

Basic Course Information

Semester:	SPRING 2020	Instructor Name:	Julie Kunath MS APRN AGPCNP-BC ACCNS-AG CCRN-CMC
Course Title & #:	Pharmacology I NURS109	Email:	Julie.kunath@imperial.edu
CRN #:	20753	Webpage (optional):	CANVAS
Classroom:	2139	Office #:	2130
Class Dates:	February 24 – June 8, 2020	Office Hours:	POSTED ON OFFICE DOOR
Class Days:	MONDAYS	Office Phone #:	(760) 355 - 6422
Class Times:	1300 - 1405	Emergency Contact:	NURSING OFFICE (760) 355 - 6348
Units:	1		

Course Description

This course provides an introduction to the principles of pharmacology, including: pharmacokinetics, pharmacodynamics, medication interactions and potential adverse medication reactions. Emphasis will be placed on life span issues, gene therapy, medication errors, substance abuse, Immunizations and OTC, herbal and dietary medications. Focus will be on nursing actions and rationale for the concepts and medications covered.

Course Prerequisite(s) and/or Corequisite(s)

NURS 107 Fundamentals

Student Learning Outcomes

Differentiate the principles of pharmacology, pharmacodynamics, pharmacokinetics, Pharmacogenetics, therapeutics, toxicology, legal, ethical, psychosocial, gender and cultural influences to medication utilization by passing the final with 75% or better. (ILO 1,2,4)

Course Objectives

1. Apply principles of pharmacology, pharmacokinetics, pharmacodynamics and drug administration including adverse drug effects and medication errors to medication therapy.
2. Understand the legal and ethical implications, with historical and current drug regulation, substance abuse and psychosocial, gender and cultural influences to medication utilization and administration.
3. Apply principles of pharmacotherapy in the dimensions of the pediatric, geriatric and pregnancy and lactating patient.
4. Recognize the major classifications of medications, common medications within each

classification, their side effects, and Contraindications

5. Discuss nursing implications and concepts of safety when performing medication administration

Textbooks & Other Resources or Links

Author	ISBN	Title	Edition	Year	Publisher
Burchum & Rosenthal	978-0-323--51227-5	Lehne's Pharmacology for Nursing Care	10 th	2018	Elsevier
Burchum & Rosenthal	978-0323595445	Lehne's Pharmacology for Nursing Care Study Guide	10 th	2018	Elsevier
ATI	required	ATI: Pharmacology Made Easy	online		

Course Requirements and Instructional Methods

A. Hours

NS109 is a 1.0 unit theory course. Lectures are held 1.0 hours per week.

B. Assignments:

Reading, CD/video, Internet, and writing assignments are required. Students will be expected to read, understand, and critique information from college level textbooks, nursing journals, or equivalent. The reading list will include texts used in prior nursing courses and those required of this course (see text book list). Additional reading assignments will be required to supplement textbook material. Writing assignments will reflect the objectives listed and may include, but not be limited to, short essays, posters, and/or professional papers. Outside assignments including but not limited to nursing lectures, independent exercises, and learning center activities may be assigned and are required.

Plagiarism and cheating policies noted in the student handbook and IVC policies will be strictly enforced. Students are expected to develop original work for this course. It is recommended that students visit the college library to become acquainted with research tools available.

Schedule may change at the discretion of the instructor, taking into account the progress of students with the materials. Any change will be announced in class or via email through Canvas. **Students are held responsible for all materials covered in the syllabus and for any changes that are announced in class, sent by email or announced through Canvas.**

It is recommended that if a grade falls below 82% that the student will arrange to meet with the faculty member. Faculty can be reached in person, by email, or during office hours to discuss grades or other classroom matters.

The student is responsible for withdrawing (W) from the class before the deadline as outlined on your registration forms. **Failure to pass this class will affect your ability to progress to the next semester.** Students failing or withdrawing must complete a Petition to Re-Enter.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

Students must maintain a “C” average grade as determined by the scale below:

- A = 93-100%
- B = 85-92%
- C = 78-84%
- F = Below 78%

Grades will not be “rounded”. To advance to the next semester, a “C” or better is required in this course and the co-requisite courses. **The course grade will be computed as follows: 10% from homework/assignments, 10% from quizzes (in class or take-home), 45% will come from an average of the three exams prior to the final exam, and 35% of the course grade will come from the final exam.**

