Course Outline

A POLYTECHNIC INSTITUTION

School of Health Sciences
Program: Bachelor of Technology in Nursing
Option:

NURS 1060
Pharmacology

Start Date:	August 19, 2002		**End Date:**	December 13, 2002	
Total Hours:	34	**Total Weeks:** 17	**Term/Level:**	4	**Course Credits:** 2
Hours/Week:	2	**Lecture:** **Lab:**	**Other:**	Online Learning with Online Tutoring	

Prerequisites

Course No.	Course Name
NURS 2000	Applied Nursing Science 2
BHSC 2203	Physiology and Pathophysiology 2
NURS 2030	Nursing Practicum 2

NURS 1060 is a Prerequisite for:

Course No.	Course Name
NURS 4530	Nursing Practicum 5
NURS 7100	Community Nursing
NURS 7030	Nursing Practicum 5

■ Course Description

This course will present important concepts and principles related to pharmacology. The course will assist students to relate drug action(s) to human physiology and/or pathophysiology and to anticipate effects based on this understanding. Interventions related to monitoring client response to drugs will be emphasized. The role of the health care professional in health promotion and client teaching will be discussed. Drug classifications will be presented to assist the learner to appreciate the scope of pharmacological treatment and to sort, categorize and retrieve information about selected drugs.

This course also introduces students to online learning and assists students to improve computer literacy skills required for clinical practice.

■ Detailed Course Description

NURS 1060 facilitates the development of a pharmacology knowledge base and an understanding of the legal and ethical responsibilities related to the administration of medications. The course emphasizes the need to continually update pharmacology knowledge in order to practice safely.

■ Evaluation

Midterm Exam *(Multiple Choice Questions & Problem-based Exercise)*	35%
Final Exam *(Multiple Choice Questions & Problem-based Exercise)*	40%
Participation/Case Work	25%
TOTAL	100%

To successfully complete this course, the student must:

1. participate in weekly online case discussions.
2. participate in biweekly online seminars.
3. summarize group work as assigned.
4. complete all assignments.
5. achieve a combined average of 50% in exams.
6. achieve a final mark of 50%.

Students who do not meet the participation requirement or who do not comply with other BCIT Policies will receive an Unsatisfactory standing and will therefore not pass this course.

■ Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. apply knowledge of pharmacokinetics and pharmacodynamics to selected drug categories.
2. use a drug classification system as an information source for selected drugs.
3. relate specific drug action(s) to human physiology and/or pathophysiology to predict therapeutic and adverse effects.
4. explain assessments required when administering medications and monitoring patients for therapeutic drug effects, adverse effects, toxicity and drug interactions.
5. discuss nursing responsibilities related to health promotion and patient teaching.
6. discuss a variety of legal and ethical nursing issues related to pharmacology.
7. apply selected pharmacological concepts and principles to patient situations.
8. demonstrate online learning skills including accessing course materials and resources, communicating via e-mail, bulletin board discussion groups, audio and/or text chat seminars and taking exams.

■ Process Threads

Professionalism
Students develop a knowledge base regarding complex health problems and pharmacology. They anticipate and prepare for possible patient care problems on acute nursing units. Students apply an ethical decision-making framework to a drug-related dilemma. They explore cases and respond with sound clinical judgment and advocate for the patient. Students explore the curative/restorative aspects of pharmacology.

Communication
Students improve computer literacy by using Internet course material and resources and by communicating by e-mail and asynchronous and synchronous discussion groups. Students thoughtfully discuss case questions via bulletin board. Students use word processing in compiling group assignments. Students facilitate group functioning to achieve course goals.

Systematic Inquiry
Students use questioning and feedback to help them think critically. Students compare their own work to work done by others and take action to improve own clinical decision making. Students develop independent clinical reasoning. Students develop creative strategies when addressing problems by considering alternative ways of viewing a situation.

Professional Growth
Students focus on facilitating group learning by sharing accurate, relevant information in a professional manner. Students assume responsibility for learning and becoming self-starters. Students value continually updating pharmacology knowledge. Students are responsible and accountable for their actions.

Creative Leadership
Students use facilitation skills within groups so they function productively. They demonstrate credibility, accountability, assertiveness, problem solving, judgment and initiative within groups. Students propose creative ways of solving problems related to drug therapy.

Technical Skill
In the case studies they are studying, students discuss rationales and nursing responsibilities related to administration of medications and to the assessment of patients who receive the medications. Students calculate safe doses, calculate infusion rates, problem solve how to deal with incompatibility issues and propose age-related adaptations in relation to drug therapy.

