Pharmacology for Anesthesia Practice II
NUR 888 - Section 001
A-107 Life Sciences Building
Tuesdays 10:00 a.m. – 1:00 p.m.
3 Credit Hours
Spring 2015

Catalog Course Description: Pharmacologic principles of drug pharmacokinetics and pharmacodynamics. Factors modifying anesthetic management of patients.

Additional Course Description: This course is designed to provide the student with a thorough understanding of the basic science of pharmacology. The primary focus will be on those topics which are an integral part of modern anesthesia practice. These include pharmacodynamics, pharmacokinetics, pharmacotherapeutics, pharmacogenetics, pharmacy and toxicology.

Course Objectives: At the end of this course, students will:
1. Assess the Central Nervous System signs and symptoms in monitoring the adverse effect of anesthetic agents.
2. Explain the role of spinal cord stimulation in the treatment of neuropathic pain.
3. Integrate knowledge of long-term infusions of some agents on adrenocortical suppression associated mortality in the anesthetic management of critically ill patients.
4. Assess the effects of prolonged exposure to anesthetics on megaloblastic and pernicious anemia.

Additional Course Objectives: At the end of this course, students will:
1. To facilitate the student's ability to learn the subject matter presented.
2. To provide a rational approach to pharmacology which the student can use throughout their career when evaluating new drugs and the current literature in pharmacology and anesthesia.

The student will be responsible for the following parameters for all classes of drugs presented:
1. classification
2. history
3. structure activity relationships
4. pharmacokinetics
5. preparations and dosages
6. pharmacology (to include)
   a) mechanism of action
   b) dose-effect relationships
7. The effects of the drug on the following physiologic compartments:
   a) central and autonomic nervous system
   b) cardiovascular
   c) respiratory
   d) renal
   e) gastro-intestinal
   f) endocrine, biochemistry and genetics
8. Obstetric and pediatric uses
9. Toxicity (to include):
   a) acute side effects
   b) chronic side effects
   c) contraindications
   d) drug-drug interactions
10. Treatment of adverse reactions.
11. Clinical experience and current anesthetic uses

Prerequisites: NUR 887, Acceptance into the Nurse Anesthesia Program
Co-requisites: None

Standards Documents: The curriculum is guided by the following documents:


Course Faculty: Henry Talley, PhD, CRNA, MSN, MS, BA

Contact Information:
Office: 1355 Bogue Street
A119 Life Sciences Building
Office Phone: 517-355-8305
E-mail: henry.talley@hc.msu.edu

Office Hours: 10:00 a.m. – 4:00 p.m.
Note: Times will try to be arranged to accommodate student schedules.

Instruction:

a. Methodology: As adult learners, it is expected that students will do relevant reading and study prior to class on topic areas identified. Faculty directed readings and web links will be provided for specific content areas when needed. It is expected that students will search the literature and suggest/share relevant findings with faculty and classmates. Faculty will provide additional activities to individual students as needed in order to assist in student competency development. Guidelines for class interactions and specific methodology are located on D2L, Course Information.

b. Required Texts:

Pharmacology 2, 2015 Workbook John Nagelhout

c. Optional Texts:

American Nurses Association Electronic Books (E-books)


*American Nurses Association (2010). Nursing Scope and Standards of Practice<http://catalog.lib.msu.edu/record=b8270966%7ES39a%20> (2nd ed.). Silver Spring, MD

a. **Required Resources, References, Supplies**

MSU Distance Learning Services Help Line/Desk
1.800.500.1554 (toll free; 24 hour, 7 days/week; North America and Hawaii)
517.355.2345 (24 hours, 7 days/week)
www.d2l.msu.edu
*Always check with the Help Desk first!*

b. **Frequently Called Telephone Numbers**
Simulation Lab, Life Sciences; 355-5765 (with answering machine)
Media Lab (Andy Greger) Life Sciences, 353-9020
College of Nursing Student Support Services A117 Life Sciences 353-4827.

c. **Outcome, Competencies and Indicators: Evaluation:**

**Learning Assessments and Grading:**
Student progress will be evaluated by examinations. Exams are multiple choices and will be administered during the normal class period at the beginning of class on the day of examination. Exams are not cumulative. Exams will be weighted as follows to calculate the final course grade:

<table>
<thead>
<tr>
<th>Quiz/Examination</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz 1</td>
<td>20%</td>
</tr>
<tr>
<td>Quiz 2</td>
<td>20%</td>
</tr>
<tr>
<td>Quiz 3</td>
<td>20%</td>
</tr>
<tr>
<td>Final Examination (Cumulative)</td>
<td>40%</td>
</tr>
</tbody>
</table>

a. The student must achieve 80% or higher on the clinical evaluation practice examinations by the end of the semester. Failure to meet 80% will constitute a failing grade and the student will not be allowed to complete the program. The MSN student handbook discusses the procedures in the event of a failure of a course.

b. Students will not be provided with an end of semester grade until the activity log, completed self-evaluations, documentation of clinical hours and complete TYPHON data have been completed. IF the information is not completed by the end of finals week, a failing grade will be recorded. If data are not complete at midterm, a midterm progress note will be completed by faculty indicating that the student is not passing at midterm.

c. At midterm, students will meet with their faculty advisor to discuss their progress towards meeting objectives and competencies for graduation. The student should submit a completed self-evaluation one week prior to midterm and provide rationale for rankings according to the “Clinical Practicum III Evaluation Form” objectives. *It is expected that at midterm, most competencies will not be met since they reflect end of semester behaviors.*
Course Grading Scale:

Student progress will be evaluated by examinations. Exams are multiple choices and will be administered during the normal class period at the beginning of class on the day of examination. Mid-term and Final exams are cumulative.

