

PATHOLOGY 3500

INTRODUCTION TO HUMAN PATHOLOGY

SYLLABUS 2019-2020

COURSE COORDINATOR(S):	Dr. Jessica Shepherd jessica.shepherd@lhsc.on.ca Dr. Christopher Howlett christopher.howlett@lhsc.on.ca
COURSE TEACHING ASSISTANTS (TA'S):	Alice Shin eshin26@uwo.ca John Palmer jpalmer56@uwo.ca
COURSE ADMINISTRATOR:	Cheryl Campbell Pathology & Laboratory Medicine, Dental Sciences, Rm 4044 ccampbel@uwo.ca

1. **COURSE INFORMATION:**

Mondays/Wednesdays, 8:30-9:30am

Antirequisite(s): Pathology 2420A, the former Pathology 3240A, Pathology 3245B.

Prerequisite(s): Biochemistry 2280A; Biology 2382A/B

Extra Information: 2 lecture hours, 1.0 course.

Pathology - the study of disease.

Pathology 3500 is: An introduction to human pathology – the study of disease. Students will be introduced to general mechanisms of disease (e.g. inflammation, injury, neoplasia, disturbed hemodynamics). These general processes will then be discussed as they apply to specific diseases of organ systems.

Who are the lecturers? All of the lecturers are clinical or experimental pathologists in London Health Sciences Centre's acute care hospitals or hold University appointments. Modern pathologists, particularly in a city such as London with a comparably low rate of violent death, concern themselves primarily with the mysteries of disease in the living.

Senate regulation regarding the student's responsibility regarding requisites:

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.

2. **LEARNING OUTCOMES**

COURSE GOAL

The objectives of the first part of this course are to familiarize the student with some of the basic descriptive vocabulary of disease processes (medical terminology), then to allow the student to obtain an understanding of disease processes, with their underlying molecular mechanisms and clinical-pathological correlates. Following on the introductory pathology component, the second part of the course will lead the student into an understanding of pathological disease processes as they affect specific organ systems.

COURSE OBJECTIVES:

Upon the completion of the course, the student should be able to:

1. define pathology and disease.
2. define morbidity and mortality and distinguish between them, and have a general understanding of which diseases/disorders cause the greatest mortality and morbidity.
3. understand and be able to define commonly used terms and vocabulary used to describe various aspects of disease (e.g. signs, symptoms, etiology, pathogenesis, manifestations, sequelae, prognosis).

4. discuss broadly the causes of disease and the categories under which they can be considered.
5. describe pathological mechanisms underlying disease processes: cell injury, inflammation, immunity, neoplasia, vascular disturbances (congestion, hyperemia, edema, thrombosis, ischemia, shock and hemorrhage), metabolic disorders.
6. understand the clinical manifestations of pathological processes.
7. discuss the diseases affecting particular organ systems/tissues e.g. hematopoietic and lymphoid, kidney and urinary tract, endocrine system, male and female genital tracts, lungs, breasts, gastrointestinal tract, hepatobiliary system, cardiovascular system, central nervous system and musculoskeletal system.
8. describe pathological mechanisms underlying particular disease processes affecting particular organ systems/tissues (cell injury, inflammation, immunity, neoplasia, vascular disturbances (congestion, hyperemia, edema, thrombosis, ischemia, shock and hemorrhage).
9. understand the clinical manifestations of pathological processes affecting particular organ systems/tissues.

3. **COURSE MATERIALS**

Lecture Notes:

- All notes will be posted on OWL
- **Powerpoint presentations will NOT be posted.**
- **No photos** of Powerpoint slides are to be taken during lectures.
- Students with OWL issues should see: <https://owl.uwo.ca/portal/site/owldocs>

Text (Required):

- The required text for this course is "**Robbins Basic Pathology**", 10th ed. by Kumar, Abbas, & Aster, Saunders-Elsevier, 2018.
- You may find a medical dictionary such as Dorland's Pocket Medical Dictionary or Stedman's Concise Medical Dictionary helpful with medical terminology (or the Medline Plus medical dictionary online: <http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>).
- A glossary of terms has been included in your course notes and can also be found on the Pathology web site: (http://www.schulich.uwo.ca/pathol/about_us/resources/glossary_of_medical_terms.html).
- Other useful textbooks are "Essentials of Rubin's Pathology", 5th ed. by E. Rubin & H. M. Reisner, Lippincott, 2009 or the unabridged versions of either text.

