Pharmacology for Anesthesia Practice II
NUR 888 - Section 001
A-107 Life Sciences Building
Tuesdays; 10:00 am – 1:00 pm
3 Credit Hours
Spring 2014

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 perniocious 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 Bouge Street
A119 Life Sciences Building
Office Phone: 517-355-8305
E-mail: henry.talley@hc.msu.edu

Office Hours: Variable by appointment

Note: Times will try to be arranged to accommodate student schedules.

Instruction:

a. Methodology: Independent study, classroom activities, lectures, assignments, exams, internet assignments, self-evaluation, computer-aided instruction and student/faculty conferences.

b. Required Texts:

Pharmacology 2, 2014 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
Required Resources, References, Supplies

ANGEL Help Line
1.800.500.1554 (24 hrs, 7 days/week)
517.355.2345 (24 hrs, 7 days/week)
www.angel.msu.edu (ANGEL Help link in upper right corner)
Always check with the ANGEL Help Line first!

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.

Outcome, Competencies and Indicators: Evaluation:

a. Learning Assessments and Grading:
Student progress will be evaluated by examinations. Exams are multiple choice 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>
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</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>

b. 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>
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</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>
<tr>
<td>(Minimum passing grade)</td>
<td></td>
</tr>
<tr>
<td>75 – 79</td>
<td>2.5</td>
</tr>
<tr>
<td>70 – 74</td>
<td>2.0</td>
</tr>
<tr>
<td>65 – 69</td>
<td>1.5</td>
</tr>
<tr>
<td>60 – 64</td>
<td>1.0</td>
</tr>
<tr>
<td>Below 60</td>
<td>0.0</td>
</tr>
</tbody>
</table>

c. Proctor Process if necessary:
A. **Professionalism:**

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](http://nursing.msu.edu/MSN%20Programs/Handbooks/default.htm)
- MSU Spartan Life Online: [http://www.vps.msu.edu/SpLife](http://www.vps.msu.edu/SpLife)
- Information for MSU Students: [http://www.msu.edu/current/index.html](http://www.msu.edu/current/index.html)
- Academic Programs: [http://www.reg.msu.edu/AcademicPrograms](http://www.reg.msu.edu/AcademicPrograms)
- Code of Teaching Responsibility and Student Assessments and Final Grades: [http://www.reg.msu.edu/AcademicPrograms/Print.asp?Section=514](http://www.reg.msu.edu/AcademicPrograms/Print.asp?Section=514)
- Integrity of Scholarship and Grades: [http://www.reg.msu.edu/AcademicPrograms/Print.asp?Section=534](http://www.reg.msu.edu/AcademicPrograms/Print.asp?Section=534)

**University Policies:**

**Academic integrity:** Article 2.3.3 of the [Academic Freedom Report](http://www.msu.edu/splife/studentlife.msu.edu/) 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/](http://splife.studentlife.msu.edu/) and/or the MSU Web site: [www.msu.edu](http://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](http://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](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](http://MyProfile.rcpd.msu.edu).

**Disruptive behavior:** Article 2.3.5 of the [Academic Freedom Report](http://www.msu.edu/unit/ombud/academic-integrity/index.html) (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).
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 7</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 14</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 21</td>
<td>Neuromuscular Blocking Drugs</td>
</tr>
<tr>
<td>January 28</td>
<td>Exam 1 NO VIDEOCONFERENCE</td>
</tr>
<tr>
<td>February 4</td>
<td>Local Anesthetics</td>
</tr>
<tr>
<td>February 11</td>
<td>Local Anesthetics</td>
</tr>
<tr>
<td>February 18</td>
<td>Introduction to Autonomic Pharmacology</td>
</tr>
<tr>
<td>February 25</td>
<td>Autonomic Pharmacology</td>
</tr>
<tr>
<td>March 3 - 7</td>
<td><strong>Spring Break</strong></td>
</tr>
</tbody>
</table>

**EXAM 2 NO VIDEOCONFERENCE TBD**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 11</td>
<td>Autonomic Pharmacology</td>
</tr>
<tr>
<td>March 18</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>March 25</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>April 1</td>
<td><strong>NO VIDEOCONFERENCE</strong></td>
</tr>
<tr>
<td>April 8</td>
<td>Cardiovascular Pharmacology</td>
</tr>
<tr>
<td>April 15</td>
<td>Exam 3 NO VIDEOCONFERENCE</td>
</tr>
</tbody>
</table>

TBA* Final Exam **NO VIDEOCONFERENCE**

**FINAL EXAMS APRIL 28 – MAY 2, 2014**