The following grading scale will be used in this class:

<table>
<thead>
<tr>
<th>%</th>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>94 – 100</td>
<td>4.0</td>
</tr>
<tr>
<td>87 – 93</td>
<td>3.5</td>
</tr>
<tr>
<td>80 – 86</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(Minimum passing grade)

| 75 – 79 | 2.5   |
| 70 – 74 | 2.0   |
| 65 – 69 | 1.5   |
| 60 – 64 | 1.0   |
| Below 60| 0.0   |

Proctor Process if necessary:

A. Professionalism:
The student is held accountable and responsible for the all policies in the most current version of The Michigan State University Student Handbook and Resources Guide (The Spartan Life: http://www.vps.msu.edu/SpLife/acfree.htm), The College of Nursing Handbook (http://nursing.msu.edu), and the Nurse Anesthesia Program Supplement.

B. Progression in the Major
NUR 888 is a required course in the nurse anesthesia curriculum. In order to progress, a student must pass this course with a grade of 3.0.

C. Change in Calendar
The faculty reserves the right to alter the calendar as circumstances may dictate. All changes will be announced in class, posted on the College of Nursing website, or via College of Nursing email. Students not present in class are responsible for obtaining this information.

D. Official Means of Written Communication-Electronic Mail
Keeping up with changes or news from Michigan State University and the College of Nursing is the responsibility of the student. Electronic mail or e-mail is an official means of written communication for all students, faculty, and staff.

University & College Policies:
The College of Nursing expects that students will demonstrate professional behavior in all situations. Specific expectations for clinical and other professional venues can be found in the appropriate handbook. You are responsible for reviewing and acting in accordance with the policies and procedures found in the following sources, including the following topics: Professionalism, Academic Integrity, Accommodations for Students with Disabilities, Disruptive Behavior, Attendance, Compliance, and Progression.

- CON MSN Student Handbook: http://nursing.msu.edu/MSN%20Programs/Handbooks/default.htm
- Information for MSU Students: http://www.msu.edu/current/index.html
Policies:

**Academic integrity:** Article 2.3.3 of the Academic Freedom Report states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the College adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide http://splife.studentlife.msu.edu/ and/or the MSU Web site: www.msu.edu). Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in NUR 370. Students who violate MSU rules may receive a penalty grade, including--but not limited to--a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also https://www.msu.edu/unit/ombud/academic-integrity/index.html#regulations

**Accommodations for students with disabilities:** Students with disabilities should contact the Resource Center for Persons with Disabilities to establish reasonable accommodations. For an appointment with a disability specialist, call 353-9642 (voice), 355-1293 (TTY), or visit MyProfile.rcpd.msu.edu.

**Disruptive behavior:** Article 2.3.5 of the Academic Freedom Report (AFR) for students at Michigan State University states: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.3.10 of the AFR states that "The student has a right to scholarly relationships with faculty based on mutual trust and civility." General Student Regulation 5.02 states: "No student shall interfere with the functions and services of the University (for example, but not limited to, classes) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Faculty Judiciary process.

**Attendance:** Students whose names do not appear on the official class list for this course may not attend this class. Students who fail to attend the first four class sessions or class by the fifth day of the semester, whichever occurs first, may be dropped from the course. See the Ombudsman’s web site for a discussion of student observance of major religious holidays, student-athlete participation in athletic competition, student participation in university-approved field trips, medical excuses and a dean's drop for students who fail to attend class sessions at the beginning of the semester.

**College of Nursing Policies:** Professional Development Guidelines found in CON Student Handbooks at CON website http://nursing.msu.edu/BSN%20Programs/Handbooks/default.htm. Students are responsible for the information found in the CON (BSN, MSU or PhD choose one Student Handbook.
**Course Calendar:** (date of final examination, scheduled according to the *University final exam schedule*, and tentative dates of required assignments, quizzes, and tests, if applicable)

(Additional Suggestions may include; describe major test dates, project due dates and other important happenings including any field trips, guest speakers, conferences, days class will not meet, major reading assignments, tentative deadlines for required and recommended readings, tentative schedule of course topics, required field trips, rehearsals, etc., scheduled outside of regularly-scheduled class time, along with any accompanying fees and tickets, common test dates for all sections of a multi-section course, as approved by the unit).

**PHARMACOLOGY 2**

**SPRING SEMESTER 2015**

All Classes Tuesday  10:00 a.m. – 1:00 p.m. EST

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 6</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 13</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 20</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 27</td>
<td><strong>Exam 1 NO VIDEOCONFERENCE</strong></td>
</tr>
<tr>
<td>February 3</td>
<td>Local Anesthetics</td>
</tr>
<tr>
<td>February 10</td>
<td>Local Anesthetics</td>
</tr>
<tr>
<td>February 17</td>
<td>Introduction to Autonomic Pharmacology</td>
</tr>
<tr>
<td>February 24</td>
<td>Autonomic Pharmacology</td>
</tr>
<tr>
<td>March 3</td>
<td><strong>EXAM 2 NO VIDEOCONFERENCE</strong></td>
</tr>
<tr>
<td>March 10</td>
<td>Autonomic Pharmacology</td>
</tr>
<tr>
<td>March 17</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>March 24</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>March 31</td>
<td><strong>Spring Break  NO VIDEOCONFERENCE</strong></td>
</tr>
<tr>
<td>April 7</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>April 14</td>
<td><strong>Exam 3 NO VIDEOCONFERENCE</strong></td>
</tr>
<tr>
<td>TBA*</td>
<td>Final Exam <strong>NO VIDEOCONFERENCE</strong></td>
</tr>
</tbody>
</table>

*Final exam: date and time to be arranged by each program*