



Pathophysiology

Nursing 2440

Course Professors:

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**Pathophysiology
N2440**

Class time: Asynchronous Format
(NOTE: In-Person Final Exam TBA)
Course Location: Asynchronous Online

A: Calendar Description

Students will analyze the development of human disease by exploring common health related problems including the age-related, genetic, environmental, and behavioural influences on disease development. While further developing critical thinking in nursing care, changes to the structure and function of tissue and organs and resultant clinical manifestations will be examined.

Antirequisite(s): Pathology 2420A/B

Prerequisite(s): One of Nursing 1330A/B, Kinesiology 1060A/B, Kinesiology 2222A/B, Health Sciences 2300A/B, Anatomy, and Cell Biology 2200A/B; AND one of Physiology 1020, Physiology 1021, Physiology 2130, Physiology and Pharmacology 2000. OR Enrolment in the Western the Compressed Time Frame BScN Program.

Extra Information: 3 lecture hours

Course weight: 0.50

B: Expanded description

The objectives of this course are to provide you with the background of disease and disease processes and mechanisms to prepare you for patients you may encounter in clinical practice. Understanding pathophysiology equips nurses with the knowledge to assess and interpret signs and symptoms accurately and timely intervene to provide safe client care. The content of this course forms the basis for clinical reasoning and decision-making, empowering nurses to anticipate potential complications, devise appropriate care plans, and evaluate patient responses to treatment. Knowledge of pathophysiological processes enhances nurses' ability to educate clients and families about their conditions, promoting health literacy. As such, this course will analyze common manifestations of normal body functioning resulting from genetic, environmental, behavioural, or stress-related maladaptations. Students will learn about the etiology of common health conditions, their pathogenesis, and the resulting morphological changes at a cellular and organ level. This course will have a particular focus on the clinical significance or the functional consequences of these morphological changes, focusing on assessment findings, laboratory investigations, diagnostic testing, and pharmacological treatments.

Course Goals

1. Identify the etiology of common health conditions, including genetic, environmental, behavioral, and stress-related factors.
2. Explain the pathogenesis of common health conditions, detailing the sequence of events leading to disease development.
3. Analyze the morphological changes occurring at cellular and organ levels in response to pathological processes.

4. Utilize clinical reasoning skills to anticipate potential complications associated with specific pathophysiological conditions.
5. Evaluate laboratory investigations and diagnostic testing results to inform nursing interpretations of health conditions.
6. Assess the clinical significance of morphological changes and their impact on client assessment findings.
7. Develop client education strategies to promote health literacy and enhance clients' understanding of their conditions.

***National Nursing Entry-to-Practice Competencies (College of Nurses of Ontario, 2019)
Addressed in the Course***

Clinician – 1.1, 1.4, 1.7, 1.21 & 1.23

Professional – 2.2 & 2.8

Communicator – 3.3 & 3.6

Coordinator – 5.7 & 5.8

Leader – 6.6

Educator – 8.2 & 8.3

Scholar – 9.1, 9.2 & 9.4

C: Course Communication & Course Process

If you have questions about course content or course assignments, please post them in the Discussions. A whole-class discussion, where you can post questions about the course content, is in Brightspace (Communications → Discussions) labeled ***Course Content Q&A***. Additionally, a whole-class discussion where you can post questions about assignments is in Brightspace (Communications → Discussions) labeled ***Assignments Q&A***. We would also encourage you to read the Discussions, as the answers to questions you might have may be there. Please do your best to keep the Discussions organized by topic. For example, post your questions about week 1 content in the Course Content Q&A labeled week 1.

There is no Messaging function in Brightspace. **For individual issues, you will need to send emails to our UWO email address directly:**

Section 650: Amanda McIntyre (amcint7@uwo.ca)

Section 651: Ashley McKeown (amckeow@uwo.ca)

If you are sending us an email, please be sure to include in the subject line:

- 1) **Course code (i.e. N2440), section (i.e., 650 or 651);**
- 2) **Student number**

If you do not include this information in the subject line, we will respond by referring you back to the course communication process. When communicating with us via email, we will do our best to respond within 48-hours during weekdays; during weekends, please expect a response the following week. **Please make all attempts to communicate with us via the Discussions before you send an email.** Office hours by appointment.

D: Course Readings and Materials

Required Course Textbook

Power-Kean K, Zettel S, El-Hussein MT, Huether SR, McCance KL. (2023). *Huether and McCance's Understanding Pathophysiology, Canadian Edition - Elsevier eBook on VitalSource, 2nd Edition*. Elsevier.

NOTE: The e-book version is available at the [UWO Bookstore](#). The maximum number of readings have been requested for *free* through Western libraries, and these will be linked to course content.

