

CAMOSUN COLLEGE
Biology Department

BIOL 253 Pathophysiology for Nursing 2
Winter 2005

COURSE OUTLINE

INTRODUCTION

Biology 253 is the second half of a two-semester course for students in the second year of the Collaborative Curriculum for the Bachelor of Science in Nursing Program. The course focuses on the basic concepts of pathology that are used to define dysfunction of the major organ systems.

The course is taught jointly by faculty from Biology and Nursing. The intent is to enable students to apply and integrate the theory of pathophysiology to the clients they care for during clinical practice. Physical assessment skills, use of diagnostic test results, pharmacology and treatment regimes used by the health team will be included with each unit. It is important to note that this is an integrated course comprising both pathophysiology and nursing components.

During the course, you will obtain information from several sources including lectures, class discussions, textbooks, client profiles and clinical practice. Do not rely exclusively on any one, or only some, of these sources. Attending lectures is very strongly recommended. Relying exclusively on class notes obtained from a colleague or through other means, will generally NOT ensure success in this course. This course outline lists the various topics that will be covered. You are urged to review these topics in the text before classes and to consolidate information obtained in lectures with that in the text after each class. **Some of the topics involve self-study (indicated in the outline) and will not be covered in lectures. Self-study topics are also examinable.**

It is essential that students have a good understanding of normal physiology and some of the associated anatomy of the organ systems being covered as this forms the basis for studying pathophysiology. There will be no time to review or re-teach this in class. If necessary, you must review this information on your own.

Intended Learning Outcomes

On successful completion of this course, you should be able to:

- recognize and explain how and why normal physiology is altered in the pathogenesis of specific diseases
- correlate disease with treatment and nursing management in your patients
- explain in simple terms the major features of a patient's disease to the patient.

Instructors

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Required Materials

Black, J.M. and Hawks, J.H. (2005). *Medical-Surgical Nursing: Clinical Management for Positive Outcomes* (7th ed.). Elsevier Saunders, St Louis.

Eisenhauer, L., Nicols, L., Spencer, R., Bergan F., (1998). *Clinical Pharmacology and Nursing Management* (5th ed.). Lippincott, New York.

Estes, M. (2002). *Health Assessment and Physical Examination*. (2nd ed) Delmar, New York.

Pagana, K. & Pagana, J. (2001). *Diagnostic and Laboratory Test Reference* (5th ed.). Mosby, New York.

Pillitteri, A. (2003). *Maternal & Child Health Nursing. Care of the Childbearing and Childrearing Family*. (4th ed) Lippincott, Philadelphia.

Optional

Porth, C.M. (2002). *Pathophysiology. Concepts of Altered Health States* (6th ed). Lippincott, Philadelphia.

Porth, C.M. (2004). *Essentials of Pathophysiology. Concepts of Altered Health States*. Lippincott, Philadelphia.

Evaluation

Mid-term exam (March 7 th)	35%
Client Profile / Class Presentation	20%
Comprehensive final exam (college exam period)	45%

Tests and exams will integrate both the pathology and nursing components of the course. However, the OVERALL weighting will reflect the disparity in number of lectures for each component. Examinations must be written at the time specified, unless there is a medical emergency that prevents you from doing so. **You must notify one of the Instructors before the time of the examination and submit a doctor's note that indicates the doctor's evaluation that you were unable to write. Your attention is specifically drawn to the examination policies in the College calendar (page 39) which state that exams must be written at the scheduled time except in cases of emergencies. Exams will NOT be deferred for holidays or scheduled flights.**

Although the pass mark for Biology 253 is 60%, in order to continue in the nursing program, you must "achieve a cumulative GPA of at least 3.5 on a 9.0 scale". This translates to an overall grade of C+ and must be considered an absolute minimum.

Letter Grades

The following percentage conversion to letter grade will be used:

A+ = 95 - 100%	B = 75 - 79%	D = 50 - 59%
A = 90 - 94%	B- = 70 - 74%	F = 0.0 - 49%
A- = 85 - 89%	C+ = 65 - 69%	
B+ = 80 - 84%	C = 60 - 64%	

As a learning and evaluation tool, client profiles and class presentations will be used to link the pathology and nursing components of the course. There will be one client profile and one class presentation during the term contributing 20% of the total course mark. See the information below for details on client profiles and topic presentations.

You are encouraged to consult the instructors if you require assistance or experience difficulty with the course. From time to time course material may be made available to you via the reserve section of the College library or the bulletin board.

The following services are also available to you.

