PATH 120 – Understanding Human Disease in the 21st Century

COURSE DESCRIPTION

This course provides an introduction to human disease and our understanding of key conditions with major global health and societal impact, including cardiovascular, neurological and infectious diseases, and cancer.

The basic concepts of disease mechanisms and current management will be explored using specific diseases and clinical example cases. To be successful in the course assessments, students will need to progressively build their skills and use the course knowledge to:

1) Compare and contrast different disease examples
2) Apply concepts to hypothetical disease scenarios, and
3) Communicate concisely and effectively in written and oral forms.

PREREQUISITES

High school biology or equivalent

EXCLUSIONS

One Way Exclusion: may not be taken with or after PATH 310, CANC 440

METHOD OF DELIVERY

This course will be delivered in a blended format and online.

COURSE LEARNING OUTCOMES (CLOs)

After completing PATH 120, students will be able to:

1. Identify and describe mechanisms underlying human disease and be able to recognize potential origins of human disease states.
2. Assess the individual and population impacts of human disease by effectively researching major issues affecting changes in global health.
3. Collaborate to communicate an understanding of the causes and implications of human disease, including current and future management and treatment
4. Describe how the human body is altered during the course of a disease, and how treatments aim to restore normal processes.
5. Explain how different populations are individually impacted by the same disease.

COURSE OUTLINE

MODULE	TOPIC	WEEKS
1	***Introduction to Pathology and Disease*** • Introduction to Pathology and the Course Themes and Topics • A Brief Tour of the Cell • Pathology Disease Paradigm • Indigenous Views of Health and Disease	***1***
2	***Cancer*** • Our genome meets the environment, and differences in population risk from each of these risk factors • Broad view introduction to concepts • Compare and contrast solid vs blood cancers (i.e. colorectal cancer vs AML)	***2-4***
3	***Metabolic and Cardiovascular Disease*** • Broad view introduction to concepts • Discussion of changes in health of indigenous peoples from pre-colonization to present day (e.g. availability, affordability, and access to fresh produce) • Compare and contrast Diabetes vs Atherosclerosis	***5-6***
4	***Neurological Disorders and Mental Health*** • The changing landscape as we age and population risks • Broad view introduction to concepts • Compare and contrast peripheral to central nervous system disorders: Charcot Marie Tooth vs Alzheimer's	***7-8***
5	***Infectious Disease and Population Health + Course Conclusion*** • Infectious Disease and Population Health • A Global Perspective on how our environment makes us sick, and differences in population risk and public health management • Broad view introduction to concepts • Compare and contrast multidrug resistance bacterial infection (5.1) vs COVID-19 pandemic ***Course Conclusion*** • Course themes and major messages • Disease paradigms, future of research and learning • Changing lens view of different populations (Indigenous peoples versus non-indigenous populations)	***9-12***

Module Structure - For each topic/subtopic

1] General Overview of Pathology – A background presentation of the general field of pathology so the learners understand the overall content.

2] Case study - patient/condition presentation. Any reports clinical information discussed

3] **Related lecture/modules** - covering the condition, significance, science behind its current state of understanding and response, as appropriate

4] **Resolution** - Application of understanding in 3] to the case in 2].

ASSESSMENTS/ EVALUATIONS

1. Readiness Assessment Tests	15% (4 x 3.75%)
2. Team-based Learning Assignments	40% (4 x 10%)
3. Team-based Presentations	20% (4x 5%)
4. Peer Evaluations	5%
5. Proctored Final Exam	20%

Assessments: The assessments have been designed to build on each other over the duration of the course. Assessments 2, 3, and 4 will be graded using a marking rubric. The course learning outcomes (CLOs) associated with each assessment are indicated in brackets.

Assessment 1 – Readiness Assessment Tests (RATs) (4 x 3.75% = 15%)

Following completion of each module and before beginning work on the corresponding team-based assessments, students must log in to the course website in OnQ, review the online material, and complete their RATs. These quizzes are composed of multiple-choice questions related to students' understanding of the online content. Only the best 4 out of 5 Individual RATs will be used to determine final marks for this assessment.
(CLOs 1,2,4)

Assessment 2 – Team-based Learning (TBL) Assignments (4 x 10% = 40%)