E: Weekly Schedule

Week (Lecture Dates)	Topic of Focus	Evaluations
Week 1 (Sept. 9 th to 15 th)	Structural Alterations & Morphologic Changes: Cellular Stress & Repair	
Week 2 (Sept. 16 th -22 nd)	Structural Alterations & Morphologic Changes: Immunity, Inflammation & Infection	Proctor Tract Onboarding Due Sept. 20 th at 8:00 am
Week 3 (Sept. 23 rd to 29 th)	Structural Alterations & Morphologic Changes: Genetics & Neoplasms	
Week 4 (Oct. 1 st to 6 th)	Homeostatic Disequilibrium: Fluid, Electrolyte and Acid-Base Imbalances Set. 30th National Day for Truth and Reconciliation	Midterm 1 Opens Oct. 1 st at 8:00 am
Week 5 (Oct. 7 th to 13 th)	Homeostatic Disequilibrium: Hematological System	Midterm 1 Closes Oct. 11 th at 6:00 pm
Oct. 12 th to 20 th	READING WEEK	
Week 6 (Oct. 21 st to 27 th)	Clinical Significance: Circulation & Cardiac Disequilibrium	Social Media Health Teaching Oct. 21 st at 9:00 am
Week 7 (Oct. 28 th to Nov. 3 rd)	Clinical Significance: Respiratory Disequilibrium	
Week 8 (Nov. 4 th to 10 th)	Clinical Significance: Renal and Urological Disequilibrium	Midterm 2 Opens Nov. 4 th at 8:00 am
Week 9 (Nov. 11 th to 17 th)	Clinical Significance: Reproductive Disequilibrium & Fetal Development	Midterm 2 Closes Nov. 15 th at 11:55 pm

Week 10 (Nov. 18 th to 24 th)	Clinical Significance: Gastrointestinal Disequilibrium	
Week 11 (Nov. 25 th to Dec. 1 st)	Clinical Significance: Endocrine & Hepatic Disequilibrium	
Week 12 (Dec. 2 nd to 6 th)	Clinical Significance: Neurological Disequilibrium	

I: Methods of Evaluation

Assignment	Percentage of Course Grade	Due Date
1. Proctortrack Onboarding	5%	Sept 20 th at 8:00 am
2. Midterm 1 • Includes Week 1 to Week 4	20%	Opens: Oct. 1 st at 8:00 am Closes: Oct. 11 th at 6:00 pm
3. Social Media Health Teaching Assignment	10%	Oct. 21 st at 9:00 am
4. Midterm 2 • Includes Week 5 to Week 8	25%	Opens: Nov. 4 th at 8:00 am Closes: Nov. 15 th at 11:55 pm
5. Final Exam	40%	TBD

Students in this course must achieve a minimum of 65% average between the midterms and final exam (excluding all other course evaluations) to be successful in this course. This means your (Midterm 1 grade / 100) + (Midterm 2 grade / 100) + (Final Exam grade / 100) / 3 must equal a minimum of 65 to be successful in this course. This means even if your final course grade (with all elements included) is higher than 65%, but your average between these 3 exams is not 65, you will be unsuccessful in this course.

1. Proctortrack Onboarding Quiz (5% of Course Grade)

Proctortrack Onboarding Quiz (5%) Due: Sept. 20th at 8:00. Remote proctoring is required in this course for Midterm 1 and Midterm 2. You must onboard in Proctortrack BEFORE you complete either Midterm exam. To complete the Proctortrack Onboarding Quiz, create a profile then complete the Onboarding Quiz. This process will ensure Proctortrack is compatible with your computer and provide an opportunity for you to become familiar with the testing environment. Once the onboarding quiz has been uploaded and processed, your profile is created. This profile is used to verify your identity for each assessment. **NOTE: Students who have previously completed the onboarding process for evaluations in another course (s) must also complete the onboarding process and quiz for this course to receive credit.** More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>

2. Midterm 1 (20% of Course Grade)

There are two online midterms in this course. Midterm 1 will occur online on Brightspace (Content --> Proctortrack) and be monitored via Proctortrack. The midterm exam will be approximately 40 multiple-choice questions and focus on higher-order critical thinking-style questions. Midterm 1 will cover Week 1 to Week 4 of course content. The test will be open from Oct. 1st at 8:00 am and close on Oct. 11th at 6:00 pm. Students will have 100 minutes to complete Midterm 1 in ONE attempt only during the time period Midterm 1 is open. If you require accommodation, please arrange this in advance.

