

# North Central Michigan College

## NCMC MASTER COURSE SYLLABUS

Last Date Revised 2.1.2011

**INSTRUCTIONAL AREA:** Nursing/Allied Health      **DEPARTMENT:** Allied Health  
**ASSOCIATE DEAN:** Mary Miles      **ORIGINATOR:** Pete Olson  
**DEAN OF INSTRUCTION:** Christine Hammond, Ph.D.

**COURSE ALPHA/NUMBER:** AH 182

**COURSE TITLE:** Pharmacology for Surgical Technologists

**HOURS OF INSTRUCTION:**

Credit hours: 4  
Lecture: 4  
Lab: 0  
Clinical: 0  
Variable Hours:  
Total Hours of Instruction: 4  
Total Contact Hours: 70.4  
*(Total Contact Hours Formula: (lecture hours + lab hours) x 17.6*

**CATALOG DESCRIPTION:** An applied pharmacology course designed for the Surgical Technology student. Emphasis is on safe, accurate administration of medications typically given in a surgical setting. The student will acquire knowledge of drug actions, major side effects, and techniques of administration, in addition to specific additional instruction and practice in the relevant medications and procedures unique to the surgical setting.  
Prerequisites: B 104 or MTH 096/106 or MTH 111, BIO 226, BIO 235

**PREREQUISITE(S):** B 104 or MTH 096/106 or MTH 111, BIO 226, BIO 235

**COREQUISITE(S):**

**GENERAL EDUCATION DISTRIBUTION AREA:**

<input type="checkbox"/> Communications, Writing	<input type="checkbox"/> Natural Science Group A
<input type="checkbox"/> Communications, Communications	<input type="checkbox"/> Natural Science Group B
<input type="checkbox"/> Humanities Group A	<input type="checkbox"/> Social Science Group A
<input type="checkbox"/> Humanities Group B	<input type="checkbox"/> Social Science Group B
<input type="checkbox"/> Mathematics	<input type="checkbox"/> Non Applicable

**GENERAL EDUCATION OUTCOMES:**

Write and Speak Effectively  
 Think Critically & Analytically  
 Write & Speak Effectively and Think Critically & Analytically

\_\_\_ Non Applicable

**COURSE OBJECTIVES AND OUTCOMES:**

1. Apply pharmacology principles to prepare and administer oral, topical and parenteral medications.
2. Maintain medication and immunization records
3. Apply pharmacology principles in the surgical setting.
4. Define the allied health practitioner's responsibilities in the legal aspect of drug administration.
5. Identify and define general actions and side effects of each drug classification.
6. Recognize medication abbreviations and parts of the physician's medication order and/or prescription
7. Compute doses accurately for oral, topical and parenteral medications
8. Demonstrate proper technique for administering medications and documenting medications given
9. Prepare and manage medications and solutions.
10. Simulate the use of medications in the care of the surgical patient.

**METHODS OF INSTRUCTION:** Lecture, demonstration, return demonstration, videos, and case studies.

**METHODS OF EVALUATION:** Return demonstrations, skills test out examinations, drug cards, calculation examinations, tests.

**REQUIRED TEXT AT TIME OF COURSE ADOPTION/REVISION:**

TEXTS:

Fulcher, Robert. Pharmacology: Principles and Applications. New York: Saunders, 2008.

Fulcher, Eugenia. Workbook for Pharmacology: Principles and Applications: A Worktext for Allied Health Professionals. New York: Saunders, 2008.

OPTIONAL SUPPLEMENTARY MATERIALS:

**Reasonable accommodations can be provided for students with documented disabilities. Please contact Learning Support Services for assistance: (231)348-6817.**

**SUGGESTED TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:**

*(List general content description of what is being covered each week)*

*(If you need more than one line for a week, hit enter at the end of row; second line will begin)*

WEEK 1	Mathematics and dosage calculations
WEEK 2	Mathematics and dosage calculations
WEEK 3	Mathematics and dosage calculations

WEEK 4	Introduction to Pharmacology / Documentation of medication administration Introduction to Surgical Pharmacology Classification of agents: Analgesics, Narcotics, Narcotic antagonists, Analgesic antipyretic agents, Sedative-hypnotic agents, Tranquilizers, Anticonvulsants, Central nervous system stimulants, Analeptics, Emetics, Anti-emetics
WEEK 5	Administering oral and topical medications to adults, children and infants
WEEK 6	Administering parenteral medications to adults, children, and infants Route of administration (IV, IM, SQ, Intrathecal, Instillation, Injection Circulator duty/responsibility, Role of Surg Tech, Medication preparation (Nonsterile area, Draw up medication into a syringe, Nonsterile to sterile field transfer, Draw up medication into a syringe, Accept medication into the sterile field) Techniques of identification, Labeling devices, Containers on sterile field, Identifying medication or solution to other team members
WEEK 7	Immunizing Agents and Allergies IV fluids, Blood replacement, Whole blood, Component therapy, Autologous blood, Non-blood replacements/plasma expanders
WEEK 8	Anti-infectives
WEEK 9	Medications for Cardiac Disorders Autonomic agents (Adrenergic (alpha and beta), Adrenergic blockers, Cholinergics, Cholinergic blockers, Inotropic agents, Antiarrhythmics, Coronary dilators, Coagulants and hemostatics, Anticoagulants and fibrinolytics, Diuretics
WEEK 10	Medications for Respiratory Disorders
WEEK 11	Medications for Endocrine Disorders Hormones, Corticosteroids, Insulin/glucagon, Prostaglandins
WEEK 12	Medications for Musculoskeletal and Nervous Disorders Ophthalmic medications (Enzymes: Zonolysis, Local anesthesia adjuncts), Irrigating solutions, Mydriatics/cycloplegics, Antibiotics, Viscoelastics/lubricants, Dyes
WEEK 13	Medications for GI and Urinary Disorders Gastric medications, H-2 receptor blockers
WEEK 14	Medications for Reproductive Disorders Obstetrical agents (Oxytocics, RhoGAM)
WEEK 15	Medications for Psychotropic Disorders / Substance Abuse Contrast media / Antineoplastic chemotherapy / Dyes / Irrigation solutions
WEEK 16	Final examination

APPROVED FOR ADOPTION/REVISION BY THE CRD/AP COMMITTEE ON \_\_\_2/28/11\_\_\_\_\_