Homework/assignments:	10%
Quizzes(inclass/takehome:	10%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	35%
Total	100%

All of the following must be attained to successfully pass this course:

- A. Final Theory Exam score must be passed at a 78% or greater.**
- B. Theory (exams) grade must have a total equivalent of 78% or greater. This requirement must be met in order to progress to the Final Exam.**
- C. Attendance requirements as noted below must be met.**

Testing will include no more than 3 examinations in addition to written, demonstration, and oral assignments, and a final examination. Pop quizzes may be included. **EXCEPT FOR UNDER EXTREME CIRCUMSTANCES, THERE WILL BE NO MAKE-UPS FOR TESTS OR QUIZZES MISSED DUE TO ABSENCE.**

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student’s status will be the same as that of any other student who desires to add a class. It is the student’s responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.

- Acceptance of absenteeism excuses is at the discretion of the faculty member and may result in failure of the class. A student who reaches the maximum allowable number of hours absent and is not allowed to continue in class and may file a petition to reenter the nursing program. The teaching team will meet with the student to discuss remediation and the possibility of reentry.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.
- **Students who are late for class three times will be considered absent for one day**

Classroom Etiquette

During all classroom and clinical instruction time, every person will be respected within the group and it is expected that all interactions between students, faculty, and other staff will take place professionally and courteously. It is expected that students will come prepared for class by completing reading assignments and skills practice on their own time.

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor. Smart watches are not allowed during class.
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- Children in the classroom: Due to college rules and state laws, only students enrolled in the class may attend; children are not allowed.

Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!)].
- **Both the course name and student name who is initiating the communication must be included in any emails, text messages, or any other online communication regarding the course.**

Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and

preparing written materials. If you do not understand how to “cite a source” correctly, you must ask for help.

- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College’s main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities

Revision Date: 02 16 2020

related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

Anticipated Class Schedule/Calendar

*****Tentative, subject to change without prior notice*****

Reading is to be done prior to class so that you may be an active participant in lecture and class activities.

Date/ Week	Topics	Reading: Lehne's, (2018) unless otherwise specified	EVOLVE, ATI, drug cards, etc.
Week 1 02/18/2020 NO CLASSES PRESIDENTS' DAY		Chapters 1, 2 & 3 Chapter 1: Orientation to Pharmacology Chapter 2: Application of Pharmacology to Clinical Practice Chapter 3: Drug Regulation Development, Names, and Information	ATI Pharmacology Made Easy: Intro Practice Evolve Questions for each Chapter and read rationales. Review Key Points
Week 2 02/24/2020 FIRST DAY OF CLASS	Introductions/Syllabus Tips to Succeed in Pharm Basic Terms Properties of Ideal Drug Therapeutic Objective Nursing Responsibilities... re: drugs Generic and Brand Names OTC Sources of Drug Information Application of Pharmacokinetics	Chapter 4 Chapter 4: Pharmacokinetics March 1 st – deadline to drop without a W	Practice Evolve Questions for Ch 4/ read rationales Review Key Points Watch videos on pharmacokinetics Review material from Chapters 1 – 4
Week 3 03/02/2020	Pharmacodynamics <ul style="list-style-type: none"> • Dose-Response • Drug-Receptor interactions • Interpatient Variability Drug-Drug Interactions Drug-Food Interactions Drug-Supplement Interactions	Chapters 5 & 6 Chapter 5: Pharmacodynamics Chapter 6: Drug Interactions	Online Canvas Quiz Group Assignment: Interaction example Practice Evolve Questions/Read Rationales Watch Pharmacodynamics videos Review Key Points
Week 4 03/09/2020	EXAM 1: Chapters 1, 2, 3, 4, 5, & 6 All content from weeks 1 - 3	Review all previous material	

