Cover Sheet: Request 10659

PHA 5782C Patient Care 2: Introduction to Infectious Disease and Hematology/Oncology

Info

Process	Course|New|Ugrad/Pro
Status	Pending
Submitter	Beck,Diane Elizabeth beck@cop.ufl.edu
Created	1/2/2016 4:41:39 PM
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Description	Second of an eight course sequence that prepares the student to provide patient-centered care by serving as a collaborative interprofessional team-member who is an authority on pharmacotherapy. This course focuses on providing patient-centered care to patients who have the following disorders: infectious disease, hematology and oncology.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	COP - Interdisciplinary Studies	Whalen, Karen		1/2/2016
Deleted Pt Care 2 1-2-16.docx					1/2/2016
College	Approved	COP - College of Pharmacy	Beck, Diane Elizabeth		1/24/2016
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Case, Brandon	Added to the February agenda.	1/25/2016
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			1/25/2016
No document changes					
Statewide Course Numbering System					
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College Notified					
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Course|New for request 10659

Info

Request: PHA 5782C Patient Care 2: Introduction to Infectious Disease and Hematology/Oncology
Submitter: Beck,Diane Elizabeth beck@cop.ufl.edu
Created: 1/2/2016 5:45:47 PM
Form version: 2

Responses

Recommended Prefix: PHA
Course Level : 5
Number : 782
Lab Code : C
Course Title: Patient Care 2: Introduction to Infectious Disease and Hematology/Oncology
Transcript Title: Patient Care 2
Effective Term : Fall
Effective Year: 2016
Rotating Topic?: No
Amount of Credit: 4
Repeatable Credit?: No
S/U Only?: No
Contact Type : Regularly Scheduled
Degree Type: Professional
Weekly Contact Hours : 15
Category of Instruction : Introductory
Delivery Method(s): On-Campus
Course Description : Second of an eight course sequence that prepares the student to provide patient-centered care by serving as a collaborative interprofessional team-member who is an authority on pharmacotherapy. This course focuses on providing patient-centered care to patients who have the following disorders: infectious disease, hematology and oncology.
Prerequisites : Completion of all Year 1 Pharm.D. program coursework including milestones.
Co-requisites : PHA 5755 Principles of Medical Microbiology, Immunology, and Virology PHA 5163 L Professional Practice Skills Lab III

Rationale and Placement in Curriculum : This course requires application of principles learned in all year 1 coursework.
It is early in the Patient Care sequence since it introduces infectious diseases, hematology, and oncology. These diseases/disorders are learned in greater breadth and depth during Patient Care 3-8.
Course Objectives : 1. Upon completion of this course, the student will be able to provide patient-centered care for patients with one or more of the following disorders or pharmacotherapy needs:
A. Antibiotic stewardship
B. Uncomplicated urinary tract infection
C. Community-acquired pneumonia
D. Skin and soft tissue infections
E. Surgical prophylaxis
F. Vulvovaginitis
G. Influenza
H. Anemias (iron-deficiency, B12, and folate)
I. Leukemia

