



Microbiology and Immunology for Nursing Students

N3820b

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Microbiology and Immunology for Nursing Students N3820b - Calendar description:

The host immune response to microorganisms, the biology of microorganisms with disease-causing potential and clinical aspects of infectious diseases will be covered. The role and professional attitude of the nurse in prevention, detection and control of infections will be emphasized.

Course Learning Outcomes:

After completing this course, students will be able to:

1. Describe the key elements of the human immune system
2. Explain when why and how the immunological response to infectious diseases is activated
3. Explain the mechanisms of allergic reactions, autoimmune diseases, and vaccines
4. Identify the basic structural and biological characteristics of four main types of microorganisms: bacteria, viruses, fungi, and protozoa
5. Identify the most common microbial infections in various body systems (ie HEENT, respiratory, gastrointestinal, urinary, skin, reproductive systems) including epidemiology, prevention and control of transmission
6. Describe microbial disease transmission methods and ways in which nurses can prevent transmission of infectious diseases, including infection control procedures in health care settings
7. Identify the principles of specimen collection, detection, and diagnosis of infections
8. Choose the appropriate specimen and the method of collecting

Competencies for entry-level Registered Nurse practice (CNO, 2020) addressed in the course:

- 1.21 Incorporates knowledge from the health sciences, including anatomy, physiology, pathophysiology, psychopathology, pharmacology, microbiology, epidemiology, genetics, immunology, and nutrition.
- 1.22 Incorporates knowledge from nursing science, social sciences, humanities, and health-related research into plans of care.
- 1.27 Implements evidence-informed practices for infection prevention and control.
- 7.4 Advocates for health equity for all, particularly for vulnerable and/or diverse clients and populations.
- 7.11 Uses knowledge of population health, determinants of health, primary health care, and health promotion to achieve health equity.
- 7.14 Uses knowledge of health disparities and inequities to optimize health outcomes for all clients.
- 9.3 Engages in self-reflection to interact from a place of cultural humility and create culturally safe environments where clients perceive respect for their unique health care practices, preferences, and decisions.
- 9.6 Uses knowledge about current and emerging community and global health care issues and trends to optimize client health outcomes.

How we will work together:

A tone of respect and support between and among students and faculty members, diligent preparation, and active participation will be the basis of all classes and professional practice sessions. This will lead to an environment in which student learning can flourish.

Faculty will support students in the development of the knowledge and skills necessary for professional nursing practice by asking questions, providing examples, demonstrating techniques, and leading discussions.

Students will be required to complete all the preparation activities for each class and professional practice session, and to use their knowledge from their preparation to participate fully in class and professional practice activities. All students are expected to share ideas to advance their own and others' learning, ask questions, and listen attentively. Attendance at all classes is necessary and professional practice sessions is mandatory, as are respectful interaction and the avoidance of actions that will interfere with the learning of others.

N3820b Microbiology and Immunology Topic Outline			
Week	Topic		Course Learning Outcomes
Week 1 January 11 th	Introduction to course and Introduction to Immune system Host pathogen interaction basics		1 & 2
Week 2 January 18 th	Innate Immunity versus Adaptive Immunity		1
Week 3 January 25 th	Allergies Autoimmune diseases		1 & 3
Week 4 February 1 st	Vaccines	Tetanus Podcast	1 & 3
Week 5 February 8 th	Midterm = 25%	During class time	1 - 3
Week 6 February 15-19 th	Reading Week		

Week 7 February 22 nd	Basic taxonomy Structure and characteristics: Bacteria, virus, fungi, protozoa	Reflection #1 due	4
Week 8 March 1 st	Epidemics/Pandemic from the Past	Cholera Podcast	4, 5, 6, 7, 8
Week 9 March 8 th	Microbial infections of the Upper and Lower Respiratory system	TB Podcast	4, 5, 6, 7, 8
Week 10 March 15 th	Microbial infections of the Gastrointestinal system	Ebola Podcast	4, 5, 6, 7, 8
Week 11 March 22 nd	Microbial infections of the Genitourinary system	Reflection # 2 due	4, 5, 6, 7, 8
Week 12 March 29 th	Microbial infections of the Dermatological system		4, 5, 6, 7, 8
Week 13 April 5 th	Nosocomial infections		4, 5, 6, 7, 8

Required Textbooks:

There are no required textbooks for this course. Any readings related to course content will be posted in OWL in the corresponding week.