<p>Week 5 03/16/2020</p>	<p>Adverse Drug Reactions</p> <ul style="list-style-type: none"> • Medication Guides • Black Box Warnings <p>Medication Errors</p> <ul style="list-style-type: none"> • Types • Causes • Ways to Reduce Errors <p>How to Report Errors</p>	<p>Chapter 7 Chapter 7: Adverse Drug Reactions and Medication Errors</p>	<p>Group Assignment: Examples of Drug Error or AE from News, journal, Social Media, word of mouth...</p> <p>Review Key Points</p> <p>Complete exercises on Canvas</p> <p>Practice Evolve Questions/Read Rationale</p>
<p>Week 6 03/23/2020</p>	<p>Pharmacology of Drug Abuse</p> <ul style="list-style-type: none"> • Definitions • Contributing Factors • Neurobiology of SUD • Principles of Treatment • Controlled Substances (DEA Schedules) <p>Alcohol Effects on Body Systems</p> <ul style="list-style-type: none"> • Pharmacokinetics • Tolerance vs Physical Dependence • Interactions • Overdose • Alcohol Use Disorder • Drugs and Treatment <p>Nicotine and Smoking</p> <ul style="list-style-type: none"> • Mechanism of Action • Effects/Toxicity • Smoking Cessation • Nicotine Replacement <p>Heroin, Oxycodone & other Opioids – management</p>	<p>Chapters 37, 38, 39 & 40 Chapter 37: Substance Use Disorders (SUD) I- Basic Considerations Chapter 38: SUD II- Alcohol Chapter 39: SUD III- Nicotine and Smoking Chapter 40: SUD IV- Major Drugs of Abuse Other Than Alcohol and Nicotine</p>	<p>Group Assignment: Current issue, law, news, product or other for assigned Substance Class.</p> <p>Review Key Points</p> <p>Review any Safety Alerts, Tables, and Pt-Centered Care Across the Life Span!</p> <p>Recommend Flash Cards to study these chapters</p> <p>Practice Evolve Questions/Read Rationale</p>
<p>Week 7 03/30/2020</p>	<p>Basic Considerations During Pregnancy</p> <ul style="list-style-type: none"> • Placental transfer • Teratogenesis • FDA Preg Risk Categories 	<p>Chapters 9 & 10 Chapter 9: Drug Therapy During Pregnancy and Breast-Feeding Chapter 10: Drug Therapy</p>	<p>Review Tables in Chapters</p> <p>Review Effects of Teratogens at</p>

	<ul style="list-style-type: none"> • New Labeling Rules • Lactation and Drugs <p>Pediatric Patients</p> <ul style="list-style-type: none"> • Pharmacokinetics: Neonates& Infants • Pharmacokinetics: 1 year and older • Promoting adherence in children 	in Pediatric Patients	<p>various stages of development of fetus</p> <p>Review Key Points</p> <p>Practice Evolve Questions/ Read Rationales</p>
Week 8 04/06/2020	EXAM 2	Week 5, 6, & 7 material will be majority of EXAM 2. There will be 5 - 10 questions from EXAM 1 material.	
Week 9 04/13/2020 SPRING BREAK!!	NO CLASS		Group Assignment: Each group obtain medication list and then analyze the list. Instructions to be given.
Week 10 04/20/2020	<p>Drug Therapy in Older Adults</p> <ul style="list-style-type: none"> • Pharmacokinetic changes • Pharmacodynamic changes • Adverse Drug Reactions • How to reduce ADRs • Drug Interactions • Adherence • End of Life Considerations 	<p>Chapter 11</p> <p>Chapter 11: Drug Therapy in Older Adults</p>	<p>Review Key Points</p> <p>Practice EVOLVE Questions/ Read Rationales</p> <p>Review tables in chapter</p> <p>Review physiological changes in older adults</p>
Week 11 04/27/2020	<p>Variation in Drug Responses</p> <ul style="list-style-type: none"> • Body habitus, age • Pathophysiology • Tolerance • Placebo Effect • Absorption Variables • Genetics • Gender/Race Variables • Comorbidities 	<p>Chapters 8 & 108</p> <p>Chapter 8: Individual Variation in Drug Responses</p> <p>Chapter 108: Complementary and Alternative Therapy</p>	<p>Group Assignment: Find examples of natural/herbal remedies used locally.</p> <p>Review Key Points</p> <p>Practice EVOLVE Questions/ Read</p>