■ Verification

I verify that the content of this course outline is current.

Authoring Instructor — August 6, 2002 — Date

I verify that this course outline has been reviewed.

Program Head/Chief Instructor — August 6, 2002 — Date

I verify that this course outline complies with BCIT policy.

Dean/Associate Dean — AUG 0 6 2002 — Date

■ Instructor(s)

Diane Belyk	Office Location:	SE12-418	Office Phone:	604-432-8910
	Office Hrs.:	Mondays 1530–1730	E-mail Address:	Course e-mail or diane_belyk@bcit.ca

■ Learning Resources

Required:

1. Gutierrez, K. (1999). *Pharmacotherapeutics: Clinical decision making in nursing*. Toronto: W.B. Saunders.
2. Canadian Nurses Association. (1997). *Code of ethics for registered nurses*. Ottawa: Author. (Available online)
3. Registered Nurses Association of British Columbia. (1998). *Standards for nursing practice in British Columbia*. Vancouver: Author. (Available online)
4. A pharmacology handbook is required. Deglin, J., & Vallerand, A. (2000). *Davis's drug guide for nurses* (7th ed.) Philadelphia: F.A. Davis is strongly recommended.
5. A medical-surgical text is required.
6. A laboratory and diagnostic tests handbook is required.
7. Headphones/speaker and microphone.

Recommended:

■ Information for Students

(*Information below can be adapted and supplemented as necessary.*)

Assignments: Late assignments, lab reports or projects will **not** be accepted for marking. Assignments must be done on an individual basis unless otherwise specified by the instructor.

Makeup Tests, Exams or Quizzes: There will be **no** makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for **documented** medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor **immediately**.

Ethics: BCIT assumes that all students attending the Institute will follow a high standard of ethics. Incidents of cheating or plagiarism may, therefore, result in a grade of zero for the assignment, quiz, test, exam, or project for all parties involved and/or expulsion from the course.

Attendance: The attendance policy as outlined in the current BCIT Calendar will be enforced. Attendance will be based on weekly online discussion postings and biweekly seminars.

Illness: A doctor's note is required for any illness causing you to miss assignments, quizzes, tests, projects, or exam. At the discretion of the instructor, you may complete the work missed or have the work prorated. (See Student Medical Certificate form.)

Attempts: Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from the appropriate program.

Course Outline Changes: The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced in class.

■ Information for Students (cont'd.)

The following BCIT Policies apply to this course:

Policy #5013 Course Outline
Policy #5250 Cheating and Plagiarism
Policy #3501 Responsible Use of Technology
Policy #5251 Student Conduct
Policy #5410 Evaluation of Students
Policy #5201 Attendance

Online learning strategies will be used to assist the learner to develop their knowledge of pharmacology and related legal and ethical issues. Concepts and principles of pharmacology will be explored using patient case discussions, accessing databases, instructor consultation and small group seminars.

The course will commence with an orientation to online learning. The student will be expected to demonstrate online learning skills including accessing resources and communicating via e-mail, asynchronous and synchronous audio/text chat conferencing and bulletin board discussions prior to working on patient cases.

Students will participate in ongoing evaluation of the course. Students are welcome to provide evaluative comments throughout the course. A Course Evaluation Survey will be completed at the end of the term.

■ Examination Details

Midterm Exam (Online) **35% of Final Mark**

(Multiple Choice Questions & Problem-based Exercise)

The Midterm Exam is a 2.5 hour open-book exam that includes multiple choice questions and a problem-based patient case exercise. The exam is worth 70 marks and will include course content from Modules 1 to 8.

Multiple Choice Questions: 40 marks
Problem-based Exercise: 30 marks

In Part 1 of the problem-based exercise, the student will be presented with initial information on the patient case. The student must **explain** at least five **pharmacological** issues and/or concerns related to this case. In Part 2 of the problem-based exercise, the student will be provided with additional information on the patient case. The student will then **list** additional issues and concerns and **explain the specific actions** they will take to provide safe and effective drug therapy for this patient. The patient case includes **key issues and concerns** that must be addressed to receive full marks.

Marks will be distributed as follows:

Marks	
10	Part 1 — issues or concerns
20	Part 2 — specific actions for safe/effective therapy
30	**Total**

■ Examination Details (cont'd)

Final Exam (Online) **40% of Final Mark**

(Multiple Choice Questions & Problem-based Exercise)

The Final Exam is a 2.5 hour open-book exam that will focus on course content in Modules 9 to 16.

