

I. COURSE DESCRIPTION:

This course 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 involvement of microbes in emerging and re-emerging infectious diseases will be briefly discussed. Nosocomial and sexually transmitted infections will also be discussed. Pre-requisites: BIOL1506/1507, 12U Biology, or permission of the instructor. May not be combined with BIOL2026 for credit (lec 3 hrs, lab 3 hrs).

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Students in this course will be exposed to the basic principles of microbiology and the involvement of microbes in diseases. The teaching involves both theory and practical aspects of microbiology as students engage in weekly laboratory exercises. Students learn the art of microbial manipulation and a thorough knowledge of their structure and how to control their growth by means of physical and chemical methods. Students will build a better understanding of the role of microbes in health and disease and how to control their involvement in diseases within health care facilities. The following outcomes will be met by students who successfully complete this course.

(A) Knowledge

- To familiarize students with the basic structure and morphology of microorganisms, with emphasis on bacteria.
- To introduce students to the immune and non-immune protective systems in humans.
- To introduce students to the field of infectious diseases and such areas as epidemiology and diagnostic microbiology.
- To train students in distinguishing between normal microflora, opportunistic pathogens, and emerging infectious agents.
- To learn the principles and applications of the various chemical, physical, and radiation-based methods of microbial control.
- To expose students to the dynamics of common nosocomial infections and emerging infectious agents.

(B) Skills

- To equip students with the knowledge and practical skills of sterile techniques of handling and culturing microorganisms.
- To train students to be able to correlate certain clinical symptoms with specific infectious diseases.
- To enable students to identify common pathogenic bacteria and be able to explain clinical diagnostic tests and antibiotic testing results.

III. TOPICS:

1. Introduction to and Brief History of Microbiology
2. Introduction to the Microbial World
3. Microbial Cell Structure
4. Viruses
5. Microbial Growth and Culture Techniques
6. Physical and Chemical Control of Microbial Growth
7. Antibiotics and Drug Resistance
8. Human Innate Immune Defenses
9. Immunity and Vaccination in Humans
10. Nosocomial Infections and Sexually Transmitted Diseases
11. Emerging Infectious Diseases
12. Diagnostic Microbiology

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Strelkaukas, A., A. Edwards, B. Fahnert, G. Pryor, J, Strelkauskas. (2015). *Microbiology, A Clinical Approach* (2nd ed.). New York, NY: Garland Science Taylor and Francis. ISBN: 978-0-815-34513-8

Pollack, R. A., Findlay, L., Mondschein, W., Modesto, R. R. (2012). *Laboratory exercises in microbiology* (4rd ed.). Toronto, ON: John Wiley and Sons. ISBN : 978-1-118-13525-9

A clean, white, laboratory coat that is separate from the one used in the clinical setting. You may use the same lab coat that was used for your A&P course.

Several grease pencils (black or red) or Sharpie markers (either can be obtained in any office supply retail outlet) for labelling of glassware, plates, etc.

A pair of laboratory safety goggles/glasses. These may be purchased at the Campus Shoppe.

A supply of gloves will be made available in the laboratory.

V. EVALUATION PROCESS/GRADING SYSTEM:

The pass mark for this course is **60%** (a "C" grade). The final grade will be determined based on the following:

Midterm Exam (full lecture period):	25%
Final Exam (3 hour; schedule TBA)	45%
Laboratory Tests (weekly quizzes; final comprehensive lab exam)	30%

Note: Students who miss either the midterm or the final exam without notifying the instructor (759-2554 ext. 2630) **BEFORE the exam** will receive a zero (0) grade for that exam. It is STRONGLY recommended that students who miss the exam for an emergency reason contact the instructor (via phone, written note or email using the Sault College email server) before the exam to alert the instructor of their absence. On the first day back to classes it is the student's responsibility to contact the instructor to arrange an alternate exam date.

Missed laboratory quizzes will receive a zero (0) grade; NO alternate dates will be provided for writing these quizzes. There will be no 'make-up' labs for completing the assigned laboratory exercises; students must 'catch-up' in subsequent lab periods.

The following semester grades will be assigned to students:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

VI. SPECIAL NOTES:

Attendance

Students are expected to attend **all** classes and laboratory exercises. Various handouts may be given out during class/lab and students are responsible for keeping up with the material missed. The easiest way to keep up is to ATTEND CLASS.

PLEASE NOTE: As is stated in your B.Sc.N. Student Manual: "Punctual and regular attendance at the various academic exercises is required of all students. Unexcused absences in excess of 20% may jeopardize receipt of credit for the course. An unexcused absence is one in which the professor was not notified of the absence. An excused absence includes absences where the professor is notified via voice mail, in person, via the internal (college) email server or via a written note." This policy will be adhered to RIGOROUSLY. It is imperative that for success to occur in this course, attendance be at least 80% for both lectures and laboratory exercises.



COURSE OUTLINE ADDENDUM

1. Course Outline Amendments:
The provisions contained in the addendum located in D2L and on the portal form part of this course outline. The faculty member reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.
2. Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

3. Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Key Dates Calendar for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio. Student Services, located in E1101, can provide information regarding the Prior Learning Assessment and Recognition policy or it can be viewed on the student portal.

Substitute course information is available in the Registrar's office.

4. Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

5. Communication:

The College considers **Desire2Learn (D2L)** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of this Learning Management System (LMS) communication tool.

6. Accessibility Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with the Accessibility Services office. Visit Room E1101, call Ext. 2703 or email studentsupport@saultcollege.ca so that support services can be arranged for you.

7. Audio and Video Recording Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. Students with disabilities who require audio or visual recording devices in the classroom as an accommodation will receive approval from their counsellor once the Audio and Video Recording Devices in the Classroom Policy has been reviewed by the student. Recorded classroom instruction will be used only for individual academic use and will not be used for any other purpose. Recordings may only be used for individual study of materials presented during class and may not be published or distributed. Intentional misuse of audio and video recordings or intentional misrepresentation when requesting the use of a device for recording shall constitute a violation of this policy and laws protecting intellectual property.

8. Academic Dishonesty:
Students should refer to the definition of “academic dishonesty” in the *Student Code of Conduct*. Students who engage in academic dishonesty will be issued a sanction under the Student Code of Conduct which could lead to and include expulsion from the course/program. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, students must use a documentation format for referencing source material.

9. Tuition Default:
Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November (fall semester courses), first week of March (winter semester courses) or first week of June (summer semester courses) will be removed from placement and clinical activities due to liability issues. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.