J. Chemotherapy-induced nausea and vomiting

2. Specifically, given a case of a patient with one or more of the above disorders/pharmacotherapy needs:

a. Integrate knowledge and use clinical reasoning skills in accomplishing the following steps when managing a patient with the disease state:
i. Collect: Gather subjective and objective information about the patient in order to understand the relevant medical and medication history and clinical status of the patient.
1. Subjective and objective information is collected through patient interview, medical record review, pharmacy profile review, and communication with other members of the health care team.
2. A Holistic View is initiated during collection in order to consider physiological, psychological, and sociological variables of the patient and this view is maintained throughout the patient care process.
ii. Assess: Assess the information collected and analyze the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.
1. Understand, explain, and assess a patient's health status.
2. Interpret physical and patient assessment findings
3. Assess each medication for appropriateness, effectiveness, safety, and patient adherence.
4. Assess health and functional status, risk factors, health data, cultural factors, health literacy, and access to medications or other aspects of care.
5. Assess immunization status and the need for preventive care and other health care services.
6. Integrate knowledge, clinical experience, and patient data to formulate and test hypotheses about the etiology of medication-related problems. (Generate hypotheses)
7. Establish potential and actual medication-related problems.
iii. Plan: Develop an individualized patient-centered care plan in collaboration with other health care professionals and the patient/caregiver.
1. Therapeutic Goals: Develop specific and general therapeutic goals for the patient. These goals achieve clinical outcomes in the context of the patient's overall health care goals and access to care.
2. Therapeutic Plan: Integrate knowledge, evidence-based literature/information, clinical experience, patient data, patient goals and desires, and the prescriber's judgment when developing the best pharmacotherapeutic plan for the patient.
a. Therapeutic Alternatives: Evaluate pharmacotherapeutic alternatives for the patient before establishing the therapeutic plan.
b. Develop the Therapeutic Plan: This plan addresses medication-related problems and optimizes medication therapy. Considerations for the plan include:
i. Goals and desires of the patient
ii. Application of established practice guidelines, evidence-based medicine, and population-based treatment plans in developing the plan.
iii. Accurate and patient-specific dosing (including dosage adjustment for renal/hepatic dysfunction, starting dose, maximum doses, timing of doses and pharmacokinetic design for narrow therapeutic index drugs,).
iv. Parameters for monitoring response and frequency of monitoring
v. Parameters for monitoring adverse effect and frequency of monitoring
vi. Plan for patient counseling/education
vii. Supports care continuity, including follow-up and transitions of care as appropriate.
c. Patient/Caregiver engagement: The patient/caregiver are involved through education, empowerment, and self-management.
iv. Implement: Implement the care plan in collaboration with other health care professionals and the patient/caregiver. When implementing the care plan, the following are accomplished:
1. Medication and health-related problems are addressed.

2. Preventative care including vaccine administration are provided.
3. Medication therapy is initiated, modified, discontinued, or administered as authorized.
4. Education and self-management training is provided to the patient/caregiver.
5. Refers and provides transitions of care as needed.
6. Schedules follow-up care as needed to achieve goals of therapy.

v. Follow-up (Monitor and Evaluate): Monitor and evaluate the effectiveness of the care plan and modify the plan in collaboration with other health care professionals and the patient/care giver. The following are continually monitored and evaluated:

1. Medication appropriateness, effectiveness, and safety and patient adherence through available data, biometric test results and patient feedback.
2. Clinical endpoints that contribute to the patient's overall health.
3. Outcomes of care, including progress toward or achievement of goals.

vi. Patient-Centered Care: Foster a patient-centered care approach by accomplishing the following:

1. Communicate: Succinctly communicate with other health care team members and the patient/caregiver throughout the patient care process.
2. Collaborate: Discuss with team members the specific therapeutic approaches for individual patients based on scientifically and logically validated assessment of the patient's health care needs and an ethical consideration of the patient's health care goals and desires.
3. Document: Prepare a written communication that is well-organized, logical, complete, appropriate, and evidence-based.

b. Apply and integrate foundational knowledge (i.e., pharmaceutical, social/behavioral/administrative, and clinical sciences) throughout the patient care process. This will require the ability to:

i. Describe the pathophysiology of disease state(s) and identify appropriate drug targets (cellular/molecular), biochemical processes, and organ changes for therapeutic intervention. Specifically, for a given disease state:

1. Describe the basic pathophysiology of the disease including an explanation of the abnormal processes and the resulting disease signs and symptoms.
2. Outline risk factors and/or diagnostic indicators (e.g., lab values, diagnostic test results).
3. Determine classes of drugs that will treat the disease state and ameliorate the underlying pathophysiology and signs/symptoms.

ii. Apply knowledge about structure-activity relationships and cellular/molecular mechanisms of action to identify drug classes that are appropriate for treatment of the disease state. Specifically, for each drug class:

1. Identify the relevant therapeutic targets and explain the mechanism(s) of action.

iii. Compare and contrast the therapeutic and adverse effects of drug classes that are appropriate for treating the disease state.