Opportunities to Demonstrate Learning

Mid-term Exam

February 8th -- ONLINE during class time

Value 25% of the course grade

The purpose of this exam is to provide an opportunity for the student to apply knowledge of all concepts discussed in the course to date for week 1-4 inclusive. This examination will consist of multiple choice questions.

End of Course Exam

April Exam Period

Value 35% of final course grade

The purpose of this exam is to provide an opportunity for the student to apply knowledge of all concepts discussed throughout the course. This examination will consist of multiple choice questions.

Scholarly Reflection

Value 20% each

Due #1 February 22nd @ 0900 and #2 March 22nd @ 0900

The purpose of these reflection is:

- To demonstrate understanding of the human impact related to infectious diseases from a global lens

Reflection Guidelines - Full description

Using the *Guide for Reflection* found on the N3820b course site in the Resources tab, write two reflections. Each reflection should be 3-4 pages double-spaced.

- Reflection #1 will be based the Pod Cast posted in week 4 (Vaccines)
- Reflection #2 will be based on the Pod Cast posted in Week 8 (Epidemics/Pandemics), or Week 9 (Respiratory), or Week 10 (Gastrointestinal)

Using the question posed in the corresponding week chosen, write a reflective response. Each reflection must:

- Include a clear descriptive statement demonstrating your understanding of the human impact related to infectious diseases from a global lens
- Reference (and use as scholarly evidence in your reflection) At least 2 scholarly **nursing** references published within the past 5 years. In addition to the requirement for scholarly nursing sources, you may also refer to Grey literature sources. See the Western Libraries for more information about Grey Literature at <http://guides.lib.uwo.ca/nursing>
- Follow APA (2018), 7th edition, rev. guidelines.
- Include insight into the situation and how reflection upon it will change your practice are evident in your writing.
- Submit your assignment through Turnitin to the Assignment tool in the N3820b OWL site. Links are provided for each reflection in the relevant weeks.

Summary of Opportunities to Demonstrate Learning in N3820

OPPORTUNITIES TO DEMONSTRATE LEARNING	COURSE LEARNING OUTCOMES ADDRESSED	VALUE	DUE DATE
1. Mid-term Exam	1-3	25%	February 8 th
2. Scholarly Reflection #1	4-8	15%	February 22 nd
3. Scholarly Reflection #2	4-8	15%	March 22 nd
4. Final Written Exam	1-8	35%	April Exam Period

OWL Forum and Weekly Drop-Ins

Each week you are invited to post any questions you have about the weekly lecture content by the end of the week, Friday at Noon. I will collate this information and address the common questions in a weekly drop-in zoom session the following Monday from 1-2 pm. These are not mandatory, and will only be to address questions about the weekly content.

Policies

All policies related to assignments, attendance and dress code are in the Undergraduate BScN Programs Manual on the Western web site at owl.uwo.ca and on the Fanshawe College web site in the Program manual located in the Virtual Home Room at www.fanshaweonline.ca

Due to the significance of theoretical and practice knowledge in developing professional competence, students are expected to demonstrate professional responsibility through regular attendance at, and, participation in all scheduled learning activities. Much of the learning that takes place is a result of preparation and engagement with the material and active dialogue with colleagues and faculty. Therefore, students are expected to attend all professional practice days, including labs and praxis.

Attendance

Students are expected to demonstrate professional responsibility through regular attendance at, and participation in, all scheduled learning activities as part of the development of professional competence. Much of the learning that takes place is a result of preparation and engagement with the material and active dialogue with colleagues and faculty. Therefore, students are expected to organize their schedules such that online course materials may be viewed/completed each week and attendance in synchronous praxis sessions is consistent.

The primary goal of the weekly praxis sessions is to engage with the class content, and each other, more deeply in order to facilitate meaningful learning. Weekly class content/topics will inform praxis activities, therefore, diligence in preparation is essential. Participation is required in praxis in order to synthesize class/course concepts and benefit from collaborative learning through dialogue and discussion. Attendance is mandatory. If students miss praxis, they must notify their instructor as soon as possible and follow the procedures outlined in the Undergraduate Program Manual.

Technical Requirements

Virtual drop-in sessions will be held using the video conferencing platform Zoom. Zoom is a cloud-based solution for video and audio conferencing, collaboration, and online meetings. The Zoom License is available for students, faculty, and staff at Western and its affiliated colleges. All faculty, staff and students at Western and its affiliated colleges have free access to Zoom License for all of their web conferencing needs. You will need a computer with webcam and audio capabilities, or you can use Zoom with your mobile device. Visit <https://wts.uwo.ca/zoom/index.html> for details and assistance.

