



**Department of Physician Assistant Education  
Master of Science in Medicine  
2 Units**

**MSM 6202 PHARMACOTHERAPEUTICS III**

<b>Course director:</b> Jill Ball, Pharm.D	<b>Term:</b> Fall 2024
<b>Phone:</b> 562-682-0143 Office hours: Please email to set-up	<b>Meeting day &amp; time:</b> Wednesday, 9:00 am-11:00 am <b>Final Exam:</b> Wednesday, 12/6/23
<b>Email:</b> <a href="mailto:aball@pointloma.edu">aball@pointloma.edu</a>	<b>Meeting location:</b> Balboa Campus, Classroom 153

**PLNU Mission  
To Teach ~ To Shape ~ To Send**

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

**COURSE DESCRIPTION**

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This course provides an introduction to the science of pharmacologic therapy of the disease states covered in the Psychiatry, Musculoskeletal Disease and Rheumatology, Pediatrics, Women’s Health, Emergency Medicine and Surgery didactic courses. In addition to pharmacokinetics and pharmacodynamics, students will learn the indications, contraindications, dosages and adverse effects of commonly prescribed medications for these disorders.

**COURSE GOALS**

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The student will be provided:

1. instruction covering pharmacodynamics and pharmacokinetics to provide a basis for the student’s understanding of drug classes and their mechanism of action;
2. instruction covering the precautions or contraindications to the use of a drug;
3. the opportunity to use resource materials for determining proper drug usage;
4. the opportunity to practice writing prescriptions and orders.

**PROGRAM LEARNING OUTCOMES**

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**The content in this course will contribute to the student's proficiency in this/these area(s):**

1. Enter and discuss orders and prescriptions. (MK, IC, PC, PR, PB, SP)
2. Form clinical questions and retrieve evidence to advance patient care. (MK, PC, PR, PB, SP)
3. Collaborate as a member of an inter-professional team. MK, IC, PC, PR, PB, SB

Initials indicate PA core competency required to meet the PLO/CLO.

PA Core Competencies:

MK = Medical Knowledge      IC = Interpersonal Skills & Communication      PC = Patient Care  
PR = Professionalism      PB = Practice-based Learning      SB = Systems-based Practice

**COURSE LEARNING OUTCOMES**

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Successful completion of this course requires demonstration of the skills and knowledge outlined here at, minimally, the ADVANCED BEGINNER level:

1. Discuss pharmacotherapy as it relates to pharmacokinetics, and pharmacodynamics. (MK3, MK4)
2. Discuss common pharmacotherapies utilized in the treatment(s) of disease. (MK3, MK4)
3. Evaluate and manage patient's pharmacological therapies associated with acute and chronic disorders. (PC5, PC6)
4. Integrate the knowledge gained in basic science, clinical medicine, and other PA Program courses to develop clinical pharmacological treatment strategies. (PC5, PC6, PC7, SB3, MK4, MK5, PB1, PB2)

**INSTRUCTIONAL OBJECTIVES**

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Upon completion of the **Pharmacology Basics** section of this course, the student will be able to:

1. Evaluate the pharmacokinetic and pharmacodynamic properties of commonly used medications in order to rationalize their indications for use, dosing and adverse effects. Evaluation, B2.02d
2. Classify drugs according to currently accepted categories. Comprehension, B2.02d

Upon completion of the **Pitfalls in Pharmacotherapy** section of this course, the student will be able to:

3. Anticipate, recognize, and manage adverse effects of drugs including side effects, toxicity, allergies, contraindications, drug-drug and food-drug interactions. Analyze, B2.02d
4. Recognize and correct systems-based factors that could negatively impact therapy. Analyze, B2.02d
5. Identify patient-specific biases and challenges that affect therapeutic decision-making. Evaluation, B2.02d

Upon completion of the **Pharmacotherapy Selection** section of this course, the student will be able to:

6. Integrate pharmacologic knowledge to optimize the medication management of common disease states covered in didactic courses 6300, 6199, 6301, 6302, 6303, and 6304. <sup>Synthesis, B2.02d</sup>
7. Locate, appraise and integrate evidence from scientific literature to ensure appropriate pharmacotherapy. <sup>Synthesis, B2.02d</sup>
8. Apply cost-effective health care and resource allocation principles that do not compromise quality of care. <sup>Application, B2.02d</sup>

Upon completion of the **Follow-Up and Adherence** section of this course, the student will be able to:

9. Outline a plan for follow-up and monitoring of medication regimens. <sup>Synthesis, B2.02d</sup>
10. Assess effectiveness of the medication regimen in accordance with treatment goals. <sup>Evaluation, B2.02d</sup>
11. Provide medication counseling that is appropriate for the patient or caregiver to ensure therapeutic success. <sup>Synthesis, B2.02d</sup>

