



**CREDIT/CONTACT HOURS:** 3 credits (3-0-0)

**DELIVERY MODE(S):** Classes - Mondays and Wednesdays 1000-1120, J229

**COURSE OBJECTIVES:**

1. To understand basic aspects of the immune response to pathogens and to be able to read with confidence newspaper and popular magazine reports dealing with immunity and infectious diseases.
2. To enroll in more advanced undergraduate courses in the areas of immunology and infections.
3. To write concise answers to questions relating to complex biological phenomena.

**LEARNING OUTCOMES:**

1. Knowledge of the components and mechanisms of innate immunity
2. Knowledge of the components and mechanisms of acquired immunity.
3. Knowledge of the factors influencing bacterial pathogenicity and virulence.
4. Knowledge of viral replication strategies and their effect on the host.
5. Knowledge of the host immune response to viral infections.

**TRANSFERABILITY:** University of Alberta - IMIN 200 (Immunology and Infection)

**\*Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page <http://www.transferalberta.ca> or, if you do not want to navigate through few links, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlinesearch.html?SearchMode=S&step=2>

**\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

<b>EVALUATIONS:</b>	Mid-term Exam I	30%
	Mid-term Exam II	30%
	Final Exam	40%

Mid-term I will cover material in the Immunology section of the course. Mid-term II will cover material from the Pathogenesis section of the course. The Final Exam will be cumulative, with approximately 40% of marks assigned to material covered in the Immunology and Pathogenesis sections, and 60% to that from the Virology section..

Throughout the course an emphasis will be placed on the integration of the concepts of immunology and infection. A thorough understanding of material covered in the Immunology section will be essential on ALL exams.

**GRADING CRITERIA:**

<b>GRANDE PRAIRIE REGIONAL COLLEGE</b>			
<b>GRADING CONVERSION CHART</b>			
<b>Alpha Grade</b>	<b>4-point Equivalent</b>	<b>Percentage Guidelines</b>	<b>Designation</b>
<b>A<sup>+</sup></b>	<b>4.0</b>	<b>90 – 100</b>	<b>EXCELLENT</b>
<b>A</b>	<b>4.0</b>	<b>85 – 89</b>	
<b>A<sup>-</sup></b>	<b>3.7</b>	<b>80 – 84</b>	<b>FIRST CLASS STANDING</b>
<b>B<sup>+</sup></b>	<b>3.3</b>	<b>77 – 79</b>	
<b>B</b>	<b>3.0</b>	<b>73 – 76</b>	<b>GOOD</b>
<b>B<sup>-</sup></b>	<b>2.7</b>	<b>70 – 72</b>	
<b>C<sup>+</sup></b>	<b>2.3</b>	<b>67 – 69</b>	<b>SATISFACTORY</b>
<b>C</b>	<b>2.0</b>	<b>63 – 66</b>	
<b>C<sup>-</sup></b>	<b>1.7</b>	<b>60 – 62</b>	
<b>D<sup>+</sup></b>	<b>1.3</b>	<b>55 – 59</b>	<b>MINIMAL PASS</b>
<b>D</b>	<b>1.0</b>	<b>50 – 54</b>	
<b>F</b>	<b>0.0</b>	<b>0 – 49</b>	<b>FAIL</b>
<b>WF</b>	<b>0.0</b>	<b>0</b>	<b>FAIL, withdrawal after the deadline</b>

**STUDENT RESPONSIBILITIES:**

Refer to the College Policy on Student Rights and Responsibilities  
at [www.gprc.ab.ca/d/STUDENTRIGHTSRESPONSIBILITIES](http://www.gprc.ab.ca/d/STUDENTRIGHTSRESPONSIBILITIES)

**STATEMENT ON PLAGIARISM AND CHEATING:**

Refer to the College Student Misconduct: Academic and Non-Academic Policy  
at [www.gprc.ab.ca/d/STUDENTMISCONDUCT](http://www.gprc.ab.ca/d/STUDENTMISCONDUCT)

\*\*Note: all Academic and Administrative policies are available at  
[www.gprc.ab.ca/about/administration/policies/](http://www.gprc.ab.ca/about/administration/policies/)

## MI 2950 – Topic Outline

- 1 Introduction to Immunology
- 2 Innate defenses: cells and tissues of the immune system
- 3 Innate Signaling: The Toll Pathway
- 4 Introduction to Adaptive Immunity
- 5 Antigen Capture and Presentation
- 6 Antibodies: Structure and Generation
- 7 Humoral Immunity
- 8 T cell development
- 9 Complement
- 10 Cellular Immunity
- 11 Hypersensitivities
- 12 Immune response to eukaryotic parasites
- MID-TERM EXAM I**
- 13 Bacterial Pathogenesis: Introduction and Definitions
- 14 Bacterial structure in relationship to pathogenesis
- 15 Adherence and invasion: pili, adhesins, iron uptake
- 16 Bacterial strategies of immune evasion
- 17 Bacterial secretion systems used in pathogenesis
- 18 Bacterial toxins
- 19 *Listeria monocytogenes*
- 20 *Campylobacter* and *Helicobacter*
- 21 *Mycobacterium tuberculosis*
- MID-TERM EXAM II**
- 22 Introduction to viruses
- 23 Viral pathogenesis
- 24 Viral attachment and entry
- 25 Viral replication strategies: RNA viruses (HIV; poliovirus)
- 26 Viral replication strategies: DNA viruses and mutation (herpes)
- 27 Innate defenses against viruses
- 28 Evasion of host response
- 29 Emergence of new viruses and examples