



BIOL-228 – Pathophysiology 2

University Arts and Science

Effective Term & Year: Fall 2022
Course Outline Review Date: 2026-09-01

Program Area: Math and Sciences

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 Methods: Hybrid – On-campus (Face-to-Face) and Online

Credit Type: College of the Rockies Credits

Credits: 3

Course type/s: Lab Sciences, Sciences

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	45
Seminar/Tutorials	
Laboratory/Studio	
Practicum/Field Experience	
Co-op/Work Experience	

Other

Total	45
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Course Requisites:

- Completed the following:
 - BIOL218 – Pathophysiology 1 (3)

Flexible Assessment: Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see <https://www.bctransferguide.ca/> or <https://transferalberta.alberta.ca> . For more transfer credit information, please visit <https://www.cotr.bc.ca/Transfer>

All requests for course transfer credit from institutions in British Columbia or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook 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., Rainforth, C. S., Snyder, J. S., & Swart, B. (2017). *Pharmacology for Canadian health care practice* (3rd ed.). Toronto, ON: Mosby Elsevier.

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

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

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

<https://textbook.cotr.bc.ca/> for a complete list of the currently required textbooks.

Learning Outcomes:

Upon the successful completion of this course, students will 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

- 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:
 - nervous system;
 - musculoskeletal system;
 - cardiovascular system;
 - gastrointestinal system;
 - endocrine system;
 - reproductive systems; and
 - cancer

Pharmacology

Upon successful completion of this course and BIOL 218, students will 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.
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Course Topics:

Pathophysiology

- Nervous System: A & P Review, Pain
- Disorders of the Nervous System I: Epilepsy, Stroke, Neurodegenerative Disorders
- Neurological Trauma
- Disorders of the Nervous System II: Sensory Disorders
- Musculoskeletal System: A & P Review and Selected Disorders
- Valvular Heart Disease
- The Heart: Electrocardiography
- Endocrine System: A & P Review
- Endocrine Disorders: Pituitary, Thyroid, Parathyroid and Adrenal Disorders
- The Gastrointestinal System: A&P Review, Eating, Digestive and Intestinal Disorders
- Pancreatic and Hepatic Disorders
- Oncology

Pharmacology

- General and Local Anesthetics
- Analgesic Drugs
- Psychotherapeutic Drugs
- Substance Misuse
- Antilipemic Drugs
- Antiarrhythmic Drugs
- Acid-Controlling Drugs
- Laxatives, Antidiarrheal, Antiemetic and Antinausea Drugs
- Over-the-Counter Drugs, Natural Health Products, Vitamins and Minerals
- Adrenal Drugs
- Women's and Men's Health Drugs
- Antineoplastic Drugs

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

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Patho	
First Midterm	20%
Second Midterm	20%
Final Exam	26.7%
Total	66.7%

Assessment Type: Online

Assessment Type	% of Total Grade
Pharm	
First Midterm	10%
Second Midterm	10%
Final Exam	13.3%
Total	33.3%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

Pass requirements: A passing average (60% or higher) in both the pharmacology and pathophysiology components.

Evaluation Notes: A grade of “D” grants credit, but may not be sufficient as a prerequisite for sequential courses.

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a “0” on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to

this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.