

	School of Arts & Science BIOLOGY DEPARTMENT BIOL 252 Pathophysiology for Nursing 1 Quarter or Semester/Year
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COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/biol.html>

Ω Please note: the College electronically stores this outline for five (5) years only.
It is **strongly recommended** you keep a copy of this outline with your academic records.
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

	office	telephone	email
Dr. Ahmed Vawda	Fisher 342D	(250)370-3479	vawda@camosun.bc.ca

(timetable and office hours posted on D2L for)

(a)	Instructor:			
(b)	Office Hours:			
(c)	Location:			
(d)	Phone:		Alternative Phone:	
(e)	Email:			
(f)	Website:			

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

Upon completion of this course the student will be able to:

1. Explain basic concepts of disease processes.
2. With reference to endocrine, cardiovascular, and respiratory disorders, explain how and why normal physiology is altered in the pathogenesis of specific diseases.
3. Correlate disease with treatment and nursing management in one's patients.
4. Explain in lay terms the major features of a patient's disease to the patient.

3. Required Materials

REQUIRED TEXTBOOK

Hannon, R.A., Pooler, C. and Porth, C.M. (2010). Porth Pathophysiology, Concepts of Altered Health States. 1st Canadian edition. Wolters Kluwer Health / Lippincott Williams & Wilkins.

OPTIONAL TEXTBOOK

Study Guide for Pathophysiology, Concepts of Altered Health States. 8th edition. Lippincott Williams & Wilkins (2009).

(a) Texts

(b) Other

This course utilizes Desire2Learn (D2L), the college's adopted learning management system, to provide important additional resources. This source contains useful information to assist you in progressing successfully through the course. It is the student's responsibility to regularly monitor and review information posted on D2L. You can access D2L from the Camosun homepage (<http://camosun.bc.ca>) by clicking on Programs/Courses and then on Online Courses (D2L). If you experience any difficulties

with D2L, contact the College's Distributed Education Department (desupport@camosun.bc.ca) for assistance.

4. Course Content and Schedule

(This section can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

This is a tentative schedule of lectures. Changes may become necessary depending on progress in class.

Week	Date	Lecture Topic
1	September 6 - 9	Foundational Concepts of Pathology
2	September 12 - 16	Foundational Concepts of Pathology
3	September 19 - 23	Foundational Concepts of Pathology
4	September 26 – 30	Foundational Concepts of Pathology Cardiovascular Disorders
5	October 3 - 7 October 3 (08:30)	Cardiovascular Disorders Exam 1
6	October 10 October 11 – 14	Thanksgiving Day – College closed Cardiovascular Disorders
7	October 17 – 21	Cardiovascular Disorders
8	October 24 – 28	Endocrine Disorders
9	October 31- November 4	Endocrine Disorders
10	November 7 – 10 November 7 (08:30) November 11	Endocrine Disorders Exam 2 Remembrance Day – College closed
11	November 14 - 18	Endocrine Disorders Neurological Disorders
12	November 21 – 25	Neurological Disorders
13	November 28 – December 2	Neurological Disorders
14	December 5 – 9	Neurological Disorders
15	December 12 - 20	Final Examination

COURSE CONTENT

Foundational Concepts of Pathology

Introductory terminology (terms will continuously be added as the course progresses)

(Review cell structure and function, Chapter 4)

Cell injury

- mechanisms of injury
- vulnerability to injury
- tissue responses
 - atrophy
 - hypertrophy
 - hyperplasia
 - metaplasia
 - dysplasia
 - anaplasia

Inflammation

- acute and chronic
- clinical signs

Abnormal immune responses

(Review and understand the normal immune response)

- immunodeficiency
- hypersensitivity (Types I, II, III & IV)
- autoimmunity

Neoplasia

- benign and malignant tumors
- basic genetics of neoplasia
- invasion & metastasis
- introduction to grading and staging of tumors

Congenital and genetic disorders

(Review genetic principles from your introductory Biology course)

- congenital: vulnerability, critical period and teratogens
- genetic: chromosomal, single-gene and complex trait disorders

Fluid-electrolyte and acid-base imbalances

Review the following from year 1 anatomy and physiology courses:

fluid compartments, electrolyte composition and electrolyte functions

transcapillary exchange (very important for future class discussions, see pages 734-737)

Covered in lectures:

volume deficit
edema
3rd spacing
acidosis and alkalosis
Henderson Hasselbalch equation

Cardiovascular Disorders

(Review anatomy & physiology of the cardiovascular system, Chapter 21 and beginning of chapters 22, 23 & 25)

Disorders of blood vessels and blood pressure

atherosclerosis
peripheral arterial disease
arteriosclerotic occlusive disease

Shock

septic and anaphylactic shock (covered under foundational concepts)
cardiogenic shock (covered with congestive heart failure)
neurogenic shock (covered under neurologic disorders)
obstructive shock (see cardiac tamponade and pulmonary embolism)
hypovolemic shock (**self-study, see D2L for guidelines**)