Online Etiquette

Some components of this course will involve online interactions. To ensure the best experience for both you and your classmates, please honour the following rules of etiquette:

- please “arrive” to class on time
- please use your computer and/or laptop if possible (as opposed to a cell phone or tablet)
- ensure that you are in a private location to protect the confidentiality of discussions in the event that a class discussion deals with sensitive or personal material
- to minimize background noise, kindly mute your microphone for the entire class until you are invited to speak, unless directed otherwise
- [suggested for classes larger than 30 students] In order to give us optimum bandwidth and web quality, please turn off your video camera for the entire class unless you are invited to speak
- [suggested for cases where video is used] please be prepared to turn your video camera off at the instructor’s request if the internet connection becomes unstable
- unless invited by your instructor, do **not** share your screen in the meeting

The course instructor will act as moderator for the class and will deal with any questions from participants. To participate please consider the following:

- if you wish to speak, use the “raise hand” function and wait for the instructor to acknowledge you before beginning your comment or question
- remember to unmute your microphone and turn on your video camera before speaking
- self-identify when speaking.
- remember to mute your mic and turn off your video camera after speaking (unless directed otherwise)

General considerations of “netiquette”:

- Keep in mind the different cultural and linguistic backgrounds of the students in the course.
- Be courteous toward the instructor, your colleagues, and authors whose work you are discussing.
- Be respectful of the diversity of viewpoints that you will encounter in the class and in your readings. The exchange of diverse ideas and opinions is part of the scholarly environment. “Flaming” is never appropriate.
- Be professional and scholarly in all online postings. Cite the ideas of others appropriately.

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student

Conduct.

Scholarly Requirements

In this program, scholarly writing is a requirement. Therefore, all scholarly papers will follow the 7th edition of the *Publication manual of the American Psychological Association* (2019), which includes guidelines for both content and format. In addition, all other writing will follow APA (7th ed.) format when citing or referring to an author's work or ideas. Failure to do so is unethical and is plagiarism.

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to your expulsion from the nursing program. 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 must be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University and the College 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, Fanshawe College, and Turnitin.com (www.turnitin.com). For further information, please see the BScN Program Manual for the policy on plagiarism. 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(s):

http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf.

<http://www.fanshawec.ca/sites/default/files/assets/policies/pdf/2g04.pdf>

Assignments and Exams

Please refer Undergraduate Programs Manual for information on penalties for late assignments, re-grading of assignments, and the protocol for missed mid-term or final exams.

Western at owl.uwo.ca and Fanshawe in Virtual Home Room www.fanshaweonline.ca

Electronic devices

Electronic devices are useful in assisting with the teaching/learning process in both classroom and professional practice settings. In the classroom or praxis setting, devices should be used in a manner that is not distracting to others or oneself. In professional practice placement settings, please abide by the policies set by the agency in regards to use of social media, internet, and handheld devices. Additionally, technology use in the presence of clients or agency staff may require explanation as to its use as part of professional practice (e.g., a drug guide on a smart phone).

It is essential that client privacy and confidentiality be maintained when using electronic devices. When students and Clinical Instructors (CIs) are communicating via electronic devices, client information must not be included. Students and CIs are accountable for responsible use of electronic communication, this includes; using professional language, setting device to silent/vibrate mode in the practice setting, and refraining from personal communications when at their practice placement.

Mental Health

Students who are in emotional/mental distress should refer to the following links for a complete list of options about how to obtain help.

MentalHealth@Western <http://www.uwo.ca/uwocom/mentalhealth/>
Fanshawe College iCopeU <http://icopeu.com/fanshawe/home.html> and Counseling Services
<http://www.fanshawec.ca/counselling/>

Student Safety

Please refer to the Undergraduate Programs Manual section on Student Safety Concerns: Guidelines for Responding in the Practice Setting Environment and the Student Safety Flow Chart found on the Undergraduate Programs Site at owl.uwo.ca or the BScN Program Virtual Home Room on FanshaweOnline fanshaweonline.ca

Students are required to read the Undergraduate BScN Programs Manual and be familiar with its contents. The Program Manual is available for Western students on OWL in the Undergraduate Student Information site (<https://owl.uwo.ca>) and for Fanshawe students at fanshaweonline.ca