3. Social Media Health Teaching Assignment (10% of Course Grade)

Purpose and Rationale: This assignment aims to provide nursing students with experience in using evidence-informed communication techniques with clients and responsibly integrating social media and information and communication technologies into nursing practice. The assignment will focus on optimizing client health literacy through diverse teaching strategies and leveraging social media to overcome traditional barriers to healthcare access. The *RNAO Best Practice Guidelines on Patient- and Family-Centered Care* (2015) suggests that video learning offers clients many advantages including increased client satisfaction as well as the ability to adapt information to better serve those with literacy difficulties. Providing clients with access to health information via social media assists clients with the transfer of health information and improves client health literacy for self-management of care and decision-making.

Learning Objectives

- Teach clients about a pathophysiology topic using evidence-informed communication techniques
- Identify and address common misconceptions/misinformation in healthcare contexts
- Apply principles of patient- and family-centered care as outlined in the RNAO Best Practice Guidelines to enhance client satisfaction and understanding through video learning
- Adapt health information in ways that improve accessibility for clients with varying levels of health literacy.
- Demonstrate ethical considerations in the use of social media for health education, ensuring content is accurate, respectful, and aligned with professional standards and guidelines.

Description of Assignment: This is an **individual** digital media assignment (no group work). Each student will create a MAXIMUM 3-minute educational video clip tailored for social media platforms such as TikTok, Instagram, YouTube, Facebook, etc. Students will select a specific topic from the Pathophysiology course and develop content that effectively educates and engages the target audience (i.e., clients in a health setting). The video should incorporate evidence-informed information, address common misconceptions or concerns, and use creative storytelling and/or visual aids to enhance viewer understanding. Emphasis will be placed on clear communication, adherence to professional standards, and maximizing the video's impact on promoting health literacy and informed decision-making among viewers. **See Brightspace (Assessments → Assignments) for further assignment instructions and rubric.**

4. Midterm 2 (25% of Course Grade)

Midterm 2 will occur online on Brightspace (Content → Proctortrack) and be monitored via Proctortrack. The midterm exam will be approximately 50 multiple-choice questions and focus on higher-order critical thinking-style questions. Midterm 2 will focus on Week 5 to Week 8 of course content and revisit core course concepts from Weeks 1 to Weeks 4. The test will be open from Nov. 4th at 8:00 am and close Nov. 15th at 11:55 pm. Students will have 120 minutes to complete Midterm 2 in ONE attempt only during the time period Midterm 2 is open. If you require accommodation, please arrange this in advance.

5. **IN PERSON** Final Exam (40% of Course Grade)

The final exam will occur **IN PERSON** during the scheduled exam period. Date and time TBA. The exam will consist of approximately 80 multiple-choice questions that focus on higher-order thinking. The exam will test ALL content in the course with a slight focus on material from Weeks 9-12 of course content. If you require accommodation, please arrange this in advance.

G: Inclusivity & Content Warning

We are dedicated to making space for diverse perspectives and content during shared learning experiences within this course. Together with you, we aim to co-create a learning atmosphere for generative discussion and respectful engagement with multiple worldviews, ways of knowing and being, and perspectives. As future healthcare providers, it is expected of you to create welcoming and inclusive classroom environments much like you would in practice.

Your peer group comes with a myriad of experiences and worldviews, all who deserve to be listened to and heard in a respectful and open-minded manner. Hateful messages have no place in this classroom community and will not be tolerated. Engaging in respectful dialogue requires deep, active listening and we need to be mindful of positionality (what may be easy to debate for one person, may be emotionally laborious for another). **This course requires you to engage in critical reflection as you embark on your career as health professionals; at times this may be uncomfortable or even painful. We ask that you practice humility, work through defensiveness, and embrace vulnerability as you embark on this journey of personal development.**

As your instructors, we are committed to supporting you in navigating this course content. Remember that no one is perfect and we all falter sometimes; however, we will do our best to learn and grow when that happens. Together, throughout this course, we will create a space that may challenge our prior understandings but supports inclusivity and respect for all participants. If you require support in navigating a challenging discussion, please reach out.

Content Warning: The content and discussion in this course will necessarily engage with potentially activating content, including subjects such as violence, self-harm, pregnancy, childbirth, pregnancy loss, blood, death or dying, mental illness, etc. This content may be emotionally and intellectually challenging to engage with. We will flag especially graphic or intense content that discusses these topics and will our best to make this online classroom a space where we can engage bravely, empathetically, and thoughtfully with difficult content. If you have concerns about encountering anything specific in the course material that I have not already tagged and would like us to provide warnings, please send us an email. I will do our best to flag

any requested triggers for you in advance. If you believe that a reading, video or lesson component will be traumatizing for you, you may choose to forgo it. You will still, however, be responsible for material that you miss, so please arrange to get notes from another student.

H: Policies

All policies related to assignments are in the Undergraduate BScN Programs Manual on the [Undergraduate Student Information site](#) .