Diseases of the heart

angina pectoris (stable, unstable and variant)
myocardial infarction (acute coronary syndrome)
cardiomyopathy (hypertrophic, dilated and restrictive)
arrhythmias
valvular disease
infectious, inflammatory and immunologic disorders
endocarditis
rheumatic heart disease
congestive heart failure

Pericardial disorders

pericarditis
cardiac tamponade

leukemia
lymphoma (**self-study, see D2L for guidelines**)

Anemia

iron deficiency
B₁₂ and folic acid deficiency
pernicious
aplastic
hemolytic
hemorrhagic
sickle cell

Endocrine Disorders

(Review chapter 40: glands, hormones, functions & regulation of secretion)

Hyposecretion and hypersecretion

Pancreas

- Diabetes mellitus (Type 1 & 2)
 - classification & etiology
 - prediabetes
 - metabolic syndrome
 - pathophysiology
 - acute complications
 - diabetic ketoacidosis (DKA)
 - hyperosmolar hyperglycemic state (HHS)
 - hypoglycemia
 - chronic complications
 - vascular damage
 - atherosclerosis, myocardial infarction, cerebrovascular accident
 - nephropathy
 - neuropathy
 - retinopathy
 - infections

Thyroid gland

- goiter
- hyperthyroidism
 - Grave's disease
 - thyrotoxicosis
- hypothyroidism
 - myxedema
 - cretinism

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Hashimoto's thyroiditis

Adrenal gland

- adrenocortical hypersecretion
 - Cushing's syndrome
 - Conn syndrome
- adrenocortical hyposecretion
 - Addison's disease

Pituitary gland

- diabetes insipidus (**self-study, see D2L for guidelines**)
- SIADH

Neurological Disorders

(Review anatomy & physiology related to the topics below from year 1 and/or chapter 48)

Degenerative Disorders
Alzheimer's disease
multiple sclerosis
Parkinson's disease (**self-study, see D2L for guidelines**)
amyotrophic lateral sclerosis
myasthenia gravis (**self-study, see D2L for guidelines**)

Neoplasia
brain tumors
tumors of supporting structures

Infections
meningitis (bacterial, viral)
encephalitis

Seizure disorders
seizure and epilepsy

Brain Injury
increased intracranial pressure
hemorrhage & hematomas

Cerebrovascular disorders
cerebrovascular accident (stroke)
ischemic
hemorrhagic
transient ischemic attack

Neurogenic shock

Inflammatory / Paralytic disorders
Guillan Barre syndrome

Congenital malformations
myelomeningocele
hydrocephalus

Genetic disorders (**self-study, see D2L for guidelines**)
Down syndrome

5. Basis of Student Assessment (Weighting)

(This section should be directly linked to the Intended Learning Outcomes.)

EVALUATION

Exam 1 (October 3 rd 08:30)	25 %
Exam 2 (November 7 th 08:30)	35 %
Comprehensive final exam (college exam period)	40 %

Note that writing all exams and submission of all completed assignments is compulsory. Even though a final course mark of 60% and above might be

achieved, if all required activities are not satisfactorily completed, an F grade may be assigned for the course.

(a) Assignments

SELF-STUDY ASSIGNMENTS

Seven topics listed in the course content involve self-study and will not be covered in lectures. These mini assignments are an important learning tool providing valuable experience in understanding, assimilating and rewriting medical information. **They are the student's responsibility and are examinable.** All required information on self-study topics can be obtained from the prescribed textbooks. Guidelines on how to approach each topic will be posted on the Desire2Learn (D2L) web resource. These assignments **must** be individual efforts. Do not copy information *verbatim* from the textbook as this is considered plagiarism. You are expected to read, understand and then summarize the information in your own words for each assignment as per the guidelines for the topic. Each self-study has to be completed and posted (**in word or pdf format only**) into the D2L dropbox by 10 AM on the appropriate closing date shown in the table below. Do not leave submission of self-studies to the last day in case you experience computer or internet problems. **Late submissions will not be accepted.** **Hard copy and emailed submissions are also not acceptable.** If you are using a Mac, convert your files to pdf before submitting them into the D2L dropbox. While marks are not allocated for these assignments, their submission will be used to monitor your progress in the course. Each assignment will be scored as either complete or incomplete under grades in D2L. Information from the assignments will be tested in the exams.

Final submission dates for self-study assignments (by 10 AM)	
Infection	September, 19 th
Hypovolemic shock	October, 4 th
Lymphoma	October, 17 th
Diabetes insipidus	October, 31 st
Parkinson's disease	November, 14 th
Myasthenia gravis	November, 21 st
Down syndrome	November 28 th

(b) Quizzes

(c) Exams

(d) Other (e.g., Attendance, Project, Group Work)

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9

85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at camosun.ca for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED