



School of Arts & Science
BIOLOGY DEPARTMENT
BIOL 252
Pathophysiology for Nursing 1
Quarter 1/Fall 2009 (Sep-Dec)

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: | | | |
| (c) | Location: | Fisher 342D | | |
| (d) | Phone: | 370-3479 | 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

REQUIRED TEXTBOOK

Porth, C.M. and Matfin, G. (2008). Pathophysiology, Concepts of Altered Health States. 8th edition. Lippincott Williams & Wilkins.

OPTIONAL TEXTBOOK

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

See nursing applications course outline for other required textbooks. Some of those books will also be required for parts of the pathophysiology component of the course.

OTHER RESOURCES

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. Guidelines on self-study topics will be posted as the course unfolds. It is your responsibility to regularly monitor and review information posted on D2L. As the course progresses, you will be required to post various completed tasks on D2L. An example of this will be self-study assignments. While these activities may not be evaluated, they will be kept on record to monitor and confirm satisfactory completion of assigned tasks. You will receive login

instructions from the Registrar's Office before classes commence. You can access Desire2Learn at the following url: <http://online.camosun.ca/> or from the Camosun homepage (<http://camosun.bc.ca>) by clicking on Online Services and then on Online Courses. If you experience any difficulties with D2L, contact the College's Distributed Education Department (desupport@camosun.bc.ca).

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 8 - 11 | Foundational Concepts of Pathology |
| 2 | September 14 - 18 | Foundational Concepts of Pathology |
| 3 | September 21 - 25 | Foundational Concepts of Pathology |
| 4 | September 28 – October 2 | Cardiovascular Disorders |
| 5 | October 5 - 9 | Cardiovascular Disorders |
| | Saturday, Oct 10 (09:00–10:30) | Exam 1 |
| 6 | October 12 | Thanksgiving Day – College closed |
| | October 13 – 16 | Cardiovascular Disorders |
| 7 | October 19 – 23 | Cardiovascular Disorders |
| 8 | October 26 – 30 | Endocrine Disorders |
| 9 | November 2 – 6 | Endocrine Disorders |
| | Saturday, Nov 7 (09:00–10:30) | Exam 2 |
| 10 | November 9 – 13 | Endocrine Disorders |
| | November 11 | Remembrance Day – College closed |
| 11 | November 16 - 20 | Endocrine Disorders |
| | | Neurological Disorders |
| 12 | November 23 - 27 | Neurological Disorders |
| 13 | November 30 – December 4 | Neurological Disorders |
| 14 | December 7 - 11 | Neurological Disorders |
| 15 | December 14 - 21 | Final Examination |

5. Basis of Student Assessment (Weighting)

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

EVALUATION

| | |
|---|-----|
| Exam 1 (Saturday, October 10 th 09:00 to 10:30) | 25% |
| Exam 2 (Saturday, November 7 th 09:00 to 10:30) | 25% |
| Nursing applications assignment (details from nursing Instructor) | 15% |
| Comprehensive final exam (college exam period) | 35% |

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. (For these courses a final grade will be assigned to either the 3 rd course attempt or at the point of course completion.) |
| 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

COURSE CONTENT

Foundational Concepts of Pathology

Introductory terminology (see list of introductory terms on D2L)

Cell injury

- mechanisms of injury
- vulnerability to injury
- adaptive responses

Inflammation

- acute and chronic
- clinical signs

Abnormal immune responses

- immunodeficiency
- hypersensitivity
- autoimmunity

Neoplasia

- benign and malignant tumors
- basic genetics of neoplasia
- spread of tumors (metastasis)
- introduction to grading and staging of tumors

Congenital and genetic disorders

Fluid-electrolyte and acid-base imbalances

Review from year 1 anatomy and physiology courses:

- fluid compartments and distribution within each compartment
- electrolytes and their functions
- transcapillary exchange (very important for future class discussions)

Covered in lectures:

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

Cardiovascular Disorders

Disorders of blood vessels and pressure

- atherosclerosis
- peripheral vascular 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**)

Diseases of the heart

angina pectoris

myocardial infarction

cardiomyopathy

arrhythmias

valvular disease

infectious, inflammatory and immunologic disorders

endocarditis

rheumatic heart disease

congestive heart failure

Pericardial disorders

pericarditis

cardiac tamponade

leukemia

lymphoma (**self study**)

Anemia

iron deficiency

B₁₂ and folic acid deficiency

pernicious

aplastic

hemolytic

hemorrhagic

sickle cell

Endocrine Disorders

Pancreas

Diabetes mellitus (Type 1 & 2)

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

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

Hashimoto's thyroiditis

Adrenal gland

- adrenocortical hyperfunction
 - Cushing's syndrome
 - Conn syndrome
- adrenocortical insufficiency
 - Addison's disease

Pituitary gland

- hyperpituitarism
 - SIADH
- hypopituitarism
 - diabetes insipidus

Neurological Disorders

Degenerative Disorders

- Alzheimer's disease
- multiple sclerosis
- Parkinson's disease (**self study**)
- amyotrophic lateral sclerosis
- myasthenia gravis (**self study**)

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

- CVA (stroke)

ischemic
hemorrhagic
transient ischemic attack

Neurogenic shock

Inflammatory / Paralytic disorders

Guillan Barre syndrome

Congenital malformations (**self study**)

myelomeningocele
hydrocephalus

Genetic disorders (**self study**)

Down syndrome

**** Information on self-study topics can be found in your textbooks. Guidance on how to approach each self-study topic is posted on D2L.**