BCIT®

Course Outline

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

NURS 1060
Pharmacology

Start Date: January, 2009 **End Date:** May, 2009

Total Hours:34 **Total Weeks:** 17 **Term/Level:** 3 **Course Credits:** 2

Hours/Week: 2 **Lecture:** N/A **Lab:** N/A **Other: Online Learning**

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 patient response to drugs will be emphasized. The role of the health care professional in health promotion and patient 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)*	40%	To successfully complete this course, the student must:
Final Exam *(Multiple Choice Questions)*	40%	1. participate in weekly online case discussions. 2. participate in online seminars. 3. summarize group work as assigned.
Case Work	20%	4. complete all assignments including math exam
TOTAL	100%	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 and taking exams.

Verification

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

Authoring Instructor — Date: Dec 18/08

I verify that this course outline has been reviewed.

Program Head/Chief Instructor — Date: Dec 18/08

I verify that this course outline complies with BCIT policy.

Dean/Associate Dean — Date: January 13, 2009

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.

Instructor(s)

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Learning Resources

Required:

1. Aschenbrenner, D.S., Cleveland, L.W., & Venable, S.J. (2002). *Drug Therapy in Nursing.* New York: Lippincott.
2. Canadian Nurses Association. (2002). *Code of ethics for registered nurses.* Ottawa: Author. (Available online)
3. Registered Nurses Association of British Columbia. (2003). *Standards for registered nursing practice in British Columbia.* Vancouver: Author. (Available online)
4. A pharmacology handbook is required. Deglin, J., & Vallerand, A. (2002). *Davis's drug guide for nurses* (8th 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. CRNBC Practice Support Medications Document Available on-line

Recommended:

CRNBC Medication Administration Guidelines available online WebCT or CRNBC

Information for Students

(Information below can be adapted and supplemented as necessary.)
The following statements are in accordance with the BCIT Student Regulations Policy 5002. To review the full policy, please refer to: http://www.bcit.ca/files/pdf/policies/5002.pdf.

Attendance/Illness: In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with his/her instructor or Program Head or Chief Instructor, indicating the reason for the absence. After an illness of three or more consecutive days, students must arrange to have a BCIT medical certificate sent to the department. Excessive absence may result in failure or immediate withdrawal from the course or program.

Cheating, Fabrication, Plagiarism, and/or Dishonesty:

First Offense: Any student in the School of Health Sciences involved in an initial act of academic misconduct — **cheating, fabrication, plagiarism,** and/or **dishonesty** will receive a Zero (0) or Unsatisfactory (U) on the particular assignment and may receive a Zero (0) or Unsatisfactory (U) in the course, at the discretion of the Associate Dean.

Second Offense: Any student in the School of Health Sciences involved in a second act of academic misconduct **cheating, fabrication, plagiarism,** and/or **dishonesty** will receive a Zero (0) or Unsatisfactory (U) on the

particular assignment and may receive a Zero (0) or Unsatisfactory (U) in the course, and the Associate Dean will recommend to the BCIT Vice-President, Education and/or President, that the student be expelled from the program.

Attempts:
BCIT Nursing Program Student Guidelines, Policies and Procedures which are located online at http://www.bcit.ca/files/health/nursing/pdf/nursing_student_policies.pdf state: "Applicants who have any combination of two instances of withdrawal or failure in a Nursing Theory course will be readmitted to the program with written permission from the Associate Dean, who will detail any special considerations. Applicants who have any combination of two instances of withdrawal or failure in any Nursing Practicum course(s) for academic or performance reasons, will not be readmitted to the program."

Accommodation: Any student who may require accommodation from BCIT because of a physical or mental disability should refer to BCIT's Policy on Accommodation for Students with Disabilities (Policy #4501), and contact BCIT's Disability Resource Centre (SW1–2300, 604-451-6963) at the earliest possible time. Requests for accommodation must be made to the Disability Resource Centre, and should not be made to a course instructor or Program area.

Any student who needs special assistance in the event of a medical emergency or building evacuation (either because of a disability or for any other reason) should also promptly inform their course instructor(s) and the Disability Resource Centre of their personal circumstances.

Course Outline Changes:

1. Course delivery and evaluation methods will be discussed during the first week of the class.
2. Clinical techniques will be practiced during laboratory periods and tested at specific times on the class schedule. These are noted on the calendar on Web CT.
3. Unforeseeable circumstances may necessitate the alteration of course content, sequencing, timing or evaluation. As much as possible, students will be given adequate notice of such changes.