*Note that **THE TEXT IS REQUIRED** and you will be responsible for material from the text where indicated in the "Objectives" or on the OWL course site. You will find the pathology text useful as a resource for this course and as a reference book throughout your career.*

4. **EVALUATION:**

Component	Date	% of Final Mark
Exam #1	October – please see Lecture schedule Exam information will also be posted to OWL	25%
Exam #2	December examination period Exam information will also be posted to OWL	25%
Exam #3	February– please see Lecture schedule Exam information will also be posted to OWL	25%
Exam #4	April examination period Exam information will also be posted to OWL	25%

- For information regarding what will be covered on each exam, please see the course schedule for a breakdown for each exam.
- All examinations are multiple choice. Both standard and K type (multiple-multiple) questions will be included. The content is taken primarily from the notes and the lecture material, but you will also be responsible for the text material as indicated.

Exam viewing:

Students may request to view their exams **within three weeks** from the date that the grade was released. In order to do this you must **make an appointment with the TA** to go over the exam.

15% Assessment Rule: (1000- and 2000-level courses)

At least three days prior to the deadline for withdrawal from a course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. For more details, refer to the link below:

http://www.uwo.ca/univsec/pdf/academic_policies/exam/evaluation_undergrad.pdf

POLICY ON ROUNDING AND BUMPING OF GRADES

Across the Basic Medical Sciences Undergraduate Education programs and within the Department of Pathology and Laboratory Medicine we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. **Final grades** on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks **WILL NOT be bumped** to the next grade or GPA, e.g. a 79 will NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc. The mark attained is the mark you achieved and the mark assigned; **requests for mark “bumping” will be denied.**

5. ADDITIONAL INFORMATION/STATEMENTS

The website for the Office of the Registrar is <http://www.registrar.uwo.ca>

Statement on Official Email Addresses

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html> 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 his/her official university address is attended to in a timely manner.

Statement on 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

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.

Statement on Use of Cell Phone and Electronic Devices

The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School and the Department of Pathology and Laboratory Medicine that any electronic devices, i.e., cell phones, tablets, cameras, or iPod are strictly prohibited. These devices **MUST** be left either at home or with the student's bag/jacket at the front of the room and **MUST NOT** be at the test/exam desk or in the individual's pocket. Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The Department of Pathology and Laboratory Medicine is not responsible for stolen/lost or broken devices.

6. ABSENCE FROM COURSE COMMITMENTS

Academic Consideration for Student Absences

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a **self-reporting of absence** or via the Academic Counselling Office of the Faculty of Science located in NCB 280, and can be contacted at scibmsac@uwo.ca.

NEW!! For further information, please consult the university's policy on academic consideration for student absences as there are updates to the academic consideration procedures.

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf

The policy on Accommodation for Religious Holidays can be found here:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

A. Absence for medical and non-medical reasons:

Students must familiarize themselves with the Policy on Accommodation for Medical Illness for Undergraduate Students, located at:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

A Western Student Medical Certificate (SMC) is required when a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic.

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Medical/Compassionate Relief Program Policy

*It is current policy that students who are unable to write a test or examination or other form of course evaluation are required to obtain a medical certificate that is taken to the Academic Counseling Office, NCB 280 (for Science and Basic Medical Science students) or to your appropriate Home Faculty Counseling Office. In the case of an unexpected absence on compassionate grounds, documentation is also requested. **Such documentation must be submitted by the student directly to the Academic Counseling office and not to the instructor.** An academic counselor in that office will review and either approve or deny the accommodation request. It will be the Academic Counseling office that will determine if accommodation is warranted. This policy applies to all forms of assessment, including evaluations that are less than 10%.*

Statement from the Academic Counselling Office, Faculty of Science (for Science and BSc students)

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Academic Counselling Office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved by the Academic Counselling Office and the instructor has been informed.

PATHOLOGY AND LABORATORY MEDICINE POLICY FOR MISSED EXAMS:

- If a student misses one exam and the corresponding make-up exam for valid reasons (see Absence Policy), exam #4 (final exam) at the end of the course will be a cumulative exam (material from the entire year) worth 50% of Final Mark, and is subject to approval by the course coordinators.
- If a student misses two or more exams (i.e. more than one exam) or the final exam and it's corresponding make-up exam, he/she will be expected to write the final exam the next time the course is offered (i.e. the following year). This will be a cumulative exam (worth 25% multiplied by number of exams missed), and is subject to approval by the course coordinators.

B. Special Examinations

http://www.uwo.ca/univsec/pdf/academic_policies/exam/definitions.pdf

A Special Examination is any examination other than the regular final examination, and it may be offered only with the permission of the Dean/Academic Counselling Office 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. You may also be eligible to write the Special Examination if you are in a "Multiple Exam Situation". See:

http://www.registrar.uwo.ca/examinations/exam_schedule.html

A Special Examination must be written at the University or an Affiliated University College no later than 30 days after the end of the examination period involved. To accommodate unusual circumstances, a date later than this may be arranged at the time permission is first given by the Dean/Academic Counselling Office of the Faculty. The Dean/Academic Counselling Office will consult with the instructor and Department Chair and, if a later date is arranged, will communicate this to the Office of the Registrar.

