Course Description

Provides the general principles and concepts of pharmacology. Explores the indications, dosages/strengths, dosage calculations/measurements, and precautions/contraindications that may be associated with specific drugs or drug classes as well as mechanisms of drug administration and therapeutic management of patients with specific disease states, medical processes, health conditions, or considered as special patient populations.

Course Textbook


Course Learning Outcomes

Upon completion of this course, students should be able to:

1. Identify key terms and general principles and concepts of pharmacology.
2. Classify the most commonly identified categories of drug classes with related systems or health conditions.
3. Identify the principles and various routes of drug administration.
4. Apply basic mathematics, measurements, and applicable dosage calculations.
5. Evaluate appropriate drugs that are used to treat common disease states that can affect the multiple and specific systems of the human body.
6. Match the most common drug dosages and drug actions that are used to treat diseases affecting the major systems of the human body.
7. Infer upon the most appropriate drugs of choice in special patient populations (geriatric, pediatric, and pregnant patients).

Credits

Upon completion of this course, the students will earn three (3) hours of college credit.

Course Structure

1. **Unit Learning Outcomes**: Each unit contains Unit Learning Outcomes that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Unit Lesson**: Each unit contains a Unit Lesson, which discusses unit material.
3. **Reading Assignments**: Each unit contains Reading Assignments from one or more chapters from the textbook. Chapter presentations are provided in each unit study guide as Suggested Reading to aid students their course of study. The readings themselves are not provided in the course, but students are encouraged to read the resources listed if the opportunity arises as they have valuable information that expands upon the lesson material.
4. **Learning Activities (Non-Graded)**: These non-graded Learning Activities are provided in Units I-VIII to aid students in their course of study.
5. **Unit Assessments**: This course contains six Unit Assessments, one to be completed at the end of Units I, II, and IV-VII. Assessments are composed of multiple-choice questions and written response questions.
6. **Unit Assignments**: Students are required to submit for grading Unit Assignments in Units II-VII. Specific information and instructions regarding these assignments are provided below. A grading rubric is included with assignment instructions to provide you with a guideline your professor will use to assess your assignment. Grading rubrics are included with the Unit II-VII Assignments. Specific information about accessing these rubrics is provided below.
7. **Final Project:** Students are required to submit for grading a Final Project in Unit VIII. Specific information and instructions regarding this assignment are provided below. A grading rubric is included with this assignment. Specific information for accessing this rubric is included below.

8. **Ask the Professor:** This communication forum provides you with an opportunity to ask your professor general or course content related questions.

9. **Student Break Room:** This communication forum allows for casual conversation with your classmates.

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**CSU Online Library**

The CSU Online Library is available to support your courses and programs. The online library includes databases, journals, e-books, and research guides. These resources are always accessible and can be reached through the library webpage. To access the library, log into the myCSU Student Portal, and click on “CSU Online Library.” You can also access the CSU Online Library from the “My Library” button on the course menu for each course in Blackboard.

The CSU Online Library offers several reference services. E-mail (library@columbiasouthern.edu) and telephone (1.877.268.8046) assistance is available Monday – Thursday from 8 am to 5 pm and Friday from 8 am to 3 pm. The library’s chat reference service, Ask a Librarian, is available 24/7; look for the chat box on the online library page.

Librarians can help you develop your research plan or assist you in finding relevant, appropriate, and timely information. Reference requests can include customized keyword search strategies, links to articles, database help, and other services.

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**Unit Assignments**

**Unit II Article Critique**

**Medication Errors**

One of the topics covered in Unit II is how and why medication errors occur and the best prevention methods. In this Article Critique, you will investigate this issue further.

Using the CSU Online Library, research and critique an article that covers an instance of a medication error. Your article should be recent (within the last five years,) and your critique should include the following:

- An introduction
- A summary of the article’s main points
- The reason for the error
- Consequences of the error
- A paragraph of how you can learn from this article

Your assignment must be in APA format and approximately two pages in length (not including the title and reference page.) Be sure to cite all paraphrase and quotations appropriately.

For more information regarding how to write article critiques, click [here](#) to view the Success Center’s webinar on the subject.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Unit III Project**

**Demonstration of Understanding of Unit III Concepts**

The topics covered in Unit III examine the effects that drugs can have on multiple body systems. These effects can happen whether one uses macronutrients, minerals, herbas, poisons, additive drugs, antibacterial, or antiviral drugs. Each class possess a unique mechanism of action intended achieve a desired response or produce an undesirable outcome.
This project will examine your understanding of the key concepts that are discussed in Chapters 9-12. In the form of a PowerPoint Presentation or Research Paper using correct APA format, using your textbook, as well as resources from the CSU Online Library, address the following questions related to two agents from the classes listed above.