Assignment Details

- All assignments must be completed to pass the course.
- Students must participate at least weekly in on-line discussion forums.
- All quizzes/self-test must be completed on-line.
- Take home math exam must completed to pass the course.
- Students must present drug research using the template provided.

Learning Process Threads

Professionalism: is a process that evolves throughout professional life as nurses make the client the primary focus of nursing and commit to providing nursing service in the public interest (*Bachelor of Science in Nursing Curriculum Philosophy*, 2006). Students develop professionalism by actively engaging in learning partnership with nursing students and nursing instructors, and they commit to using reasoning and reflection to develop professional nursing attitudes, judgments, knowledge, and skills.

Students commit to honesty, integrity, responsibility, accountability, and moral commitment consistent with the Canadian Nurses Association *Code of Ethics for Registered Nurses* (2002) as they develop optimism, comfort with uncertainty, and passion for nursing in this theory course. Students develop their ability to practice professionally by continuing to develop an understanding of the professional nurses' role. They begin to analyze data and develop care plans. They pursue shared meaning with individuals and families to establish partnerships. They understand healthy development in families and nurse to support and facilitate this process. They begin to consider the impact of health and illness on the family and the influence of family interactions on health and illness. They understand nursing in the context of family. They evaluate their care and incorporate a code of ethics consistent with professional practice.

Communication: is a dynamic process by which embodied, verbal, written, emotional, and spiritual messages are exchanged (McMaster University, 1993). Students develop professional communication by establishing shared meaning and partnership with patients within the context of their families, and developing partnership with members of the health care team including other nursing students. They also word process assignments. Students dialogue with colleagues and teachers in the process of learning. With increasing independence, students establish relationships with individuals based on shared meaning and incorporate this into their assessments. They utilize effective communication skills and evaluate the impact of these interactions on the family. With assistance, students document and report patient assessments and nursing care. Students teach using the principles of teaching and learning.

Systematic Inquiry: involves the processes of critical thinking, decision making, and research. Students access course materials, academic literature, and online resources for research information and course work. To develop critical thinking, students begin to challenge assumptions, consider the importance of context, imagine alternative perspectives, and begin to be reflectively skeptical (Brookfield, 1987) when considering the health experience. Students are increasingly independent with critical thinking and use a variety of sources of knowing to guide care. They reflect on their competencies related to nursing knowledge, skills, attitudes, and judgment. Students appreciate alternate perspectives of nursing practice and explore their relevance and relationship to care.

Professional Growth: is a process of self-inquiry and self-discovery that facilitates learning. Students are committed to professional growth. They evaluate their performance, assess learning gaps, reflect on these gaps and why they might exist, manage information to search for learning opportunities, think critically about learning options, and then critically appraise the consequences of the learning options implemented. Students have self-discipline, initiative, commitment to nursing, and passion for nursing practice to engage with nursing students to enhance their professional growth. Students demonstrate increasing independence in thinking about and reflecting on their thinking. Students assume responsibility and accountability for professional growth in this course.

Students take responsibility for their learning. They consult or interact with a variety of health professionals. They reflect on their experiences. They recognize their limitations and seek assistance. They value discussions of their performance and self-evaluate and act on their learning needs. They share knowledge and experiences with colleagues and take responsibility for the debriefing sessions. They demonstrate responsibility for attaining and maintaining a safe level of skill performance. Also, they are responsible and accountable for their actions and are becoming committed to professional growth.

Creative Leadership: is a process that evolves through a nurse's professional life. Students continue to develop creative leadership that enhances and supports the creative potential within followers by nourishing a common vision and focusing activity towards the common goal. Students use self-awareness to transcend self-interest, establish meaningful connections with nursing students and instructors, challenge the status quo, and incorporate nursing ethics into their actions. They recognize the contributions of others while supporting self-direction and risk taking. Students continue to develop exemplary followership (Kelley, 1992). That is, they develop the independence and initiative to think critically and challenge their student colleagues so the best idea, strategy, or

goal is identified, but they remain loyal energetic supporters of the common goal (Chaleff, 1998). Students know their strengths and appreciate their unique contribution to the common goal.