1. Describe major pathways for metabolism and the pharmacological/therapeutic consequences of metabolism.
2. Identify the most common/serious drug interactions and adverse effects.
3. Identify important precautions and contraindications.
4. Recommend any unique storage, handling, or use requirements to ensure patient safety and clinical efficacy.
5. Discuss significant pharmacokinetic and pharmacodynamic considerations.

iv. Compare and contrast the therapeutic and adverse effects of drugs within a given class and then recommend the best drug for the patient.

v. Integrate the following transcending concepts when assessing a patient and developing a care plan:

1. Apply foundational concepts about health information and informatics (Informatics)
2. Evaluate Superiority Randomized Controlled Trials (RCTs) and PROs and apply to a patient need (Evidence-based practice)
3. Use clinical reasoning and clinical judgment (Problem-solving)
4. Address disparity issues/stigmatism related to sickle cell treatment (Social

considerations)
5. Consider a patient/families perspective about death and dying when providing care (Behavioral considerations).
6. Address issues related to law and ethics.
7. Recommend Immunizations (Strategies for health-wellness)
8. Provide aminoglycoside, vancomycin, and general antibiotic dosing recommendations (pharmacokinetics)
9. Apply oncology pharmacogenomics (Personalized Medicine)
10. Care for pediatric patients with sickle cell anemia (Special populations)
11. Assess the role of herbal and dietary supplements for the immune system (Self-care: OTC, herbals-dietary supplements, CAM)
12. Use SBAR when communicating with another health professional (Interprofessional collaboration)
13. Medication safety
14. Population-based care
3. Demonstrate the ability to be an effective team member by collaborating in preparing for class sessions and in solving case studies.

Course Textbook(s) and/or Other Assigned Reading: 1. Foye WO, Lemke T, Williams DA. Foye's Principles of Medicinal Chemistry, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, PA, 7th Edition, 2013. ISBN-13:978-1609133450; ISBN-10:1609133455
2. AccessPharmacy, McGraw-Hill Professional, New York, NY (This resource is available through the UF Health Science Center Library.) The following resources will be frequently used:
o Brunton L. Goodman and Gilman's The Pharmacological Basis of Therapeutics, McGraw-Hill Professional, New York, NY, 12th Edition, 2011. ISBN-13:978-0071624428; ISBN-10:0071624422 (Available in Access Pharmacy)
o Dipiro, J, Talbert R, Yee G, Matzke G, Wells B, Posey L. Pharmacotherapy – A pathophysiologic approach. McGraw-Hill Professional, New York, NY, 9th Edition, 2014. ISBN-13:978-0071800532; ISBN-10:0071800530 (Available in Access Pharmacy)
o Other available resources include: Multiple textbooks, Calculators, Pharmacotherapy Casebook and Care Plans, Cases, Self-Assessments and Multimedia Videos
3. Readings from the primary literature will also be assigned where appropriate.

Weekly Schedule of Topics : 8/22 (M)

Pharmacology of Antimicrobials - Part 1
8/23 (T)

Pharmacology of Antimicrobials - Part 2 (Include general antibiotic dosing in renal and hepatic disease)
8/24 (W) Medicinal Chemistry of Antimicrobials
8/24 (W) Principles of Antimicrobial Use (Stewardship)
8/24 (W) Urinary Tract Infections
8/24 (W) Pharmacology of Antimicrobials – Part 3
8-25 (Th) Case Studies*: UTI (includes an iRAT and tRAT)
8/25 (Th) Pharmacology of Antimicrobials – Part 4
8/25 (Th) Pneumonia
8/26 (F) Case Studies*: Pneumonia (includes an iRAT and tRAT)
8/26 (F) Pharmacokinetics (this module content will be applied in the concurrent skills lab course and in the capstone module)
8/26 (F) Medicinal Chemistry of Antimicrobials II; Pharmacotherapy of Surgical Prophylaxis; Skin and Soft Tissue Infections

