COURSE OUTLINE: BIOL2060 - INTO TO MICROBIO

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Course Code: Title	BIOL2060: INTRODUCTION TO MICROBIOLOGY
Program Number: Name	3401: HONOURS BSCN
Department:	BSCN - NURSING
Academic Year:	2024-2025
Course Description:	This is an introductory microbiology course with applications in the health sciences. It will provide students with the basics of microbial cell structure and function, antimicrobial therapy and drug resistance, the immune system, antibodies, and diagnostic microbiology. The course also examines the involvement of microbes in emerging and re-emerging infectious diseases as well as nosocomial and sexually transmitted infections. The course consists of a 3 hour theory and 2 hour lab weekly. PREREQUISITES: BIOL1150
Total Credits:	4
Hours/Week:	5
Total Hours:	60
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	BSCN2100, BSCN2102, BSCN2110, PATH2160
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**3401 - HONOURS BSCN** VLO 1 Meet professional practice requirements as identified in the current Entry-to-Practice Competencies and Professional Standards of the College of Nurses of Ontario. VLO 3 Build professional relationships in a collaborative environment with other health care providers and actively engage in collaborative decision making around client care.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
General Education Themes:	Science and Technology

Course Evaluation:

Passing Grade: 65%,

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Books and Required Resources:

Laboratory Exercises in Microbiology by Pollack
Publisher: John Wiley & Sons, Incorporated Edition: 5
ISBN: 9781119462668
A white, full length lab coat (use the one you had for A&P), 2-3 black Sharpie permanent markers, a fresh notebook for recording results, a package of

Course Outcomes and Learning Objectives:

Course Outcome 1	**Learning Objectives for Course Outcome 1**
1. To understand the basic structure and morphology of microorganisms.	- Understand the differences between microorganisms. - Be able to describe the various structural features of the different microorganisms.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. To understand human immune and non-immune defenses against infectious disease.	- Be able to describe innate and adaptive immune defenses in humans, as well as non-immune aspects of how we defend ourselves from infectious diseases.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. To understand the nature of infectious diseases and how they relate to epidemiology and diagnostic microbiology. Understand host-microbe interactions and the processes of disease.	- Be able to describe some specific infectious diseases and their sequelae to the human body, as well as how they are spread, and how they can be diagnosed by microbiologists.
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. To understand the normal flora, opportunistic pathogens and emerging infectious agents.	- Be able to describe what the normal flora is, what it is composed of, and how it benefits human health. - Compare the normal flora to opportunistic pathogens using specific examples. - Be able to discuss the nature of, and risks of, both emerging and re-emerging infectious agents on human health.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. To understand how to control the growth and spread of microbes, in order to control them.	- Be able to describe chemical, physical and chemotherapeutic mechanisms of microbial control, and how choices are made regarding which to use against particular microbes.
Course Outcome 6	**Learning Objectives for Course Outcome 6**
6. To understand some common nosocomial infections and sexually transmitted diseases.	-Be able to describe some common nosocomial infections and their impact on healthcare settings. -Be able to describe some common sexually transmitted diseases with regard to identification of causative agent,

	populations at risk, how disease is transmitted, and how it is treated.

Course Outcome 7	Learning Objectives for Course Outcome 7
7. Laboratory Outcomes: - To understand sterile technique. - To be able to culture microbes. - To be able to perform a variety of diagnostic tests in order to identify microbes. - To identify common pathogenic bacteria.	Laboratory Objectives: -Be able to demonstrate the use of sterile technique in the lab, in order to facilitate continuous use of said technique in the clinical setting. - Be able to successfully transfer microbes from one source to another without contamination of the sample, the handler, or the surrounding work area. Be able to choose appropriate media for the successful growth of the sample. - Be able to name some common human pathogens. Be able to cultivate similar (non-pathogens that are related) microbes in the lab and submit them to known clinically relevant diagnostic tests and antibiotic sensitivity assays. Be able to analyse the results and make conclusions.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	30%
Final Laboratory Exam	25%
Laboratory Quizzes	20%
Midterm Exam	25%

Date: November 26, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.