1. Provide a background/introduction of the agents.
2. Discuss the role of the agents in medicine. With poisons, discuss the severity of the poison and the effectiveness of the antidote. With drugs of abuse discuss the severity of the abuse potential and methods for addressing abuse.
3. What is (are) the intended use, intended response, or impact on the applicable body systems?
4. Briefly discuss how the use of poisons and addictive drugs differ from the use of antibacterial and antiviral agents.
5. Provide a conclusion that provides a take home message about each class.

If you choose the PowerPoint Presentation option: Your presentation should be approximately 15 slides in length (not counting the title and reference pages.) Also, include presenter notes and appropriate visuals.

Click here to view the Success Center’s webinar on PowerPoint Presentations.

If you choose the Research Paper option: Your paper should be four-five pages in length (not including the title and reference page.)

Click here to view the Success Center’s webinar on Research Writing.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit IV Essay

Opioid Use

Write a well-developed essay in which you discuss the positives and negatives surrounding opioid use. Provide examples and include the following:

- The advantages and disadvantages of the use of semisynthetic opioid analgesics (oxymorphone, hydrocodone, and oxycodone) as compared to the natural opioid analgesics (morphine, codeine, and opium tincture).
- The degrees of tolerance, dependence, and addiction potential between classes
- The analgesic capabilities between classes
- The degrees of potency between classes

Include the following elements in your essay:

- An introduction with an argumentative thesis statement
- Relevant detail and evidence to suppose the advantages/disadvantages
- At least two sources (one can be the textbook)
- A conclusion

Your essay should be approximately two pages in length (not including the cover and reference page.) Follow APA format and be sure to cite, and reference all outside sources that you used.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit V Case Study

This Case Study has two parts. Answer both part in one APA formatted document, and clearly label parts one and two. References for both parts should be included in one reference page at the end of the Case Study.

Part 1:

Describe the four stages of anesthesia. Describe the importance of each step and the effects of the patient.

Part 1 should be one page in length. You must use at least your textbook to support your answer.
Part 2:

A 26-year-old female comes to visit her primary care provider with complaints of decreased appetite, difficulty concentrating, lack of energy or initiative, and feelings of being withdrawn from her peers for about the last three weeks. She indicated that she started eating better and exercising in hope that this would improve her condition. She informed her physician she has never felt this way before and is a bit worried. She is hoping to get some advice from her doctor.

Discuss what indicators would lead to a diagnosis in this patient, and select a possible treatment intervention. Be sure to include why you think the diagnosis and treatment are the best choice, and support your choices with at least one outside source.

Part 2 should be approximately two pages in length.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit VI Article Critique

Hyperlipidemia and Related Disorders

One of the topics that are covered in Unit VI is hyperlipidemia and related disorders. Hyperlipidemia is a condition that is characterized by an increase in the plasma cholesterol or triglycerides containing lipoprotein particles. In this Article Critique, using the CSU Online Library, you will select an article that discusses recent research updates and/or findings on the management of hyperlipidemia. The article should be between three-five years of publication.

Your critique of the article should include the following:

- An introduction
- A summary of the article’s main research findings or main points
- What is the author(s) intended audience?
- Discuss of whether the article contributes to the current knowledge of the management/treatment of hyperlipidemia
- Future directions for research (if any are indicated)
- A paragraph on what you learned from the article that were previously unaware
- Other questions about the article that relate to the unit objective

Your assignment must be in APA format and approximately two pages in length (not including the title and reference page.) Be sure to cite all paraphrase and quotations appropriately.

For more information regarding how to write article critiques, click here to view the Success Center’s webinar titled, Article Critique.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

Unit VII Essay

Diabetes

Type II diabetes, also called noninsulin-dependent diabetes mellitus, accounts for approximately 90% of all cases of diabetes mellitus. In a well-developed essay, explain why the following would be used in diabetes management:

- Sulfonylureas
- Biguanides
- Thiazolidinediones

Your essay must include the following elements:

- An introduction with an argumentative thesis statement
- The reasons why the above would be used in diabetes
- Evidence from cases, research, etc.
- A conclusion
Your essay should be approximately two pages in length and use correct APA format, including references and citations for all outside sources. You are required to use at least one outside source other than your textbook.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Unit VIII Essay**

**Special Populations Essay**

There are various considerations that must be taken into account when initiating drug therapies in a geriatric, pediatric, or pregnancy patient. In a well-developed essay, discuss one to two key factors/elements that must be taken into consideration when initiating a particular drug (your selection) in a geriatric, pediatric, or pregnant patient.

Include the following elements in your essay:

- An introduction with an argumentative thesis statement
- The description and considerations of the first key factor
- The description and considerations of the second key factor
- A conclusion
- At least two outside sources. One can be your textbook, but the other must be from the CSU Online Library.