8/29 (M) Case Studies*: Skin/Soft Tissue Infection (includes an iRAT and tRAT)
8/29 (M) Pharmacology of Antifungals

8/30 (T) Medicinal Chemistry of Antifungals
8/30 (T) Therapeutics of Antifungals
8/31 (W) Case Studies*: Vulvovaginitis (includes an iRAT and tRAT)
8/31—9/1 (W-Th)

Pharmacology of Antivirals; Medicinal Chemistry of Antivirals; Therapeutics of Antivirals
9/2 (F)

Case Studies*: Influenza (includes an iRAT and tRAT)
9/2 (F)

Pathophysiology of Anemias; Therapeutics of Anemias Includes Transcending Concepts**: Special Populations and Disparity Issues (Pediatric Patients with Sickle-Cell Anemia; stigmatism related to sickle-cell anemia)
9/7 (W) Midterm Exam (Covers Modules 1-2)
9/8 (Th) Case Studies*: Anemia (includes an iRAT and tRAT)
9/8 (Th) Pharmacology of Oncology Drugs – Part 1
9/9 (F) Pharmacology of Oncology Drugs - Part 2
Includes Transcending Concept: Personalized Medicine (Oncology)
9/9 (F) Medicinal Chemistry of Oncology Drugs; Principles of Oncology Therapeutics; Leukemia; Transcending Concepts**: Communicating with Terminally ill Patients; Death and Dying
9/12 (M) Case Studies*: Leukemia (includes an iRAT and tRAT)
9/12 (M) Pharmacology of Anti-emetics
9/13(T) Medicinal Chemistry of Anti-emetics
9/13(T) Therapeutics of Antiemetics
9/14 (W) Case Studies*: Nausea and Vomiting in the Cancer Patient (includes an iRAT and tRAT)
9/14 (W) Transcending Concepts**: Informatics, Superiority RCTs and PROs, Self-Care – Herbal & dietary supplements for the Immune System, Interprofessional (SBAR), Medication Safety and Patient Safety (Drug Therapy Problems Related to Access)
9/15 – 9/16 (Th-Fri) Capstone *
9/19 (Mon) Comprehensive Final Exam

Grading Scheme : Assessment Item Grade Percentage
iRATs Each Case Studies Session includes an iRAT (N = 8) 15
tRATs* Each Case Studies Session includes an iRAT (N = 8) 25
Mid-term Exam 25
Final Exam 35
Total 100%

Instructor(s) : Randy Hatton, Pharm.D. (Academic Director) Yousong Ding, Ph.D.Michelle Farland, Pharm.D.Oliver Grundmann, Ph.D.Emily Huesgen, Pharm.D., MPH Robert Huigens, Ph.D. Jackie Jourjy, Pharm.D. Lindsey Childs-Kean, Pharm.D. Adonice Khoury, Pharm.D. Ken Klinker, Pharm.D.

PHA 5782C Patient Care 2:
Introduction to Infectious Disease and Hematology/Oncology

Fall 2016 – Block 5
4 Credit Hours

Course Purpose:
Second of an eight course sequence that prepares the student to provide patient-centered care by serving as a collaborative interprofessional team-member who is an authority on pharmacotherapy. Learning occurs through team-based learning. This course focuses on providing patient-centered care to patients who have the following disorders: infectious disease, hematology and oncology disorders. Learners will develop, integrate, and apply knowledge from the foundational disciplines (i.e., ***pharmaceutical, social/behavioral/administrative***, and ***clinical sciences***) and apply the Pharmacists' Patient Care Process in solving case-based scenarios of patients with infectious diseases, hematologic and oncology disorders.