Assignments and Exams

Please refer to the Undergraduate BScN Programs Manual for UWO academic guidelines for penalties for late assignments, re-grading of assignments, and the protocol for missed mid-term or final exams. The Undergraduate BScN Programs Manual is found at [School of Nursing Policies](#)

Support Services

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

1. Academic Support and Engagement - <http://academicsupport.uwo.ca>
2. Wellness and Well-being - <https://www.uwo.ca/health/>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

The websites for Registrar Services (<http://www.registrar.uwo.ca>), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: <http://westernusc.ca/services/>) and the Student Development Services, should be provided for easy access.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://www.uwo.ca/health/>) for a complete list of options about how to obtain help.

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.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 Western University, 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>

Attendance

Students are expected to demonstrate professional responsibility through regular attendance at, and participation in, all course learning activities. Much of the learning that takes place is a result of preparation and engagement with the material, as well as active dialogue with colleagues and faculty. Students are expected to organize their schedules such that weekly preparation for class is completed, and classes are attended, with consistency.

Please visit the SON SharePoint site for further information about this and other school policies: [Undergraduate Program Site](#)

Absence from Course Commitments

Students must familiarize themselves with the Policy on [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes), when there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period), or when timed assessments (e.g., quizzes) are available over an extended period of time (e.g., when you are given a 72 hour time period to start – and finish – the assessment).

In this course, the Social Media Health Teaching Assignment has a 72-hour no-questions-asked late policy that applies (See below). Midterm 1 and Midterm 2 are timed but available over an extended period of time. Flexibility has been built into your course assignments.

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of

Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner.

72-hour No Questions Asked Late Work Policy

For assignments (**Social Media Health Teaching Assignment ONLY**) in **this course ONLY**, you may have a **zero penalty 72-hour extension** from the time of the original due date for use at your discretion. For example, if the assignment is due on Monday, Oct. 21st at 9:00 am, should you determine you require academic consideration, your new assignment deadline would be Thursday, Oct. 24th at 9:00 am. **You are NOT required to email your course instructor in this course for a delayed submission of less than 72-hours.** If you submit your work within 72-hours of the original due date, you will not have any grade deduction. The purpose of this specific course policy is to support students with last-minute unforeseen circumstances (internet issues, sick kids, Roger's outage, etc.) assuming that the majority of the assignment is complete and will be submitted within 72-hours. If unforeseen circumstances last **beyond 72-hours** and you have not consulted with your academic counsellor for accommodation, upon submission of the assignment **a late penalty will be applied to the date of the ORIGINAL deadline.** For example, if the assignment is due on Monday, Oct. 21st at 9:00 am and you submit your work 4-days late without an accommodation from your counsellor, you will have 20% of your grade deducted from your assignment (This is in accordance with the 5%/day late work policy, up to a maximum of 10 days, after which you will receive a zero). **This policy ONLY applies to the Social Media Health Teaching Assignment. This policy does not apply to the Proctortrack Onboarding, Midterm 1, Midterm 2, or Final Exam.**

Accommodation for Religious Holidays

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examination dates. The Faculty of Health Sciences has set School-specific dates for these Special Examinations.

Please speak with your instructor about the date on which the Special Examination for this course will be held.

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 website: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted 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 Western University and Turnitin.com (www.turnitin.com).

Use of Artificial Intelligence for the Completion of Course Work

Within this course, you may only use artificial intelligence tools (e.g., "ChatGPT") in ways that are specifically authorized by the course instructor. All submitted work must reflect your own thoughts and independent written work.

Re-submission of Previously Graded Material

Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

Use of Statistical Pattern Recognition on Multiple Choice Exams

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.

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 question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#)

Correspondence Statement

The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. Students are further expected to attend to announcements presented through Brightspace, and to read emails generated in this way.

Use of Electronic Devices

During Exams, unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any electronic devices (e.g., cell phones, tablets, cameras, smart glass, smart watches, or iPods) during ANY tests, quizzes, midterms, examinations, or other in-class evaluations. **These devices MUST either be left at home or with your belongings at the front of the room. They MUST NOT be at your test/exam desk or in your pocket. Any student found with a prohibited device will receive an automatic grade of zero on the test or exam.**

Brightspace

All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/>. If students need assistance with OWL Brightspace, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the [Western Technology Services Helpdesk](#) online or by phone at 519-661-3800 or ext. 83800 for technical support. Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace; what is most important is that you update your browser frequently to ensure it is current. All JavaScript and cookies should be enabled.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.

Online Proctoring

Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

Social Media

Students who post information on social media related to their clients and/or laboratory experiences will be reported to the Associate Dean of Health Sciences as this demonstrates a breach of client privacy and confidentiality and violates the Student Code of Conduct. Such behavior may compromise a student's standing in the program.