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, Registrar's Office or the College web site at <http://www.camosun.bc.ca>

Your attention is drawn to the academic conduct policy of the College

ACADEMIC CONDUCT POLICY

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html

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

Week	Date	Lecture Topic
1	January 10 – 14	Respiratory Disorders (continued) Neurological Disorders
2	January 17– 21	Neurological Disorders
3	January 24 – 28	Neurological Disorders
4	January 31 – February 4	Neurological Disorders Gastrointestinal disorders
5	February 7 – 11 February 10 - 11	Gastrointestinal disorders Reading Break
6	February 14 - 18	Gastrointestinal disorders Client profile # 1 due
7	February 21 – 25	Gastrointestinal disorders
8	February 28 – March 4	Musculoskeletal disorders
9	March 7 – 11 March 7	Musculoskeletal disorders Midterm
10	March 14 – 18	Integumentary disorders
11	March 21 – 24 March 25	Urinary / Genital disorders Easter
12	March 28 March 29 – April 1	Easter Urinary / Genital disorders Client profile # 2 due
13	April 4 – 8	Urinary / Genital disorders
14	April 11 – 15	Urinary / Genital disorders
15 / 16	April 18 – 26	Final Examination

COURSE OUTLINE

RESPIRATORY DISORDERS (continued)

- Cystic fibrosis
- Influenza
- Pneumonia

NEUROLOGICAL DISORDERS

- Cellular Injury
 - Alzheimer's disease
 - Multiple sclerosis
 - Parkinson's disease (**self study**, Black, page 2170)
 - Amyotrophic lateral sclerosis (ALS)
 - Myasthenia gravis (**self study**, Black, page 2182)
- Neoplasia
 - Tumors - Brain
 - Supporting structures
 - Metastatic
- Infection
 - Brain abscess
 - Encephalitis, meningitis (bacterial, viral, parasitic, fungal)
- Disorders of Structure and Function
 - Migraine (**self study**, Black, page 2102)
 - Seizure
 - Intracranial hemorrhage - subdural, epidural, intracerebral
 - Increased ICP
 - Spinal injury (**nursing applications**)
 - Shock
 - CVA (brain attack / stroke)
 - Ischemic
 - Hemorrhagic
 - Transient ischemic attacks
 - Traumatic Brain injury
- Immune Response
 - Guillan Barre
- Congenital Malformations (**self study**)
 - Myelomeningocele (Pillitteri, page 1158)
 - Hydrocephalus (Pillitteri, page 1150)
- Genetic (**self study**, Pillitteri, page 1171)
 - Down's syndrome

GASTROINTESTINAL DISORDERS

- Inflammatory disorders
 - Appendicitis
 - Peritonitis
 - Inflammatory bowel disease
 - Irritable bowel syndrome
 - Diverticular disease

Hiatus / Inguinal hernia
Peptic ulcer
Congenital disorders
 Cleft lip and palate
 Pyloric stenosis
 Gastro-esophageal reflux
 Tracheo-esophageal fistula
 Hirschprung's disease
 Intussusception
Cancer
 Esophageal (**self-study**, Black page 736)
 Stomach (**self-study**, Black page 760)
 Colorectal (**self-study**, Black page 830)
 Liver
 Pancreas
Hepatitis
Cirrhosis
 Portal hypertension, Ascites
Cholelithiasis
Pancreatitis

MUSCULOSKELETAL DISORDERS

Fractures
Osteoporosis
Gout
Osteoarthritis
Rheumatoid arthritis
Systemic lupus erythematosus (**self-study**, Black page 2352)
Muscular dystrophy
Repetitive motion injuries
Bone cancer

INTEGUMENTARY DISORDERS

Eczema and Dermatitis (**self-study**, Black page 1396)
Cellulitis
Psoriasis
Skin cancer

URINARY AND GENITAL DISORDERS

Male
 Hydrocele, spermatocele
 Benign prostatic hyperplasia (BPH)
 Prostate cancer
Female
 Menstrual disorders
 Pelvic inflammatory disease (PID)
 Cancers
 Breast
 Ovary
 Uterus
 Cervix

Renal

Acute renal failure

Chronic renal failure

Pyelonephritis

Glomerulonephritis

Urinary tract infection (UTI)

Renal calculi

Urinary incontinence

Cancers (**self-study**)

 Renal (Black, page 922)

 Bladder (Black, page 866)

Hypospadias

Vesicoureteric reflux (**self-study**, Pillitteri, page 1414)

Sexually transmitted diseases (STDs)

Genital herpes

Genital warts

Syphilis

Chlamydia

Gonorrhea

AIDS

Nursing Applications

As a learning and evaluation tool, client profile and presentations will be used to link the pathology and nursing components of the course. There will be one client profile and a group presentation during the term contributing 10% each to the total course mark. See the information below for details on client profiles and group presentations.

