



## Pathophysiology 2 – BIOL 228

### University Studies Program

### Course Outline

COURSE IMPLEMENTATION DATE: January 2007  
OUTLINE EFFECTIVE DATE: January 2018  
COURSE OUTLINE REVIEW DATE: September 2023

---

#### GENERAL COURSE DESCRIPTION:

A continuation of BIOL 218, BIOL 228 is an introductory background to pathophysiology and pharmacology. The emphasis is on concepts and how alterations in physiological, biochemical, microbial or immunological factors can have an impact on homeostasis. Prototype diseases and prototype drugs are examined, with an emphasis on integrating scientific processes with nursing practice.

---

**Program Information:** This is a required course in the second year of the Bachelor of Science in Nursing Program.

---

**Delivery:** The pathophysiology component is delivered face-to-face. The pharmacology component is delivered online.

**COTR Credits:** 3

**Hours for this course:** 45 hours

#### Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	45
Seminars / Tutorials	
Laboratory / Studio Hours	
Practicum / Field Experience Hours	
Other Contact Hours	
<b>Total</b>	45

#### Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-job Experience	N/A
Formal Work Experience	N/A
Other	N/A
<b>Total</b>	

**Course Outline Author or Contact:**

Rob Tillman, BEd, BSc, MSSE

\_\_\_\_\_  
Signature

---

**APPROVAL SIGNATURES:**

Department Head  
Ildi Walkley  
E-mail: [walkley@cotr.bc.ca](mailto:walkley@cotr.bc.ca)

Dean of Business and University Studies  
Darrell Bethune  
E-mail: [bethune@cotr.bc.ca](mailto:bethune@cotr.bc.ca)

\_\_\_\_\_  
Department Head Signature

\_\_\_\_\_  
Dean Signature

EDCO

Valid from: January 2018 – September 2023

\_\_\_\_\_  
Education Council Approval Date

---

**COURSE PREREQUISITES AND TRANSFER CREDIT:**

**Prerequisites:** BIOL 218

**Corequisites:** None

**Prior Learning Assessment (FA):**

Credit can be awarded for this course through FA

Yes  No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

**Transfer Credit:** For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Students should also contact an academic advisor at the institution where they want transfer credit.

**Prior Course Number:** N/A

## Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Lilly, L.L., Harrington, S., Snyder, J.S., & Swart, B. (2011). *Pharmacology of Canadian Health Care Practice*. (2<sup>nd</sup> Ed.). Elsevier and Logan.

Hodgson, B. and Kizor, R. (2013). *Saunders Nursing Drug Handbook*. Elsevier and Logan.

Hannon, R.A., and Porth, C. (2017). *Porth Pathophysiology*. (2<sup>nd</sup> Cdn ed.). Wolters Kluwer.

Please see the instructor's syllabus or check COTR's online text calculator

[http://www.cotr.bc.ca/bookstore/cotr\\_web.asp?IDNumber=164](http://www.cotr.bc.ca/bookstore/cotr_web.asp?IDNumber=164) for a complete list of the currently required textbooks.

---

## LEARNING OUTCOMES:

Upon the successful completion of this course, students should be able to:

### Pathophysiology

- apply the principles of medical terminology to accurately interpret unfamiliar terms;
- recognize the interrelations among structure and function at the tissue, organ system and somatic levels of organization;
- utilize the concept of homeostatic disturbance in the interpretation of a broad range of clinical conditions;
- predict the possible outcomes of disease conditions based on a knowledge of relevant pathophysiology; and
- relate clinical data to observations of patient status.

### Microbiology and Immunology

Upon the successful completion of this course, students should be able to:

- apply the microbiological and immunological principles and concepts introduced in BIOL 218 as they relate to the normal and abnormal function of the following body systems and topics:
  - cardiovascular system;
  - respiratory system;
  - urinary system;
  - fluid and electrolyte balance;
  - gastrointestinal system; and
  - cancer

## Pharmacology

Upon successful completion of this course and BIOL 218, students should be able to:

- understand the key concepts of pharmacokinetics, pharmacodynamics and pharmacotherapeutics;
  - use standard pharmacological definitions and terminology;
  - develop an understanding of nursing considerations regarding drug therapies;
  - recognize, retrieve and use appropriate resources to access drug information; and
  - develop teaching strategies to enhance patient education regarding drug therapy.
- 

## COURSE TOPICS:

### Pathophysiology

- The Heart: A&P Review, Valvular Heart Disease
- The Heart: Electrocardiography, Ischemic Heart Disease, CHF
- Circulation: A&P Review, Hypertension, Arterial and Venous Disorders
- The Respiratory System: A&P Review, Asthma, COPD, Pulmonary Infections, Chest Trauma, IRDS, ARDS
- Urinary System: A&P Review, Cystitis, Urinary Calculi, Pyelonephritis, Acute Renal Failure, Chronic Renal Failure, Dialysis
- Fluids and Electrolytes: Fluid Imbalances Acid-base Imbalances, Electrolyte Imbalances
- The Gastrointestinal System: A&P Review, Eating, Digestive and Intestinal Disorders,
- Pancreatic and Hepatic Disorders
- Oncology

### Pharmacology

- Anticoagulants
- Ischemia drugs/antiarrhythmics
- Antihypertensives
- Bronchodilators
- Diuretics
- Electrolytes
- Problematic Substance Abuse
- Laxatives/ Antiemetics
- Peptic Ulcer drugs
- Chemotherapy

*See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.*

---

**EVALUATION AND ASSESSMENT:**

Assessment and Evaluation:	% of Total Grade	
	Pharm	Patho
First Midterm	5%	20%
Second Midterm	5%	20%
Discussion Forum	10%	N/A
Final Exam	13.3%	26.7%
<b>Total</b>	<b>33.3%</b>	<b>66.7%</b>

**Note:** Students must achieve a passing grade (60% or greater) in both the pharmacology component and the pathophysiology/immunology/microbiology component in order to receive credit for the course; nursing students must achieve at least 60 percent in each component in order to continue in the BSN program.

*Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.*

---

**EXAM POLICY:**

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

---

**COURSE GRADE:**

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

---

## ACADEMIC POLICIES:

See [www.cotr.bc.ca/policies](http://www.cotr.bc.ca/policies) for general college policies related to course activities, including grade appeals, cheating and plagiarism.

**\*\*NOTE:** Although the official College transcript will show a single final grade for BIOL 228, separate marks will be calculated for the Pharmacology portion and the Patho/Immuno/Micro portion of BIOL 228. Nursing students must achieve a grade of C or better (60%) in **both** portions to continue in the BSN program.

---

## COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.