*Note: Superscripts identify the Bloom's Taxonomy level for each objective.*

**UNIT INSTRUCTION**

UNIT	HOURS	LECTURES
Unit I	11	ORIENTATION Psychiatric/Behavioral Medicine <ol style="list-style-type: none"> <li>1. Antidepressants/Anxiolytics</li> <li>2. Antipsychotics</li> <li>3. Mood Stabilizers</li> <li>4. Addiction management</li> </ol> Musculoskeletal and Rheumatology <ol style="list-style-type: none"> <li>5. Immunosuppressants</li> <li>6. Disease Modifying agents</li> <li>7. Biologics</li> <li>8. Nonsteroidal agents and Analgesics</li> <li>9. Biphosphonates/denosumab</li> <li>10. Osteoporosis and Gout agents</li> </ol>
<b>UNIT I EXAM</b>		
Unit II	10	Pediatrics and Geriatrics <ol style="list-style-type: none"> <li>1. Medication considerations in pediatrics</li> <li>2. Asthma management medications</li> <li>3. Vaccines</li> <li>4. Childhood infections</li> <li>5. Medication considerations in geriatrics</li> </ol> Women's Health <ol style="list-style-type: none"> <li>6. Medication considerations in pregnancy</li> <li>7. Contraception</li> </ol>

		8. Estrogens/ SSRIs for Menopause 9. Hormone replacement
<b>UNIT II EXAM</b>		
Unit III	9	Emergency Medicine and Surgery 1. Toxicology, overdose management 2. Agents used in Code Blue 3. Dantrolene for Malignant Hyperthermia 4. Thrombolytics/ Antiplatelets 5. Local Anesthetics 6. General Anesthetics 7. Neuromuscular blockers
<b>UNIT III EXAM</b>		

## REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

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**Note: Texts prefaced with double asterisks are provided in Access Medicine.**

\*\* Katzung B. *Basic and Clinical Pharmacology*. 14<sup>th</sup> ed., McGraw-Hill Education; 2018.  
ISBN13: 978-1259641152

- Epocrates – available as mobile app and online (<https://online.epocrates.com>)
- Medscape – available as mobile app and online (<https://medscape.com>)

## LEARNING MODALITIES

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Modalities include lectures, reading assignments, and community learning activities. The class schedule and assignments can be found in Canvas.

## PLNU ATTENDANCE AND PARTICIPATION POLICY

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Regular and punctual attendance at all classes is considered essential to optimum academic achievement. However, we recognize that as adults you have other life responsibilities and challenges that may interfere. Ultimately you are responsible for your education and your ability to demonstrate mastery of the course and program objectives.

1. You MUST attend:
  1. PE and clinical skills labs appropriately dressed and with all necessary equipment
  2. examinations on the date and time for which they are schedule
  3. Community learning group
2. We expect
  4. active participation in all class activities.

5. completion of all class preparatory assignments prior to commencement of class.
  6. respect for the class, peers and faculty.
  7. on-time arrival for all classes, laboratories, learning groups or any scheduled activities.
- Routine tardiness demonstrates a lack of professionalism and will not be tolerated

**INCOMPLETES AND LATE ASSIGNMENTS**

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All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Failure to meet the deadline will result in a loss of 10% each day the assignment is not turned in to the requesting faculty member. Incompletes will only be assigned under extremely unusual circumstances. Students failing an examination or practicum must complete the designated remediation (See REMEDIATION below) within the assigned time.

**FINAL EXAMINATION POLICY**

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Successful completion of this class requires taking the final examinations **on their respective scheduled days**. No requests for early examinations or alternative days will be approved.

**ASSESSMENT AND GRADING**

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Quizzes- faculty will administer frequent quizzes prior to each lecture for each organ system discussed. Advanced reading of the material prior to the lecture is required.

Written examinations - MSM 6202 will include three (3) written examinations worth 25% each of the overall course grade.

**Grading**

The final grade will be calculated based on the following distribution:

Quizzes	10%
Written examination I	25%
Written examination II	25%
Written examination III	25%
Clinical Readiness	15%

All assignments and evaluations must be completed in the timeframe determined by the course director. Students receiving less than 70% on a quiz or examination must meet with the course instructor and faculty advisor to address remediation. For additional regarding the Remediation Policy refer to the PA Program Student Handbook.

Grading will be in keeping with Point Loma Nazarene University policy for graduate programs and grading will be as follows:

A=93-100	C=73-76
A-=92-90	C-=70-72
B+=87-89	D+=67-69
B=83-86	D=63-66
B-=80-82	D-=60-62

C+=77-79	F=0-59
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## REMEDICATION

Remediation is the process by which both the student and the program are assured that performance indicating a deficiency in knowledge or skills is subsequently demonstrated to be satisfactory. This may include a re-test over missed material, a skills demonstration or a review of missed material with completion of corrected answers. It is important to note that this is content remediation, not grade remediation and no grade will be changed based on these activities.

Within 48 hours of the posting of a grade of <70%, the student MUST contact the course director to discuss the student's performance and create a remediation plan. Unless otherwise directed by the course director, remediation activities must be completed within 5 days.

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## PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

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## PLNU RECORDING NOTIFICATION

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

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## PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See Academic Policies in the Graduate and Professional Studies Catalog for definitions of kinds of academic dishonesty and for further policy information.

Use of Artificial Intelligence (AI) tools (e.g. ChatGPT, iA Writer, Marmot, Botowski) is not permitted, and use of these tools will be treated as plagiarism.

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## PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. ([DRC@pointloma.edu](mailto:DRC@pointloma.edu) or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

**This syllabus is subject to change. Students are encouraged to check course messages and emails in order to remain current.**

**ARC-PA standards (5th edition) addressed in this course: B2.02(d),**