INDIVIDUAL CLIENT PROFILES

Client profiles provide a learning opportunity to relate theory that you are learning in the classroom to the conditions that you are observing in the client population on your nursing practice area in hospital.

Format: APA Guidelines must be utilized (this includes spelling, grammar and references).
Use only Approved Abbreviations from the VIHA Recording Manual
Charts, tables may be located in the body of the text or can be added as appendices as per APA Guidelines.
Must be no longer than 8-10 pages (more pages will not be read).
Remove all information that would jeopardize client confidentiality.
(Use a pseudonym only.)

What to Include:

Introduction:

Pseudonym, age, gender, allergies, advanced directives.

Admission diagnosis and symptoms.

Client understanding of the reason for admission.

Discharge diagnosis.

Length of stay (in days).

Day (day 1, 2, 3, etc.) of diagnostic procedures (on the unit and off), laboratory tests, treatment procedures, OR's, etc.

Brief health history that relates to the present admission.

Social history as it relates to the present admission (e.g., person in highly stressful occupation admitted with myocardial infarction, person with IV substance use issues admitted with sepsis).

Members of the health care team involved in the care of the patient (by occupation, not name).

Body:

Description of the client's condition/s in terms as learned in pathophysiology. (Focus on one or two of the client's most significant conditions. Other conditions must be listed and a statement made indicating how these relate to the condition/s being discussed.)

"Patho Links" – Explore the relationships between:

- presenting diagnoses (e.g., diabetes and below knee amputation)
- what the diagnostic and laboratory tests tell us about the client's health status
- what impact medications and treatments have on the client's health status (list the medications and describe their classification and modes of action as they relate to this client).

Treatment Implications for the Client

Describe rationale for these treatment and medication choices from the pathophysiological perspective.

- Are these interventions effective or not?
- What evidence is there of this?

Nursing Implications

- What are the nursing implications in the care of this client? Why? Justify your decisions. What nursing care planning is indicated for optimal care of this client? Why? Relate the above to the pathology occurring for this client as evidenced by signs and symptoms, laboratory results and results of diagnostic procedures.

Assessment-----Planning-----Intervention-----Evaluation

Conclusion:

Considering your findings above, are the right things being done for your client? What do you think the outcomes will be for this client? What role do you see yourself having as a client advocate for “best practice” care for this client?

GROUP PRESENTATION CRITERIA

To provide the opportunity for students to collaborate in the research and presentation of information about health challenges and how the “patho links” relate to the care of the client.

Presentation should include:

- **A concise description of the health challenge, specifically a summary of the etiology, pathophysiology, and clinical manifestations.**
- An exploration of the relationships between:
 - what the diagnostics and laboratory tests tell us about the health status of the client
 - what impact the medications and treatments have on the client’s health status
 - what the rationale for these medication and treatment choices is from the pathophysiological perspective
- Nursing Implications:
 - Describe the **assessment** data required in order to **plan** optimal care for the client with this health challenge.
 - What **nursing interventions** would be appropriate in the care of this client?
 - How would you **evaluate** the effectiveness of the interventions?

Preparation of the Presentation:

Each group will arrange to meet with the instructor to discuss your outline, current nursing journal article, reference list (APA guidelines), and plan for the presentation. This meeting provides an opportunity for the instructor to support your research and learning. After consultation with the instructor, your outline must be emailed to your

colleagues one week prior to your presentation (stufac2-1@camosun.bc.ca). Students are encouraged to incorporate creativity in their presentation.

The Presentation Should:

- Demonstrate evidence of participation of all group members in the planning and execution of the presentation.
- The presentation must be delivered within the **thirty-minute time frame**.

Instructors will provide a case study to consolidate information presented for last 20 minutes of each class

Due dates for Assignments:

Group Topic Presentation: (date as chosen from topic list)

Individual Client Profile: First half of the class: week of February 14th

Second half of the class: week of March 28th

There will be a 5% per day penalty for papers that are submitted after the due date.

Criteria for Marks Profile and Presentation: This information will be provided during Nursing Applications first class. Do not hesitate to make an appointment with us to discuss questions about these assignments.