Course Faculty and Office Hours
(See **Appendix A** for Who to Contact)

Academic Director: Randy Hatton, BPharm, PharmD, FCCP, BCPS
Email: rhatton@cop.ufl.edu
Office: HPNP 2331
Phone: 352-294-5785
Office Hours: By appointment

Core Teaching Partners:

Name	Email: address	Phone:
Bin Liu, Ph.D.	liu@cop.ufl.edu	352-273-7747
Hendrik Luesch, Ph.D.	luesch@cop.ufl.edu	352-273-7738
Jackie Jourjy, Pharm.D.	jjourjy@cop.ufl.edu	407-313-7033
Ken Klinker, Pharm.D.	klinkkp@cop.ufl.edu	352-265-0111 ext. 45892
TBA		

Appendix B contains the contact information for all other teaching partners

Academic Coordinator
Name - TBD Email:
Office: Phone:
Office Hours: by email and appointment

This Course Will Prepare You to Perform the Following Activities Which the Public Entrusts a Pharmacist to Perform:

1. **EPA A1**. Collect subjective and objective data by performing a patient assessment and gathering data from chart/electronic records, pharmacist records, other health professionals and patient/family interviews.
2. **EPA A2.** Interpret patient data, and identify medication-related problems and develop a prioritized problem list.
3. **EPA A3.** Formulate evidence-based care plans in collaboration with an interprofessional team. Utilize clinical guidelines in the development of a pharmacotherapy plan.
4. **EPA A4.** Document a patient/clinical encounter electronically/in writing.
5. **EPA A5.** Provide counseling and medications and health wellness (including referral when there are social determinants of health and disparities).
6. **EPA A6.** Assess and counsel a patient about health-wellness.
7. **EPA A7.** Present a succinct oral patient summary and plan to a health care provider. Defend a therapeutic plan verbally or in writing using references, guidelines, or primary literature.
8. **EPA A8.** Give and receive a patient handover to transition care.
9. **EPA A9.** Collaborate as a member of an interprofessional team and provide patient-centered care.

Course-Level Objectives

1. **Upon completion of this course, the student will be able to provide patient-centered care for patients with one or more of the following disorders or pharmacotherapy needs:**
   - A. Antibiotic stewardship
   - B. Uncomplicated urinary tract infection
   - C. Community-acquired pneumonia
   - D. Skin and soft tissue infections
   - E. Surgical prophylaxis
   - F. Vulvovaginitis
   - G. Influenza
   - H. Anemias (iron-deficiency, B12, and folate)
   - I. Leukemia
   - J. Chemotherapy-induced nausea and vomiting

2. **Specifically, given a case of a patient with one or more of the above disorders/pharmacotherapy needs:**

    a. **Integrate knowledge and use clinical reasoning skills in accomplishing the following steps when managing a patient with the disease state:**

        i. **Collect:** Gather subjective and objective information about the patient in order to understand the relevant medical and medication history and clinical status of the patient.

1. Subjective and objective information is collected through patient interview, medical record review, pharmacy profile review, and communication with other members of the health care team.
2. A Holistic View is initiated during collection in order to consider physiological, psychological, and sociological variables of the patient and this view is maintained throughout the patient care process.

ii. **Assess:** Assess the information collected and analyze the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.
1. Understand, explain, and assess a patient's health status.
2. Interpret physical and patient assessment findings
3. Assess each medication for appropriateness, effectiveness, safety, and patient adherence.
4. Assess health and functional status, risk factors, health data, cultural factors, health literacy, and access to medications or other aspects of care.
5. Assess immunization status and the need for preventive care and other health care services.
6. Integrate knowledge, clinical experience, and patient data to formulate and test hypotheses about the etiology of medication-related problems. (Generate hypotheses)
7. Establish potential and actual medication-related problems.

iii. **Plan:** Develop an individualized patient-centered care plan in collaboration with other health care professionals and the patient/caregiver.
1. **Therapeutic Goals:** Develop specific and general therapeutic goals for the patient. These goals achieve clinical outcomes in the context of the patient's overall health care goals and access to care.
2. **Therapeutic Plan:** Integrate knowledge, evidence-based literature/information, clinical experience, patient data, patient goals and desires, and the prescriber's judgment when developing the best pharmacotherapeutic plan for the patient.
    a. **Therapeutic Alternatives:** Evaluate pharmacotherapeutic alternatives for the patient before establishing the therapeutic plan.
    b. **Develop the Therapeutic Plan:** This plan addresses medication-related problems and optimizes medication therapy. Considerations for the plan include:
        i. Goals and desires of the patient
        ii. Application of established practice guidelines, evidence-based medicine, and population-based treatment plans in developing the plan.