Working in groups, students will learn about the important fundamental concepts of each module, with emphasis on representative diseases. Both individually and as part of small and large groups, students will compare and contrast two specific diseases representative of each module pathology area. Students will then be given an opportunity to apply their knowledge, insights and ideas on these concepts to submit individual answers (TBL Individual) to questions about the case, and then develop a collaborative small group (TBL Group) response on their collective proposed best answers in relation to the disease characteristics provided. Only one TBL Group submission per small group is required. The TAs will evaluate TBL Individual and TBL Group submissions according to grading rubrics and participation in discussions throughout the TBL sessions. Only the best 4 out of 5 Individual TBL Assignments will be used to determine final marks for this assessment.
(CLOs 1,2,3,4)

Assessment 3 – TBL Presentations (4 x 5% = 20%)
In this assessment, each TBL small group will submit a narrated collaborative small group PowerPoint presentation or poster presentation to answer assigned questions based on a hypothetical disease case for each module.
(CLOs 1,2,3,4)

Assessment 4 – Peer Evaluations (4 x 1.25% = 5%):

Students will also complete a peer-assessment questionnaire at the end of each TBL module, for a total of 4 peer assessments. They will be asked to rank the members of their small group based on the timeliness and professionalism of their participation in the discussion sessions, and during the preparation of each TBL Group assignment and presentation.
(CLO 4)

Assessment 5 – Proctored Final Exam (20%):
The proctored final exam will include well-designed, case-based multiple choice and short answer questions that will test the students' overall understanding and application of the course material, rather than rote memorization.
(CLOs 1,2,4)

COMPETENCIES

The assessments that correspond with the program competencies are indicated below:

1. Advocate (Assessments 2,3,4)
2. Leader (Assessments 2,3,4)
3. Collaborator (Assessments 2,3,4)
4. Professional (Assessments 2,3,4,5)
5. Communicator (Assessments 2,3,4)
6. Scholar (Assessments 1,2,3,4,5)
7. Content Expert (Assessments 1,2,3,5)

TIME COMMITMENT

Students can expect to spend on average 10 hours a week in the modules, weekly homework questions, assignments and studying.

REQUIRED TEXTS & SOFTWARE

PATH 120 course material includes assignment descriptions, select journal articles and modules that will be posted to or linked within the course website.

COURSE CONTACT INFORMATION

Please use the course email for any questions, concerns, or issues you have. This includes questions regarding assessments, marks, extensions, or accommodations.

ASSESSMENT POLICIES

All assessments are due the time (Eastern Time) on the date listed in the course calendar, unless stated otherwise. There is a 10% late penalty per day per item (including weekends). After 10 days, the assessment will automatically receive a grade of 0%. Students with extenuating circumstances beyond their control should apply for academic consideration as well as informing the course instructor/s.

It is the student's responsibility to confirm that they have uploaded the correct assignment file to the correct location. If you cannot submit your assignment online, email your file to [INSERT EMAIL] with a report of your submission error to receive credit.

ACCESSIBILITY/ACCOMMODATION

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities.

If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the QSAS website at: http://www.queensu.ca/studentwellness/accessibility-services/.

ACADEMIC INTEGRITY

PATH 120 follows the academic integrity policy of Queen's University. Academic integrity is constituted by the six core fundamental values of honesty, trust, fairness, respect, responsibility and courage (see http://www.academicintegrity.org). These values are central to the building, nurturing, and sustaining of an academic community in which all members of the community can thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University; see Senate Report in Principles and Priorities (https://www.queensu.ca/secretariat/policies/senate/academic-integrity-policy-statement).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring their assignments conform to the principles of academic integrity. Information on academic integrity is available in the *Arts & Science* Academic Calendar (see Academic Regulation 1), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery, and falsification, and are antithetical to the development of an academic community at Queen's. Given the

seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to failure of a course to requirement to withdraw from the university.

Specifically, students must express themselves in their own words, and cite sources when they use outside information. *Verbatim copying of the module text or materials is considered plagiarism and is a breach of academic integrity.* Further, lying and misrepresentation are dishonest and violate the six core values of academic integrity.

TURNITIN STATEMENTS

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments through OnQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely for the purpose of detecting plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content, and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to determine the authenticity of work as a part of a larger process.

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ONLINE PROFESSIONALISM AND NETIQUETTE

As some materials for this course are online, students can participate in online discussions and communicate by email. Please use common sense, avoid acronyms, use proper grammar and spelling, and use respectful language in your interactions with instructors and other students in this course. If you feel that another student is being unprofessional or offensive, contact the course instructors as soon as possible with the link or email with the offending language to [INSERT EMAIL].

GRADING METHOD

All components of this course will receive numerical percentage marks. The final grade received for the course will be determined by converting the student's numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below