Multiple Choice Questions:	40 marks
Problem-based Exercise:	45 marks

In the problem-based exercise, the student will be presented with a patient case. For Part 1 of the problem-based exercise, the student must **list** at least five **pharmacological** issues and/or concerns related to the patient's at-home and/or pre-operative drug therapy and provide an **explanation** of how these issues or concerns **relate to the patient**. For Part 2 of the problem-based exercise, the student will identify issues or concerns related to the patient's current in-hospital drug therapy and anticipated discharge. For each issue or concern, the student will describe **appropriate actions or nursing intervention(s) and explain the rationale for these actions/ interventions**. The patient case includes **key issues and concerns** that must be addressed to receive full marks.

Marks will be distributed as follows:

Marks	
10	Part 1 — issues and relationship to patient
35	Part 2 — issues, interventions and rationale
45	**Total**

Students must achieve a combined average of 50% on these exams.

Please note: Open book permits the use of the course textbook and drug handbook only during the exams. Access to any other resource such as personal notes or online resources is strictly prohibited.

■ Assignment Details

25% of Final Mark

The assignments in this course involve weekly patient case discussions and biweekly online seminars. Student will be evaluated on the quality of their work, reporting skills, communication among group members and instructor and word processing editing skills.

Students need to access the course at minimum, on a weekly basis. Assignments must meet Level 4 requirement for content depth, accuracy and thoroughness. Student's work must reflect application of theory to practice situations.

As assigned, students must assume reporting responsibilities for their group and post assignments on time, in the correct location, and in the correct format. Students must participate in biweekly online seminars.

The online audio/chat conferencing seminars are scheduled for a maximum of one hour every two weeks throughout the term. These seminars are designed to provide students an opportunity to engage in dialogue to clarify difficult concepts, discuss patient case issues and to explore pharmacological concepts and principles within the context of their practicum experiences.

Marks will be assigned as follows:

15%	Case work
5%	Seminar participation
5%	Group summaries
25%	TOTAL

Please note: Further details on evaluation criteria is available online.

Schedule

Week Number	Material Covered	Reference/Reading (Chapters/Units from K. Gutierrez text)	Assignment and Due Date
1	**Introduction to Course — BCIT Computer Lab** **Introduction to Online Learning** • Text-based communication technologies	**NURS 1060 Student Orientation Manual Module – Orientation to NURS 1060** (online)	Practice online skills: (Monday) • Access course • Tech Tutorial • Read course outline and orientation module • Access course content modules • Read and respond to instructor e-mail • Read Discussion message – student profiles • Post own student profile by Monday of Week 2
2	**Introduction to Online Learning** • Audio/chat conferencing technologies and biweekly seminars **Module 1** Drug Classifications, Pharmacokinetics and Pharmacodynamics	Chapter 1: The history of pharmacology, 2–4; Sources of drug information, 16–18. Chapter 4: Pharmaceutics and pharmacokinetics, 41–58. Chapter 5: Pharmacodynamics, 60–74.	Practice audio-conferencing (Monday) Complete the following by Monday Week 3. • Read Module 1 and complete readings • Access references • Post drug information under Module 1 Class topic • Complete self-test
3	**Module 2** Geriatric Pharmacotherapeutics **Module 3** Renal Drugs • Diuretics Introduction to Client Case Learning Case — Hypertension	Chapter 8: Geriatric pharmacotherapeutics, 105–117. Chapter 39: Diuretic drugs, 822–842.	Required activities: • Check e-mail for messages • Case Discussion Questions – assign questions to group members and post answers to Module 3 Group Discussion topic by Monday Week 4 • Check calendar for group reporting skills – post mini-summary in Module 3 Class Discussion topic

Week Number	Material Covered	Reference/Reading (Chapters/Units from K. Gutierrez text)	Assignment and Due Date
4	**Module 4** Autonomic Nervous System Drugs • Adrenergic Agonists and Blockers • Cholinergic Agonists and Blockers Auto's Exercise	Unit II: Drugs influencing the autonomic nervous system, 166–171. Chapter 11: Sympathetic nervous system drugs, 172–189. Chapter 13: Parasympathetic nervous system drugs, 203 Figure 13-2; 204 Table 13-1; 216–217.	Required activities: Audio/chat seminar as scheduled. • Check your e-mail for instructor feedback on your online skills. • Review your online skills and request instructor help as needed. • Access "Auto's" Quiz under the Quiz icon on Home page or from Auto's Tutorial.
5	**Module 5** Cardiovascular Drugs • Inotropic Drugs – Cardiac Glycosides • Antianginal Drugs • Antihypertensive Drugs Case — Hypertension	Chapter 31: Inotropic drugs, 656–673. Chapter 32: Antianginal drugs, 675–683; 685–693. Chapter 34: Antihypertensive drugs, 726–737; 741–753.	Required activities: • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.
6	**Module 6** Pediatric Pharmacotherapeutics **Module 7** Antibiotic Drugs • Sulfonamides, Penicillins, Cephalosporins, Aminoglycosides and Fluoroquinolones • Drug Resistance Case — Ruptured Appendix	Chapter 7: Pediatric pharmacotherapeutics, 93–104. Chapter 24: Antibiotic drugs, 457–476; 481–491.	Required activities: Audio/chat seminar as scheduled. • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned. **Reminder – Practice exams are available online.**