iii. Accurate and patient-specific dosing (including dosage adjustment for renal/hepatic dysfunction, starting dose, maximum doses, timing of doses and pharmacokinetic design for narrow therapeutic index drugs,).
iv. Parameters for monitoring response and frequency of monitoring
v. Parameters for monitoring adverse effect and frequency of monitoring
vi. Plan for patient counseling/education
vii. Supports care continuity, including follow-up and transitions of care as appropriate.

c. **Patient/Caregiver engagement:** The patient/caregiver are involved through education, empowerment, and self-management.

iv. **Implement:** Implement the care plan in collaboration with other health care professionals and the patient/caregiver. When implementing the care plan, the following are accomplished:
1. Medication and health-related problems are addressed.
2. Preventative care including vaccine administration are provided.
3. Medication therapy is initiated, modified, discontinued, or administered as authorized.
4. Education and self-management training is provided to the patient/caregiver.
5. Refers and provides transitions of care as needed.
6. Schedules follow-up care as needed to achieve goals of therapy.

v. **Follow-up (Monitor and Evaluate):** Monitor and evaluate the effectiveness of the care plan and modify the plan in collaboration with other health care professionals and the patient/care giver. The following are continually monitored and evaluated:
1. Medication appropriateness, effectiveness, and safety and patient adherence through available data, biometric test results and patient feedback.
2. Clinical endpoints that contribute to the patient's overall health.
3. Outcomes of care, including progress toward or achievement of goals.

vi. **Patient-Centered Care:** Foster a patient-centered care approach by accomplishing the following:
1. **Communicate:** Succinctly communicate with other health care team members and the patient/caregiver throughout the patient care process.

2. **Collaborate:** Discuss with team members the specific therapeutic approaches for individual patients based on scientifically and logically validated assessment of the patient's health care needs and an ethical consideration of the patient's health care goals and desires.
3. **Document:** Prepare a written communication that is well-organized, logical, complete, appropriate, and evidence-based.

b. **Apply and integrate foundational knowledge (i.e., pharmaceutical, social/behavioral/administrative**, and **clinical sciences) throughout the patient care process.** This will require the ability to:
   i. Describe the pathophysiology of disease state(s) and identify appropriate drug targets (cellular/molecular), biochemical processes, and organ changes for therapeutic intervention. Specifically, for a given disease state:
      1. Describe the basic pathophysiology of the disease including an explanation of the abnormal processes and the resulting disease signs and symptoms.
      2. Outline risk factors and/or diagnostic indicators (e.g., lab values, diagnostic test results).
      3. Determine classes of drugs that will treat the disease state and ameliorate the underlying pathophysiology and signs/symptoms.
   ii. Apply knowledge about structure-activity relationships and cellular/molecular mechanisms of action to identify drug classes that are appropriate for treatment of the disease state. Specifically, for each drug class:
      1. Identify the relevant therapeutic targets and explain the mechanism(s) of action.
   iii. Compare and contrast the therapeutic and adverse effects of drug classes that are appropriate for treating the disease state.
      1. Describe major pathways for metabolism and the pharmacological/therapeutic consequences of metabolism.
      2. Identify the most common/serious drug interactions and adverse effects.
      3. Identify important precautions and contraindications.
      4. Recommend any unique storage, handling, or use requirements to ensure patient safety and clinical efficacy.
      5. Discuss significant pharmacokinetic and pharmacodynamic considerations.
   iv. Compare and contrast the therapeutic and adverse effects of drugs within a given class and then recommend the best drug for the patient.
   v. Integrate the following transcending concepts when assessing a patient and developing a care plan:

