

HEALTHSCI 4320B
Human Embryology, Development, and Disease
WINTER 2023

INSTRUCTOR INFORMATION

Instructor:	Mohammad B. Azzam, MSc	mazzam3@uwo.ca
Teaching Assistant:	TBA	TBA

COURSE INFORMATION

Lectures:	Asynchronous (online); will be posted on Thursdays on OWL
Tutorials (1 hour each):	Tuesdays, 9:30–10:20 & 10:30–11:20 in AHB 2B04 (in-person)
Virtual Office Hours:	Fridays, 10:00–11:30 https://westernuniversity.zoom.us/j/91893359025

COURSE DESCRIPTION

HEALTHSCI 4320B is an advanced human anatomy course that studies the development of the human from fertilization through to parturition, including the development of major body systems, including the nervous, cardiovascular, respiratory, digestive, urinary, reproductive, and musculoskeletal systems. The clinical implications of congenital anomalies and developmental disorders will be discussed from a morphological perspective. An overall understanding of the origin of various tissues and organs will provide the student with a better understanding of the gross anatomy of the adult human.

Prerequisite and Co-requisite Requirements:

You are responsible for ensuring that you have successfully completed all course prerequisites, and that you have not taken an anti-requisite course. 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.

COURSE INFORMATION AND MATERIALS

All course information including the course schedule, announcements, quizzes, deadlines, and grades are managed via OWL. Please regularly check the website for course announcements. The only course materials required for this course are the lecture slides created by the professor. Please note that if you wish to supplement your learning, the following textbooks may prove useful:

- Moore, K.L., Persuad, T.V.N., & Torchia, M. G. (2020). The developing human: Clinically oriented embryology (11th ed.). Elsevier Saunders.
- Sadler, T. W. (2015). Langman's Medical Embryology (13th ed.). Wolters Kluwer.

LEARNING OUTCOMES

The purpose of this course is to provide the student with an advanced understanding of the key phenomena that occur during human development and the potential consequences that result due to anomalies/disorders. Overall, the spirit of this course is to foster learning, critical thinking, and active questioning. By the end 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 and the root causes of abnormal development.

ASSESSMENT DESCRIPTIONS

Tutorial Attendance (10%)

Attendance of tutorials is mandatory (1% each). Students are encouraged to facilitate discussion and ask/answer questions through case-based learning every week.

Weekly OWL Quizzes (6x; 18%)

Each quiz (3% each) is comprised of 15 multiple-choice and two short answer questions. The quizzes are **not cumulative**. The quizzes are available from Thursdays @ 6 AM to Fridays @ 11:55 PM. Once accessed, students will have 30 minutes to complete each quiz. Students who have an accommodation will be given the time they require.

Midterm Exam (22%)

The midterm exam will be completed **online on February 16 (Week 6)**. Similar to the weekly quizzes, the midterm will be comprised of both multiple-choice and short answer questions. The midterm will cover course materials taught during Weeks 1 through 5. The midterm is available on **Thursday, February 16th between 6 AM and 11:55 PM**. Once accessed, students will have **75 minutes** to complete the midterm. Students who have an accommodation will be given the time they require.

Oral Presentation (15%)

Students will be placed into groups of four. Each member will choose a congenital anomaly and/or developmental disorder and **prepare and record a 10-minute oral presentation**. Each presentation is to include (1) description of the typical embryological development, (2) description of the anomaly/disorder, and (3) an open-ended question posed to the viewers. Presentations are **due on Friday, March 24th @ 11:55 PM**. Students are to view their group members' presentations to help them answer some final exam questions.

Final Exam (35%)

The written exam will be completed **in-person** during the exam period (date and time TBA). It will be comprised of multiple-choice and short answer questions. This exam will be cumulative and will cover all course materials.

COURSE SCHEDULE

Week	Lecture (Asynchronous & Online)	Tutorial	Assessment
1	Introduction to Embryology		
2	The Pre-Embryonic Period & Placentation	T1 (Jan 17)	Q1 (W1, Jan 19)
3	The Embryonic Period	T2 (Jan 24)	Q2 (W2, Jan 26)
4	Development of the Head and Neck	T3 (Jan 31)	Q3 (W3, Feb 2)
5	The Respiratory & Digestive Systems	T4 (Feb 7)	Q4 (W4, Feb 9)
6			Midterm (Feb 16)
WINTER READING WEEK			
7	The Nervous & Urinary Systems	T5 (Feb 28)	
8	The Male & Female Reproductive Systems	T6 (Mar 7)	Q5 (W7, Mar 9)
9	The Cardiovascular System: Heart	T7 (Mar 14)	Q6 (W8, Mar 16)
10	The Cardiovascular System: Blood Vessels	T8 (Mar 21)	Present. (Mar 24)
11	The Musculoskeletal System	T9 (Mar 28)	
12	Teratology	T10 (Apr 4)	
			Final Exam (TBA)

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 and 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.

WESTERN UNIVERSITY POLICIES

Academic Considerations

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:

- 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
- For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to academic advising office 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 advising office within two business days after the date specified for resuming responsibilities.**

Statement on Academic Offences

Scholastic offences are taken seriously, and students are directed to read the appropriate policy regarding what constitutes a Scholastic Offence at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf. Computer-marked multiple-choice exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

WESTERN UNIVERSITY POLICIES – CONTINUED

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific questions regarding an accommodation or to review The policy on Accommodation for Students with Disabilities at https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf.

Health and Wellness

The undergraduate experience is rewarding and challenging socially, emotionally, and intellectually. Finding ways to balance scholarly life with our personal lives can be tough, but it's important to learn how to manage stress. Western provides several health and wellness-related services to students, which may be found at <http://www.health.uwo.ca/>. You can also check out the Campus Recreation Centre or the McIntosh Gallery (<http://www.mcintoshgallery.ca/>), for alternative spaces to reconnect with your bodies and restore your spirit. You may also want to access local resources that are closer to where you are living during the school year. Recalibrating ourselves emotionally begins with slowing down, reminding ourselves that we are ok, and taking a few deep, slow breaths. This remarkably effective strategy brings the body from stress mode into a more relaxed state.

If you are in emotional or mental distress should refer to Mental Health@Western [Mental Health Support - Health & Wellness - Western University \(uwo.ca\)](http://www.uwo.ca/mentalhealth/) for a complete list of options about how to obtain help or Thames Valley Family Services (<https://www.familyservicethamesvalley.com/>), a trusted provider within the community. To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: [Health & Wellness - Western University \(uwo.ca\)](http://www.uwo.ca/healthandwellness/). It's also advisable to have a wellness safety plan if you don't want to reach out to formal services. Having the numbers of a few trusted individuals is another strategy.

Support Services

Students who are in emotional and/or mental distress should refer to Mental Health@Western at <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help. There are various support services around campus, and these include, but are not limited to:

- Academic Counselling: <https://www.uwo.ca/sci/counselling/index.html>
- Appeal Procedures: https://www.uwo.ca/sci/counselling/procedures/appeals/procedure_for_submitting_academic_appeals_nonmedical.html
- Student Development Centre: <http://academicssupport.uwo.ca/>
- Student Health: <https://www.uwo.ca/health1/>
- Registrar's Office: <https://www.registrar.uwo.ca>
- Ombudsperson Office: <http://www.uwo.ca/ombuds/>