Your essay should be approximately one page in length (not including the cover and reference page.) Follow APA format and be sure to cite, and reference all outside sources that you used.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Unit VIII Research Paper**

In a 7-10 page paper (not including title page and reference section) with a minimum of 10 references, select a condition that has been examined during the course and discuss the following:

1. History/background/introduction into the condition.
2. Pathophysiology or proposed origin of the condition.
3. Signs/symptoms/hallmarks of the condition.
5. Identify the available treatment options for this condition.
6. Discuss the mechanism of action of the available treatments (drug classes).
7. Indicate one nationally or internationally recognized treatment guideline for the condition (if application); First line, second-line, third-line treatment options.
8. Identify and evaluate any recent research findings (within the last five years) about the future direction of treating the conditions. Are there any significant changes or has it remained the same?
9. Discuss new treatments in the pipeline (if any).
10. Conclusion: Answer the following:
   a. Do you think the treatment of this condition is moving in the right direction for improving people’s quality of life? Why, or why not?
   b. Do you feel there are benefits versus risks or vice versa when it comes to the treatment of this condition?
   c. Summarize or provide a take home message regarding your discussion of this condition.

Your paper must include the following elements:

- Cover page
- An argumentative thesis statement
- Headings for the above requirements
- Relevant and specific evidence
- Paraphrase and quotations from outside sources
- A conclusion

It is strongly advised that you select your topic and conduct some research prior to Unit VIII. Starting prior to Unit VIII will allow you the time to communicate with your professor on any questions that you may have and develop a strong topic/thesis. It is also advised that you utilize the resources from the Success Center.
Your final paper must be in APA format, which includes proper citing and referencing.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**APA Guidelines**

The application of the APA writing style shall be practical, functional, and appropriate to each academic level, with the primary purpose being the documentation (citation) of sources. CSU requires that students use APA style for certain papers and projects. Students should always carefully read and follow assignment directions and review the associated grading rubric when available. Students can find CSU’s Citation Guide by clicking here. This document includes examples and sample papers and provides information on how to contact the CSU Success Center.

**Grading Rubrics**

This course utilizes analytic grading rubrics as tools for your professor in assigning grades for all learning activities. Each rubric serves as a guide that communicates the expectations of the learning activity and describes the criteria for each level of achievement. In addition, a rubric is a reference tool that lists evaluation criteria and can help you organize your efforts to meet the requirements of that learning activity. It is imperative for you to familiarize yourself with these rubrics because these are the primary tools your professor uses for assessing learning activities.

Rubric categories include: (1) Assessment (Written Response) and (2) Assignment. However, it is possible that not all of the listed rubric types will be used in a single course (e.g., some courses may not have Assessments).

The Assessment (Written Response) rubric can be found embedded in a link within the directions for each Unit Assessment. However, these rubrics will only be used when written-response questions appear within the Assessment.

Each Assignment type (e.g., article critique, case study, research paper) will have its own rubric. The Assignment rubrics are built into Blackboard, allowing students to review them prior to beginning the Assignment and again once the Assignment has been scored. This rubric can be accessed via the Assignment link located within the unit where it is to be submitted. Students may also access the rubric through the course menu by selecting “Tools” and then “My Grades.”

Again, it is vitally important for you to become familiar with these rubrics because their application to your Assessments and Assignments is the method by which your instructor assigns all grades.

**Communication Forums**

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

Once you have completed Unit VIII, you MUST unsubscribe from the forum; otherwise, you will continue to receive e-mail updates from the forum. You will not be able to unsubscribe after your course end date.

Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.

**Ask the Professor**

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.
Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

Student Break Room

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.

Grading

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<th>Component</th>
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<td>Essays (3 @ 7%)</td>
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Course Schedule/Checklist (PLEASE PRINT)

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

## Unit I  Principles of Pharmacology

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 1: Introduction to Pharmacology
- Chapter 2: Law and Ethics of Medications
- Chapter 3: Terminology, Abbreviations, and Dispensing Prescriptions
- Chapter 4: Administration of Medications
- **Suggested Reading:** See Study Guide

**Submit:**
- Assessment

**Notes/Goals:**

## Unit II  Calculations and Errors

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 5: Basic Mathematics
- Chapter 6: Measurement Systems and Their Equivalents
- Chapter 7: Adult and Pediatric Dosage Calculations
- Chapter 8: Medical Errors and Prevention
- **Suggested Reading:** See Study Guide

**Submit:**
- Assessment
- Article Critique

**Notes/Goals:**

## Unit III  Nutrients and Poisons

**Review:**
- Unit Study Guide
- **Learning Activities (Non-Graded):** See Study Guide

**Read:**
- Chapter 9: Nutritional Aspects of Pharmacology and Herbal Substances
- Chapter 10: Toxicology
- Chapter 11: Substance Abuse
- Chapter 12: Antibacterial and Antiviral Agent
- **Suggested Reading:** See Study Guide

**Submit:**
- Project

**Notes/Goals:**
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<td>Read:</td>
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<td>Chapter 15: Analgesic, Antipyretic, and Anti-Inflammatory Drugs</td>
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<td>Chapter 18: Drugs Used to Treat Autonomic Nervous System Conditions</td>
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<td>Read:</td>
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<td>Read:</td>
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