1. Apply foundational concepts about health information and informatics (Informatics)
2. Evaluate Superiority Randomized Controlled Trials (RCTs) and PROs and apply to a patient need (Evidence-based practice)
3. Use clinical reasoning and clinical judgment (Problem-solving)
4. Address disparity issues/stigmatism related to sickle cell treatment (Social considerations)
5. Consider a patient/families perspective about death and dying when providing care (Behavioral considerations).
6. Address issues related to law and ethics.
7. Recommend Immunizations (Strategies for health-wellness)
8. Provide aminoglycoside, vancomycin, and general antibiotic dosing recommendations (pharmacokinetics)
9. Apply oncology pharmacogenomics (Personalized Medicine)
10. Care for pediatric patients with sickle cell anemia (Special populations)
11. Assess the role of herbal and dietary supplements for the immune system (Self-care: OTC, herbals-dietary supplements, CAM)
12. Use SBAR when communicating with another health professional (Interprofessional collaboration)
13. Medication safety
14. Population-based care

3. **Demonstrate the ability to be an effective team member by collaborating in preparing for class sessions and in solving case studies.**

Pre-Requisite or Co-Requisite Knowledge and Skills

1. Pre-requisite: Completion of all Year 1 Pharm.D. program coursework including milestones
2. Co-Requisites:
    a. PHA 5755 Principles of Medical Microbiology, Immunology, and Virology
    b. PHA 5163L Professional Practice Skills Lab III

Course Outline

Case studies will involve application of what has been learned to date during the Pharm.D. curriculum.

The case studies and exam cover the related content described in course objective 1. They also cover course objectives 2 and 3.

Appendix C provides a guide for students in working up case studies.

ALERT about Schedule: *Please routinely check your campus calendar and the Canvas course site for any messages about changes in the schedule including meeting dates/times, deadlines, and room changes*

*Case Studies and Capstone Sessions are active learning sessions that allow for application of other coursework. Since part of the time involves interaction with team members rather than faculty members, a 2.0 hr contact time is equivalent to 1.0 hr of instructor contact time.

**Transcending concepts provide content that will be applied during the Case Studies.

Date *Recommended* Dates *for Viewing Videos*	Module and Unit	Unit Topic Learning Resources will include Lecture Videos and readings.	Contact Hours [hr][a]	Faculty
8/22 (M)	1A	Pharmacology of Antimicrobials - Part 1	2.0 hr	Klinker, Venugopalan & Jourjy
8/23 (T)	1A	Pharmacology of Antimicrobials - Part 2 (Include general antibiotic dosing in renal and hepatic disease)	3.0 hr	Klinker, Venugopalan & Jourjy
8/24 (W)	1B	Medicinal Chemistry of Antimicrobials	1.5 hr	Huigens
8/24 (W)	1C	Principles of Antimicrobial Use (Stewardship)	1.5 hr	Klinker
8/24 (W)	1D	Urinary Tract Infections	0.5 hr	Klinker
8/24 (W)	1E	Pharmacology of Antimicrobials – Part 3	2.0 hr	Klinker, Venugopalan & Jourjy
8-25 (Th)	***Thru 1D***	***Case Studies*: UTI*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Venugopalan, Jourjy, Huigens, Klinker

8/25 (Th)	1E	Pharmacology of Antimicrobials – Part 4	2.5 hr	Klinker, Venugopalan & Jourjy
8/25 (Th)	1F	Pneumonia	0.5 hr	Venugopalan & Jourjy
8/26 (F)	***Thru 1F***	***Case Studies*: Pneumonia*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Venugopalan, Jourjy, Ding, Klinker
8/26 (F)	1G	Pharmacokinetics (this module content will be applied in the concurrent skills lab course and in the capstone module)	1.5 hr	Klinker, Juergen Bulitta
8/26 (F)	1H	Medicinal Chemistry of Antimicrobials II	1.5 hr	Huigens
	1I	Pharmacotherapy of Surgical Prophylaxis	0.5 hr	Klinker
	1J	Skin and Soft Tissue Infections	0.5 hr	Venugopalan
8/29 (M)	***1A thru 1F & 1H thru 1J***	***Case Studies*: Skin/Soft Tissue Infection*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Huigens, Klinker
8/29 (M)	2A	Pharmacology of Antifungals	1.5 hr	Childs-Kean
8/30 (T)	2B	Medicinal Chemistry of Antifungals	1.0 hr	Ding
8/30 (T)	2C	Therapeutics of Antifungals	0.5 hr	Huesgen
8/31 (W)	***Thru 2C***	***Case Studies*: Vulvovaginitis*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Childs-Kean, Ding, Huesgen
8/31—9/1 (W-Th)	2D	Pharmacology of Antivirals	1.5 hr	Huesgen
	2E	Medicinal Chemistry of Antivirals	1.0 hr	Ding
	2F	Therapeutics of Antivirals	0.5 hr	Huesgen

