzes. Without a self-reported absence or approved documentation, a grade of zero will be assigned to any missed quiz or case study.
- Missed tests without a self-reported absence or approved documentation will be given a grade of zero.
- Missed tests with a self-reported absence or approved documentation will be allowed to take the midterm. Only one midterm will be offered.

- If a make-up test is missed without a self-reported absence or approved documentation, then the student will receive a zero on the test.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating

All required short answers and exam answers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>)

GRADING POLICY

The university-wide descriptor of the meaning of letter grades, as approved by Senate:

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work that is clearly above average
B	70-79	Good work, meeting all requirements and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable.
F	below 50	Fail

It is expected that the grades for this course will fall between 74% - 80%. In the event that the course average falls outside this range, a constant may be added (or subtracted) from each student's grade, by the instructor, to bring the class average in line with School policy.

ROUNDING OF GRADES

This is a practice (for example, bumping a 79% to 80%) some students request. The practice will not occur in this course. The mark attained is the mark you achieved, and the mark assigned; there is no rounding to the next grade level. Please do not ask your instructor to do this for you. It degrades our collective experience as educators and learners. We both have an appreciation of high standards.

USE OF ELECTRONIC DEVICES

Use of Recording Devices and Course Content

Course instructors own and retain the intellectual property rights of their teaching materials. These rights extend to materials used in online settings and digital learning management systems like Owl, Zoom and TopHat. Students do not have our permission to make audio or video recordings of lectures, take pictures of lecture material, or distribute any course content for nefarious purposes (E.g. for sale or to cheat on

exams). It is the decision of the instructor as to how and when teaching materials can be shared or used. **Unless explicitly noted otherwise, you may not make audio or video recordings of pre-recorded lectures or other course materials. Nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.**

THE TEXTBOOK

Required Textbook

Moore, K.L., T.V.N. Persuad and M.G. Torchia. The Developing Human: Clinically Oriented Embryology; 11th Edition. Elsevier Saunders: Philadelphia, PA. 2020. Both online and printed versions are acceptable.

Moore, K.L., T.V.N. Persuad and M.G. Torchia. The Developing Human: Clinically Oriented Embryology; 10th Edition. Elsevier Saunders: Philadelphia, PA. 2016.

Text used in prior offerings of course:

Sadler, T.W. Langman's Medical Embryology (11th ed.) Lippincott Williams & Wilkins: Baltimore, MD. 2010.

YOU ARE NOT REQUIRED TO KNOW ALL THE DETAILS IN THE TEXT. USE THE TEXT AS A REFERENCE AND REVIEW GUIDE. CONCENTRATE ON THE MATERIAL PERTAINING TO THE LECTURES AND WEB POSTINGS, UNLESS OTHERWISE SPECIFIED (e.g. A SECTION WITHIN A CHAPTER MAY BE ASSIGNED FOR READING). MANY OF THE DIAGRAMS USED IN THE LECTURES ARE FROM THE TEXT, SO IT WILL BE A VALUABLE TOOL.

POLICIES THAT SAFEGUARD YOUR SUCCESS

Additional health and wellness options

As part of a successful undergraduate experience at Western, we encourage you to make your health and wellness a priority. Western provides several on-campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students receive membership in Western's Campus Recreation Centre as part of their registration fees. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page (<http://www.music.uwo.ca/>), or the McIntosh Gallery (<http://mcintoshgallery.ca/>). Further information regarding health and wellness-related services available to students may be found at <http://www.health.uwo.ca/>.

If you are in emotional or mental distress, please visit Western Psychological Services (<https://www.uwo.ca/health/psych>) for a list of options for obtaining help. To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: <https://uwo.ca/health/wec/education/learning.html>.

STUDENT CODE OF CONDUCT

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at The University of Western Ontario, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow. For more information, visit <https://www.uwo.ca/univsec/pdf/board/code.pdf>

ACADEMIC OFFENCES

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

ENGLISH PROFICIENCY FOR THE ASSIGNMENT OF GRADES

Students must be proficient in spoken and written English and must demonstrate the ability to write clearly and accurately. For more information, visit https://www.uwo.ca/univsec/pdf/academic_policies/exam/english.pdf

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Course Schedule – Winter 2021

Week	Dates	Chapters	Topics	Assessment/Quiz/Midterm
1	Jan 11	1 and 2	Course intro Developmental Period Gametogenesis	
2	Jan 18	2 and 3	First week of development Second Week of Development	
3	Jan 25	4 and 5	Third Week of Development 4-8 weeks of Development	Jan 29: Quiz 1 due at 11:55 PM
4	Feb 1	5 and 6	Germ Layers Embryonic Age Fetal Development	Feb 5: Quiz 2 due at 11:55 PM
5	Feb 8	7 and 20	Placentation Parturition Human Birth Defect	Feb 12: Quiz 3 due at 5:55 PM
6	Feb 15	Winter Break		
7	Feb 22	8	Body Cavities	Feb 26: Midterm Due at 11:55 PM
8	Mar 1	10 11	Respiration Development Digestive System	March 5: Quiz 4 due at 11:55 PM
9	Mar 8	11 and 12	Digestive System continued Urogenital system	March 12: Quiz 5 due at 11:55 PM
10	Mar 15	13	Cardiovascular system	
11	Mar 22	13 and 14	Cardio continued Skeletal	
12	Mar 29	17	Nervous system	April 2: Quiz 6 due at 11:55 PM
13	April 5	15 and 16	Limb Development Musculature	