If a student fails to write a scheduled Special Examination, permission to write another Special Examination will be granted only with the permission of the Dean/Academic Counselling Office in exceptional circumstances and with appropriate supporting documents. In such a case, the date

of this Special Examination normally will be the scheduled date for the final exam the next time the course is offered.

When a grade of Special (SPC) or Incomplete (INC) appears on a student's record, the notations will be removed and replaced by a substantive grade as soon as the grade is available.

7. SUPPORT SERVICES:

Academic Counselling (Science and Basic Medical Sciences): <http://www.uwo.ca/sci/counselling>

Accessibility: 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 Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation. The policy on Accommodation for Students with Disabilities can be found here:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf

Student Development Centre (SDC): Learning-skills counsellors at SDC are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling. <http://www.sdc.uwo.ca>

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

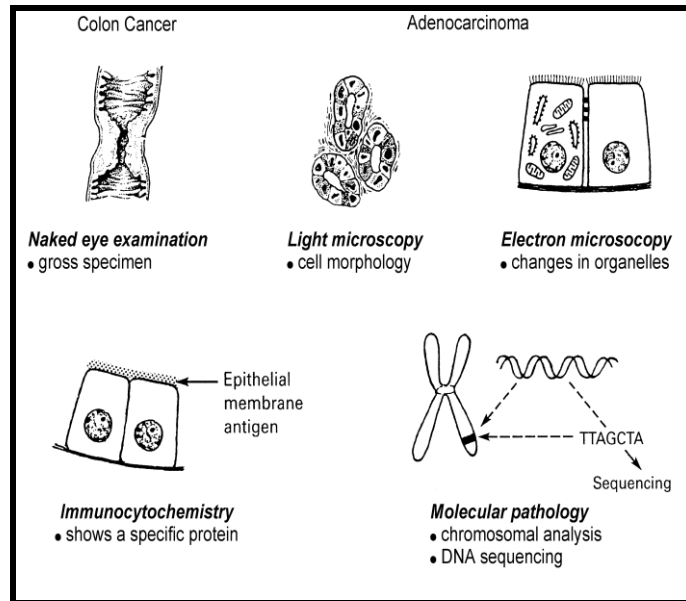
Student Health Services: <https://www.uwo.ca/health/shs/index.html>

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>

TECHNIQUES OF PATHOLOGY

The pathologist uses a variety of techniques to study disease in tissues and cells. The modern pathologist incorporates traditional techniques based on visual observations and descriptions of organs and tissues (*gross pathology*) and sections under the microscope (*light microscopy and electron microscopy*) with investigations of disease at the cellular (immunohistochemistry; biochemical assay; biopsy; cell culture) and molecular level (analysis of DNA, RNA and protein).

During the lectures you will see a number of these techniques illustrated as we look at slides of gross specimens and light and electron microscopic pictures to illustrate and understand the pathology of disease. **In many cases these illustrations have come from our department's own pathology service and due to issues of patient privacy and confidentiality we will not post this material on the Web.** Your pathology text includes many excellent examples of gross and microscopic findings.



Pathology 3500 / PathPA 9535

“Introduction to Human Pathology”

