SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT
COLLEGE

COURSE OUTLINE

COURSE TITLE:	Introductory Immunology		
CODE NO. :	Bio132	**SEMESTER:**	W13
PROGRAM:	B.Sc.N., R.P.N., other college programs		
AUTHOR:	Leslie Dafoe		
DATE:	January 2013	**PREVIOUS OUTLINE DATED:**	Jan. 2012
APPROVED:	"Marilyn King"		Jan/13
	CHAIR, HEALTH PROGRAM		**DATE**
TOTAL CREDITS:	**3**		
PREREQUISITE(S):	**Biol2111**		
HOURS/WEEK:	**3**		

I. COURSE DESCRIPTION:

This course is designed to provide students with an introduction to the molecules, cells and organs of the immune system. Students will learn how these components of the immune system function together to protect the human body from infectious diseases and cancer. There will also be discussion of the consequences of immune system dysfunction.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to: understand the components and functions of the immune system and its role in disease in order to provide better client care in the healthcare setting.

1 Students will become familiar with the cells of the immune system.
Potential Elements of the Performance:
Outline the origin and function of the various types of lymphocytes.

2 Students will demonstrate knowledge and understanding of the role of the various chemicals used by the immune system.
Potential Elements of the Performance:
Outline the production and function of various chemokines.

3 Students will demonstrate knowledge and understanding of the role of innate immunity in prevention of infection.
Potential Elements of the Performance:
Outline the physical, chemical and physiological barriers and mechanisms used by innate immunity. Define and discuss the functions of the First Line of Defense and the Second Line of Defense. Demonstrate the ability to predict the consequences of failure of this aspect of immunity. Use this knowledge to improve client care.

4 Students will demonstrate knowledge and understanding of the role of adaptive immunity in prevention of disease.
Potential Elements of the Performance:
Outline and discuss the role of B lymphocytes and T lymphocytes. Demonstrate knowledge of the structure and function of antibodies, antigens, and their interactions. Demonstrate knowledge of the structure of T-cells and their role in cell-mediated immune responses. Predict the consequences of failure of this aspect of immunity and use this knowledge to improve client care.

5 Students will demonstrate knowledge and understanding of the roles of tolerance, autoimmunity and hypersensitivity in disease and disorder processes.
Potential Elements of the Performance:
Outline how the immune system differentiates between self and non-self. Discuss the consequences of errors in self/non-self discrimination and how this produces various autoimmune diseases. Discuss the production of hypersensitivity states and the consequences of such conditions. Use this knowledge to improve client care.

6 Students will demonstrate knowledge and understanding of the role of immunity in cancer.
Potential Elements of the Performance:
Outline how the immune system is capable of eradicating early stage cancerous cells, and what happens when this system fails. Use this knowledge to improve client care.

7 Students will demonstrate knowledge and understanding of immunodeficiency diseases.
Potential Elements of the Performance:
Outline the generation and outcome of congenital and acquired immunodeficiency diseases. Use this knowledge to improve client care.

III. TOPICS:

1. Introduction to the Immune System
2. Innate Immunity; The First and Second Lines of Defense: Its Role and Components
3. Adaptive Immunity; The Third Line of Defense: Its Role and Components
4. Primary and Secondary Cells and Organs of the Immune System
5. Antigens
6. Adaptive Immune Responses 1: Cell-Mediated
7. Adaptive Immune Responses 2: Humoral Immunity
8. Tolerance and Autoimmunity
9. The Immune System and Cancer
10. The Immune System and Transplanted Organs and Tissues
11. Hypersensitivity
12. Immunodeficiency Diseases
13. Vaccines

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Geha, R., & Rosen, F. (2012). *Case Studies in Immunology A Clinical Companion, 6e*. Garland Science.
ISBN13: 978-08153-4441-4.

V. EVALUATION PROCESS/GRADING SYSTEM:

1. The pass mark for this course is **50%**. It is composed of assignments, two lecture tests, and a final exam.

2. Evaluation Methods:

Assignments:	35%
Lecture Tests (2)	30%
Final Exam	35%

The lecture tests and final exam will be based on course materials as outlined in the lecture schedule.

3. All written assignments are due at the **beginning** of lecture on their due date. After the lecture has started, all assignments will be considered late and a late penalty will be applied. Late submissions of assignments will have their values reduced at a rate of 10% per day after the due date. After 10 days the assignment will be evaluated as a zero.

4. Students missing the mid-term exam or final exam **because of illness or other serious reason** must contact and inform the professor via SCAAT student email, LMS email, phone or personal note, **before** the exam (759-2554 ext. 2630). Those students who have notified the professor of their absence, according to policy, will be eligible to arrange an opportunity as soon as possible to write the exam at another time. Those students who **do not notify the professor** will receive a zero grade for that exam. **It is the student's responsibility** on his/her first day back at school to contact the professor to arrange to write the exam. Failure to notify the professor at this time will result in a mark of "0".

5. Students receiving borderline marks (59, 69, 79, 89) may, at the professor's discretion, have their mark advanced to the next category **if they have attended at least 80% of the classes.**

6. **MIDTERM GRADES:** The determination of midterm grades as “S” or “U” will be based on the cumulative grades of all tests and assignments completed up to the date of submission of midterm grades. Any student who does not achieve a passing grade on the majority of graded work will receive a “U” grade at midterm. Those who do receive a "U" grade at midterm are encouraged to schedule a meeting with the professor for additional help towards success in the course.

The following semester grades will be assigned to students in post-secondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

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.

Note: For such reasons as program certification or program articulation, certain courses require minimums of greater than 50% and/or have mandatory components to achieve a passing grade.

It is also important to note, that the minimum overall GPA required in order to graduate from a Sault College program remains 2.0.

VI. SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.