



## 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

(a)	Instructor:	Ahmed Vawda		
(b)	Office Hours:	Posted on D2L		
(c)	Location:	Ewing 236		
(d)	Phone:	(250)370-3301	Alternative Phone:	
(e)	Email:	Vawda@camosun.bc.ca		
(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

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

(b) OPTIONAL TEXTBOOK (9<sup>th</sup> edition expected mid-October)  
Study Guide for Pathophysiology, Concepts of Altered Health States. 9<sup>th</sup> edition. Lippincott Williams & Wilkins (2014).

(b) Other

### 4. Course Content and Schedule

Week	Date	Lecture Topic
1	September 2 – 5	Introduction & Foundational Concepts of Pathology
2	September 8 – 12	Foundational Concepts of Pathology
3	September 15 - 19	Foundational Concepts of Pathology
4	<b>September 22</b> September 22 – 26	<b>Assignment 1 due (by 10:00)</b> Foundational Concepts of Pathology
5	September 29 - October 3	Cardiovascular Disorders

6	October 6 – 10	Cardiovascular Disorders
7	October 13	Thanksgiving Day – College closed
	<b>October 14</b>	<b>Assignment 2 due (by 10:00)</b>
8	October 14 – 17	Cardiovascular Disorders
	<b>October 20 (08:30)</b>	<b>Midterm Exam</b>
9	October 20 – 24	Cardiovascular Disorders
10	October 27 – 31	Endocrine Disorders
11	November 3 – 7	Endocrine Disorders
	<b>November 10</b>	<b>Assignment 3 due (by 10:00)</b>
	November 11	Remembrance Day – College closed
12	November 10 - 14	Endocrine Disorders
	November 17 – 21	Neurological Disorders
13	November 24 – 28	Neurological Disorders
14	December 1 – 5	Neurological Disorders
15	<b>December 8 - 16</b>	<b>Final Examination</b>

## ***COURSE CONTENT***

### **Foundational Concepts of Pathology**

Introductory terminology (more terms will be introduced as the course progresses)

Cellular injury, adaptation & death (***review cell structure and function, Chapter 4***)

adaptations  
atrophy  
hypertrophy  
hyperplasia  
metaplasia  
dysplasia  
anaplasia  
necrosis & apoptosis

Inflammation

acute and chronic inflammation  
clinical signs of inflammation  
local signs  
types of exudates  
systemic signs  
pathogenesis of fever  
C reactive protein

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  
naming tumors  
tumor growth, invasion & metastasis  
introduction to grading and staging of tumors

cancer treatment (brief overview)

Congenital and genetic disorders (**review basic genetic principles**)

congenital disorders: vulnerability, critical period and teratogens

genetic disorders: single-gene, complex trait, mitochondrial gene and chromosomal disorders

Fluid-electrolyte and acid-base imbalances (**review fluid compartments, electrolyte composition & electrolyte functions; transcapillary exchange (very important for future class discussions, see pages 734-737)**)

dehydration (volume deficit)

edema

3<sup>rd</sup> spacing

acid-base imbalance (acidosis and alkalosis)

### Cardiovascular Disorders

**(review anatomy & physiology of the cardiovascular system, chapter 21 & beginning of chapters 22, 23 & 25)**

Disorders of blood vessels and blood pressure

atherosclerosis

peripheral arterial disease

atherosclerotic occlusive disease

Shock

hypovolemic shock (**self-study 2, see D2L for guidelines**)

septic and anaphylactic shock (covered under foundational concepts)

cardiogenic shock (covered with congestive heart failure)

neurogenic shock (covered under neurological disorders)

obstructive shock (see cardiac tamponade and pulmonary embolism)

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

lymphoma (**self-study 3, see D2L for guidelines; final submission date Sept 22<sup>nd</sup>**)

leukemia

Anemia

iron deficiency

B<sub>12</sub> 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, Type 2)

classification & etiology

prediabetes

metabolic syndrome

pathophysiology

- acute complications
  - diabetic ketoacidosis (DKA)
  - hyperosmolar hyperglycemic state (HHS)
  - hypoglycemia
- chronic complications
  - vascular damage
    - retinopathy
    - nephropathy
    - neuropathy
  - atherosclerosis, myocardial infarction, cerebrovascular accident
  - hypertension
  - infections
- diagnosis
- treatment

#### Thyroid gland

- goiter (endemic, toxic)
- hyperthyroidism
  - Grave's disease
  - thyrotoxicosis
- hypothyroidism
  - Hashimoto's thyroiditis

#### Adrenal gland

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

#### Pituitary gland

- diabetes insipidus (**self-study 4, see D2L for guidelines; final submission date Oct 14<sup>th</sup>**)
- SIADH (syndrome of inappropriate antidiuretic hormone [secretion])

### Neurological Disorders

***(review anatomy & physiology related to the topics listed below from chapter 48)***

#### Degenerative Disorders

- myasthenia gravis (**self-study 5, see D2L for guidelines; final submission date Nov 10<sup>th</sup>**)
- Alzheimer's disease
- multiple sclerosis
- amyotrophic lateral sclerosis
- Parkinson's disease (**self-study 6, see D2L for guidelines**)

#### 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

- Guillain Barré syndrome

Congenital malformations  
 myelomeningocele  
 hydrocephalus

Genetic disorders  
 Down syndrome (self-study 7, see D2L for guidelines)

**5. Basis of Student Assessment (Weighting)**

Assignments (late or non-submission is assigned 0)	15 %
Midterm Exam (October 20 <sup>th</sup> , 08:30)	40 %
Comprehensive final exam (college exam period)	45 %

**Note that writing all exams and submission of all completed assignments is compulsory.**

**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](http://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 3<sup>rd</sup> 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](http://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