2019-2020 Lecture Schedule

Mondays/Wednesdays, 8:30am-9:30am, **North Campus Bldg (NCB) 113**

Course Coordinator (Fall Term): Dr. Jessica Shepherd

13-Aug-19

DATE	TOPIC	LECTURER
Monday, September 9, 2019	Introduction / Causes of Disease	Dr. Shepherd
Wednesday, September 11, 2019	Cell Injury, Adaptation & Cell Death	Dr. Haig
Monday, September 16, 2019	Cell Injury, Adaptation & Cell Death	Dr. Haig
Wednesday, September 18, 2019	Cell Injury, Adaptation & Cell Death	Dr. Haig
Monday, September 23, 2019	Inflammation, Regeneration & Repair	Dr. Zeman-Pocrnich
Wednesday, September 25, 2019	Inflammation, Regeneration & Repair	Dr. Zeman-Pocrnich
Monday, September 30, 2019	Inflammation, Regeneration & Repair	Dr. Zeman-Pocrnich
Wednesday, October 2, 2019	Immune Disorders	Dr. Howlett
Monday, October 7, 2019	Immune Disorders	Dr. Howlett
Wednesday, October 9, 2019	Immune Disorders	Dr. Howlett
Monday, October 14, 2019	THANKSGIVING	
Wednesday, October 16, 2019	Pathology of Infection	Dr. Kwan
Monday, October 21, 2019	Pathology of Infection	Dr. Kwan
Wednesday, October 23, 2019	Neoplasia	Dr. Chakrabarti
Thursday, October 24, 2019	7:00-9:00pm - Exam #1, (worth 25%) - SSC 2028 / 2032 / 2036 (Room assignments will be given prior to exam.) (Exam will cover lectures from the beginning of the course up to and including Pathology of Infection)	
Monday, October 28, 2019	Neoplasia	Dr. Chakrabarti
Wednesday, October 30, 2019	Disturbed Blood Flow & Hemodynamics (includes Coagulation/Hemorrhagic Disorders; Shock)	Dr. Gabriel
NOVEMBER 4-10, 2020	READING WEEK	
Monday, November 11, 2019	Disturbed Blood Flow & Hemodynamics	Dr. Gabriel
Wednesday, November 13, 2019	Disturbed Blood Flow & Hemodynamics	Dr. Gabriel
Monday, November 18, 2019	Hematopathology	Dr. Shepherd
Wednesday, November 20, 2019	Hematopathology	Dr. Shepherd
Monday, November 25, 2019	Metabolic & Nutritional Diseases	Dr. Shepherd
Wednesday, November 27, 2019	Metabolic & Nutritional Diseases	Dr. Shepherd
Monday, December 2, 2019	Congenital & Genetic Disease (Overview)	Dr. Kwan
Wednesday, December 4, 2019	Molecular Genetics	Dr. Duenwald
December 8-19, 2019	Exam#2, Worth 25% - (Exam will cover lectures from Neoplasia up to and including Molecular Genetics)	

Course Coordinator (Winter Term): Dr. Chris Howlett

DATE	TOPIC	LECTURER
Monday, January 6, 2020	Pediatric Pathology	Dr. Walsh
Wednesday, January 8, 2020	Kidney & Urinary Tract - Part 1	Dr. Armstrong
Monday, January 13, 2020	Kidney & Urinary Tract - Part 2	Dr. Armstrong
Wednesday, January 15, 2020	Male Genital Tract	Dr. Armstrong
Monday, January 20, 2020	Female Genital Tract – Parts 1 & 2	Dr. Armstrong
Wednesday, January 22, 2020	Endocrine Disease - Part 1	Dr. Howlett
Monday, January 27, 2020	Endocrine Disease - Part 2	Dr. Howlett
Wednesday, January 29, 2020	Respiratory Disease	Dr. Kwan
Monday, February 3, 2020	Respiratory Disease	Dr. Kwan
Wednesday, February 5, 2020	Diseases of the GI Tract	Dr. Parfitt
Monday, February 10, 2020	Diseases of the GI Tract	Dr. Parfitt
Wednesday, February 12, 2020	Diseases of the Hepatobiliary System	Dr. J. Walsh
Thursday, February 13, 2020	7:00-9:00pm - Exam #3 (Worth 25%) - NSC1 (Exam will cover lectures from Pediatric Pathology up to and including Diseases of the GI Tract)	
FEBRUARY 15-23, 2020	READING WEEK & FAMILY DAY (Feb 17th)	
Monday, February 24, 2020	Diseases of the Hepatobiliary System	Dr. J. Walsh
Wednesday, February 26, 2020	Cardiovascular Disease	Dr. Tugaleva
Monday, March 2, 2020	Cardiovascular Disease	Dr. Tugaleva
Wednesday, March 4, 2020	Breast Disease	Dr. Zeman-Pocrnich
Monday, March 9, 2020	Diseases of the Central Nervous System	Dr. Hammond
Wednesday, March 11, 2020	Diseases of the Central Nervous System	Dr. Hammond
Monday, March 16, 2020	Diseases of the Central Nervous System	Dr. Hammond
Wednesday, March 18, 2020	Diseases of the Central Nervous System	Dr. Hammond
Monday, March 23, 2020	Diseases of the Central Nervous System	Dr. Hammond
Wednesday, March 25, 2020	Diseases of the Musculoskeletal System	Dr. Wehrli
Monday, March 30, 2020	Diseases of the Musculoskeletal System	Dr. Wehrli
Wednesday, April 1, 2020	Diseases of the Musculoskeletal System	Dr. Wehrli
APRIL 6-26, 2020	EXAM PERIOD - Exam #4, Worth 25% (Exam will cover lectures from Diseases of the Hepatobiliary System up to and including Diseases of the Musculoskeletal System)	