Students appreciate the role of nurses in the health care system and understand the various components in this context of practice. They work to establish collaborative partnerships with colleagues. Self-direction and dialogue are essential to partnerships. With assistance, students develop increased confidence, assertiveness, and initiative in the provision of nursing care. Students manage rapidly changing patient situations with assistance. They gain knowledge of and are actively involved in the continuum of care for specific patients. They participate in and support appropriate referrals for continuing and/or alternate care. Therefore, they are beginning to understand nursing leadership within this context of practice.

Technology-in-Practice: "Technology involves organization, procedures, symbols, new words, equations and ... a mindset" (Franklin, 1990, p. 12). Technology-in-practice is the way of knowing, being, and doing in health that enhances patient care. Students develop an understanding of the impact of technology-in-practice on culture, socially accepted practices and values. Students acknowledge the impact of technology-in-practice on patients, families, the community, and health care workers.

Schedule

Week Number	Material Covered	Reference/Reading	Assignment and Due Date
1	**Introduction to Course — BCIT Computer Lab** **Introduction to Online Learning** • Text-based communication technologies **Module 1** Drug Classifications, Pharmacokinetics and Pharmacodynamics	**NURS 1060 Student Orientation Manual** **Module — Orientation to NURS 1060** (online) Aschenbrenner — Chapter 1: Nursing management in drug therapy, 1—12. Aschenbrenner — Chapter 4: Pharmocotherapeutics and pharmacokinetics, 43—57. Aschenbrenner — Chapter 5: Pharmacodynamics, 58–63.	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 Complete the following by Monday Week 2. • Read Module 1 and complete readings • Access references • Post drug information under Module 1 Class topic • Complete self-test
2	**Module 2** Geriatric Pharmacotherapeutics	Aschenbrenner — Chapter 6: Adverse effects and drug interactions, 64—75. Aschenbrenner — Chapter 9: Life Span: Older adults, 97—106.	Required activities: • Check e-mail for messages
3	**Online Seminar** • Introduction to v Class seminar and question period **Module 3** Autonomic Nervous System Drugs • Adrenergic Agonists and Blockers • Cholinergic Agonists and Blockers Auto's Exercise	Aschenbrenner — Chapter 14: Drugs affecting adrenergic function, 157—182. Aschenbrenner — Chapter 15: Drugs affecting cholinergic function, 185—202.	• Access "Auto's" Quiz under the Quiz icon on Home page or from Auto's Tutorial.

Week Number	Material Covered	Reference/Reading	Assignment and Due Date
4	**Module 3 (cont'd)** Renal Drugs • Diuretics Introduction to Patient Case Learning	Aschenbrenner — Chapter 31: Drugs affecting diuresis, 530—543 (thiazides and furosemide).	• 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 schedule Required activities: • Check your e-mail for instructor feedback on your online skills. • Check course contents for group report instructions. • Review your online skills and request instructor help as needed.
5	**Module 3 (cont'd)** Cardiovascular Drugs • Inotropic Drugs — Cardiac Glycosides • Antianginal Drugs • Antihypertensive Drugs **Online Seminar** • Geriatric pharmaco-therapeutics issues in practicum / case review Case — Hypertension / Heart Failure	Aschenbrenner — Chapter 27: Drugs for treating congestive heart failure, 439—452. Aschenbrenner — Chapter 28: Drugs used to treat angina, 453—462. Aschenbrenner — Chapter 30: Drugs affecting blood pressure, 492—529.	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	Assignment and Due Date
6	**Module 4** Pediatric Pharmacotherapeutics Antibiotic Drugs • Sulfonamides, Penicillins, Cephalosporins, Aminoglycosides and Fluoroquinolones • Drug Resistance Case — Ruptured Appendix and Pain Management	Aschenbrenner — Chapter 7: Life span: Children, 77—88. Aschenbrenner — Chapter 47: Principles of antimicrobial therapy, 931—940. Aschenbrenner — Chapter 48: Antibiotics affecting the bacterial cell wall, 941—961 (penicillins and cephalosporins). Aschenbrenner — Chapter 49: Antibiotics affecting protein synthesis, 962—990 (gentamicin). Aschenbrenner — Chapter 50: Miscellaneous antibiotics, 991—999 (ciprofloxacin). Aschenbrenner: Chapter 51: Drugs for treating urinary tract infections, 1000—1010.	Required activities: Case Discussion Questions — assign questions to group members and post answers by deadline set by group reporter. **Reminder — Practice exams are available online.**
7	**Module 4 (cont'd)** 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 (cont'd)	Aschenbrenner — Chapter 24: Drugs that are narcotic analgesics, 375—399. Aschenbrenner — Chapter 25: Drugs for treating fever and inflammation, 400—419.	Required activities: • Case Discussion Questions — review and clarify answers posted by group members. • Reporter — **summarize** group answers as assigned. • Practice exams are available online.
8	**Review** **Online Seminar** • Case Review/Pain management	Modules 1—4	Required activities: • Online seminar as scheduled. • Practice exams available online