Week Number	Material Covered	Reference/Reading (Chapters/Units from K. Gutierrez text)	Assignment and Due Date
7	**Module 8** Central Nervous System – Part 1 • Opioid Analgesics • Non-steroidal Anti-inflammatory and Other Analgesics/Antipyretics • Narcotic Control Act and Regulations • Equianalgesia Case — Ruptured Appendix and Pain Management	Unit III: Drugs influencing the central nervous system, 222–225. Chapter 14: Opioid analgesics and related drugs, 226–247. Chapter 15: Non-steroidal anti-inflammatory, disease modifying antirheumatic and related drugs, 248–259; 264–275. Chapter 1: Canadian drug legislation, 12–13.	Required activities: • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.
8	**Review**	Modules 1–8	Audio/chat seminar as scheduled.
9	**MIDTERM EXAM — 2.5 hours** **Modules 1 to 8** • Multiple Choice Questions • Problem-based Exercise		**Exam written online in assigned BCIT computer lab**
10	**Module 9** Central Nervous System – Part 2 • Anticonvulsants Case — Epilepsy	Chapter 22: Anticonvulsants, 401–421. Chapter 9: Community pharmacotherapeutics; Patient education, 131–132.	Required activities:. • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned. • Review exam results.
11	**Module 10** Central Nervous System Agents – Part 3 • Antidepressants and Antipsychotics Case 1 — Epilepsy and schizophrenia	Chapter 18: Antidepressant and antimanic drugs, 329–347. Chapter 19: Antipsychotic drugs, 358–370.	Required activities: Audio/chat seminar as scheduled. • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.

Week Number	Material Covered	Reference/Reading (Chapters/Units from K. Gutierrez text)	Assignment and Due Date
12	**Module 11** Insulins and Oral Hypoglycemic Drugs Case — Type 2 Diabetes — HHNK	Chapter 57: Intravenous therapy, 1190–1197. Chapter 58: Vitamins and minerals, 1220. Refer to drug handbook for more information on administering potassium intravenously. Chapter 49: Pancreatic drugs, 1026–1050.	Required activities: • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.
13	**Module 12** Respiratory Drugs • Beta Agonists, Anticholinergics, Corticosteroids, Xanthine Derivatives Case – Asthma and Type 2 Diabetes	Chapter 46: Antiasthmatic and bronchodilator drugs, 966–991. Chapter 52: Adrenal cortex drugs and inhibitors, 1091–1099; 1104–1109.	Required activities: Audio/chat seminar as scheduled. • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.
14	**Module 13** Blood Formation and Coagulation • Anticoagulants and Anticoagulant Antagonists • Antianemia Drugs Case — Deep Vein Thrombosis	Chapter 36: Anticoagulant drugs, 774–788. Chapter 41: Antianemics, 871–877.	Required activities: • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.
15	**Module 14** Antineoplastic Drugs and Related Topics • Handling Cytotoxic and Hazardous Drugs • Administration Guidelines • Use of Antiemetics Case — Breast Cancer	Chapter 30: Antineoplastic drugs, 627–640; 646–653. BCCA Cancer Therapy Manual available online. Chapter 44: Antiemetic drugs, 934–951.	Required activities: • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. • Reporter – summarize group answers as assigned.

Week Number	Material Covered	Reference/Reading (Chapters/Units from K. Gutierrez text)	Assignment and Due Date
16	**Module 15** Complementary and Adjunctive Therapies Case — Breast Cancer and Herbal Remedies	Chapter 60: Complementary and adjunctive therapies, 1254–1271. *Herbal remedies information can also be obtained from local pharmacies, health food stores.*	Required activities: Audio/chat seminar as scheduled. • Case Discussion Questions – assign questions to group members and post answers by deadline set by group reporter. **Please complete Course Evaluation by clicking on Quiz icon.**
17	**FINAL EXAM — 2.5 hours** **Modules 9 to 15**		**Date and Room to be announced.**