	<ul style="list-style-type: none"> • Diet <p>Complementary & Alternative Tx</p> <ul style="list-style-type: none"> • Regulation of Supplements • Standardization of Herbals • Commonly used Dietary Supplements • Harmful Supplements to Avoid 		<p>Rationales</p> <p>Make Study Cards</p>
<p>Week 12 05/04/2020</p>	<p>In Class Debate: Vaccinations Natural vs Specific Acquired Cell-Mediated vs Ab-Mediated Cells of the Immune System Antibodies vs Antigens Immune Responses Immunizations</p> <ul style="list-style-type: none"> • Definitions • Active vs Passive • Public Health • Records of immunizations • Adverse Effects • Immunization Schedule • Target Diseases • Specific Vaccines (AE/CI) 	<p>Chapters 67 & 68 Chapter 67: Review of Immune System Chapter 68: Childhood Immunization</p>	<p>Develop Immunization reference cards for clinical use.</p> <p>Review Key Points</p> <p>Watch videos on Immune System</p> <p>Flash Cards for Vaccines</p> <p>Practice EVOLVE Questions/ Read Rationales</p>
<p>Week 13 05/11/2020</p> <p>5/16 Deadline to drop classes</p>	<p>EXAM 3</p>	<p>EXAM 3: The majority of EXAM 3 content will be from weeks 10, 11, & 12. There will be 5 – 10 questions from previous material.</p>	
<p>Week 14 05/18/2020</p>	<p>Neuropharmacology:</p> <ul style="list-style-type: none"> • Basic Mechanisms of Action • Synaptic Transmission Steps • Effects of Drugs on the Steps of Synaptic Transmission • Receptor Types & Selectivity <p>Autonomic Nervous System (ANS)</p> <ul style="list-style-type: none"> • Parasympathetic Nervous System • Sympathetic Nervous System • Feedback Regulation <p>Peripheral Nervous System</p>	<p>Chapters 12, 13, 14, 15, 16, 17, 18, & 19 Chapter 12: Basic Principles of Neuropharmacology Chapter 13: Physiology of the Peripheral Nervous System Chapter 14: Muscarinic Agonists and Antagonists Chapter 15: Cholinesterase Inhibitors and Their Use in Myasthenia Gravis</p>	<p>Assignment: Create Diagram/Cheat Sheet incorporating receptors/drugs from Ch 12 - 19</p> <p>ATI Pharm Made Easy:</p> <p>Review Key Points</p> <p>Review “Summary of Major Nursing</p>

	<p>(PNS)</p> <ul style="list-style-type: none"> Cholinergic & Adrenergic Receptors Specificity <p>Cholinergic Drugs: Muscarinic-Agonists & Antagonists Cholinesterase Inhibitors Neuromuscular Blocking Agents Adrenergic Agonists Alpha-Adrenergic Antagonists Beta-Adrenergic Antagonists Centrally Acting Alpha2-Agonists</p>	<p><u>Chapter 16: Drugs That Block Nicotinic Cholinergic Transmission: Neuromuscular Blocking Agents</u></p> <p><u>Chapter 17: Adrenergic Agonists</u></p> <p><u>Chapter 18: Adrenergic Antagonists</u></p> <p><u>Chapter 19: Indirect-Acting Antiadrenergic Agents</u></p>	<p>Implications”</p> <p>Practice EVOLVE Questions/ Read Rationales</p> <p>Drug Cards:</p> <ul style="list-style-type: none"> TBA
<p>Week 15</p> <p>05/25/2020</p> <p>NO CLASS</p> <p>MEMORIAL DAY</p>	<p>NO CLASS</p>	<p>Study for Final Exam!</p>	
<p>Week 16</p> <p>06/01/2020</p>	<p>Opioid/Non-opioids Pain Management in CA Headache Medications</p> <p>Anesthetic and Anesthesia Malignant Hyperthermia Inhalation Anesthetics Intravenous Anesthetics</p>	<p>Chapters 28, 29, & 30</p> <p><u>Chapter 28: Opioid Analgesics, Opioid Antagonists, and Nonopioid Centrally Acting Analgesics</u></p> <p><u>Chapter 29: Pain Management in Patients with Cancer</u></p> <p><u>Chapter 30: Drugs for Headache</u></p> <p>Chapters 26 & 27</p> <p><u>Chapter 26: Local Anesthetics</u></p> <p><u>Chapter 27: General Anesthetics</u></p>	<p>ATI Pharm Made Easy:</p> <p>Review Key Points</p> <p>Practice EVOLVE Questions/ Read Rationales</p> <p>Review “Summary of Major Nursing Implications”</p> <p>Drug Cards:</p> <ul style="list-style-type: none"> TBA
<p>Week 17</p> <p>06/08/2020</p>	<p>FINAL EXAM:</p>	<p>Majority of content will be from weeks 14, 15, & 16. Some content from previous Exams may be included. TBA</p>	

Tentative, subject to change without prior notice