Week Number	Material Covered	Reference/Reading	Assignment and Due Date
9	**Module 5** Central Nervous System — Part 2 • Anticonvulsants Case — Epilepsy and Schizophrenia	Aschenbrenner — Chapter 17: Drugs that are sedatives, hypnotics and anxiolytics, 227—247. Aschenbrenner — Chapter 20: Drugs for treating seizure disorders, 297—322.	Required activities:. • Case Discussion Questions — assign questions to group members and post answers by deadline set by group reporter.
10	**MIDTERM EXAM — 2 hours** **open book Modules 1 to 4** • Multiple Choice Questions • Problem-based Exercise		**Exam Room TBA**
11	**Module 5 (cont'd)** Central Nervous System Agents — Part 3 • Antidepressants and Antipsychotics Case 1 — Epilepsy and Schizophrenia (cont'd)	Aschenbrenner — Chapter 18: Drugs for treating mood disorders, 248—272. Aschenbrenner — Chapter 19: Drugs for treating thought disorders, 273—296.	Required activities: • Case Discussion Questions — review and clarify answers posted by group members. • Reporter — **summarize** group answers as assigned.
12	**Online Seminar** • Compliance issues/Case Review **Module 6** Respiratory Drugs • Beta Agonists, Anticholinergics, Corticosteroids, Xanthine Derivatives Case —Asthma and Deep Vein Thrombosis	Aschenbrenner — Chapter 36: Drugs affecting the lower respiratory system, 642—669. Aschenbrenner — Chapter 40: Drugs affecting hormone levels: Corticosteroids and their antagonists, 759–781. Aschenbrenner — Chapter 8: Life Span — Pregnant or Breastfeeding Women, 89–96.	Required activities: • Case Discussion Questions — assign questions to group members and post answers by deadline set by group reporter.

Week Number	Material Covered	Reference/Reading	Assignment and Due Date
13	**Module 6 (cont'd)** Blood Formation and Coagulation • Anticoagulants and Anticoagulant Antagonists • Antianemia Drugs Complementary and Adjunctive Therapies Case — Asthma and Deep Vein Thrombosis	Aschenbrenner — Chapter 32 — Drugs affecting coagulation. Aschenbrenner — Chapter 11: Lifestyle, diet and habits: Nutritional considerations, 129—140. *Herbal remedies information can also be obtained from local pharmacies, health food stores.*	Required activities: • Case Discussion Questions — review and clarify answers posted by group members. Reporter — **summarize** group answers as assigned.
14	**Module 7** Insulins and Oral Hypoglycemic Drugs Case — Type 2 Diabetes and Breast Cancer	Aschenbrenner — Chapter 14: Drugs affecting blood glucose levels, 782—817 (See drug handbook for IV potassium chloride and potassium phosphate).	Required activities: • Case Discussion Questions — assign questions to group members and post answers by deadline set by group reporter.
15	**Online Seminar** • Course Evaluation • Adverse Drug Reactions (managing & reporting) **Module 7 (cont'd)** Antineoplastic Drugs and Related Topics • Handling Cytotoxic and Hazardous Drugs • Administration Guidelines • Use of Antiemetics Case — Type 2 Diabetes and Breast Cancer (cont'd)	Aschenbrenner — Chapter 45: Cell cycle-specific drugs, 875—906. Check the BCCA Cancer web site for the most up to date Cancer Drug Therapy Manual available online. Aschenbrenner — Chapter 46: Cell cycle-nonspecific drugs, 907—929.	Required activities: • Case Discussion Questions — review and clarify answers posted by group members

Week Number	Material Covered	Reference/Reading	Assignment and Due Date
16	**Module 7 (cont'd)**		Required activities: • Submit adverse drug reaction form • Reporter — **summarizes** group answers as assigned. • **Please complete Course Evaluation by clicking on Quiz icon.**
17	**FINAL EXAM — 2 hours open book Modules 5 to 7**		**Date and Room TBA.**