9/2 (F)	***Thru 2F***	***Case Studies*: Influenza*** (includes an iRAT and tRAT)	2 hr	Huesgen, Ding
9/2 (F)	3A	Pathophysiology of Anemias	0.5 hr	Khoury
	3B	Therapeutics of Anemias Includes Transcending Concepts**: Special Populations and Disparity Issues (Pediatric Patients with Sickle-Cell Anemia; stigmatism related to sickle-cell anemia)	1.5 hr	Farland & TBA
9/7 (W)		***Midterm Exam*** (Covers Modules 1-2)	2.0 hr	
9/8 (Th)	***Thru 3B***	***Case Studies*: Anemia*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Khoury, Farland, Huesgen
9/8 (Th)		Pharmacology of Oncology Drugs – Part 1	2.0 hr	
9/9 (F)	4A	Pharmacology of Oncology Drugs - Part 2 Includes Transcending Concept: Personalized Medicine (Oncology)	1.5 hr	Bin Liu Lamba J.
9/9 (F)	4B	Medicinal Chemistry of Oncology Drugs	1.75 hr	Luesch
9/9 (F)	4C	Principles of Oncology Therapeutics	1.75 hr	Paige May. Kourtney LaPlant
	4D	Leukemia	1.5 hr	TBD
	4E	***Transcending Concepts**:*** *Communicating with Terminally ill Patients; Death and Dying*	0.5 hr	Normann; TBD
9/12 (M)	***Thru 4E***	***Case Studies*: Leukemia*** (includes an iRAT and tRAT)	2.0 hr (4.0 hr workup)	Luesch, TBD, Normann

9/12 (M)	4F	Pharmacology of Anti-emetics	0.75 hr	TBD
9/13(T)	4G	Medicinal Chemistry of Anti-emetics	0.75 hr	Luesch
9/13(T)	4H	Therapeutics of Antiemetics	0.75 hr	TBD
9/14 (W)	***Thru 4H***	***Case Studies*: Nausea and Vomiting in the Cancer Patient*** (includes an iRAT and tRAT)	2.0 hr	Luesch, TBD
9/14 (W)	5	***Transcending Concepts**:*** *Informatics, Superiority RCTs and PROs, Self-Care – Herbal & dietary supplements for the Immune System, Interprofessional (SBAR), Medication Safety and Patient Safety (Drug Therapy Problems Related to Access)*	1.25 hr	TBD, Klinker, Hatton, Grundman; TBD
9/15 – 9/16 (Th-Fri)	***Thru 5***	***Capstone*** *	4.0 hr	Venugopalan, Jourjy, Ding, K. Klinker, Childs-Kean, Huesgen, Khoury, Farland, Lamba J, Liu, Luesch, TBD, Hatton, Normann, D. Klinker
9/19 (Mon)	**All Modules**	Comprehensive Final Exam (Items Cover All Modules and All Prior Coursework)	**2.0 hr**	

[a] This course is estimated to require 180 hours over 4 weeks (i.e., 45 hours per week for a 4-credit-hour course) = 60 hours (i.e., 15 hours per week) of "direct faculty instruction" (videos and in-class time) and a minimum of 120 hours (i.e., 30 hours per week) of "out-of-class" (readings, studying, and preparation for cases) work. Note: As noted by UF policy, for each hour of "Instructor Contact," students are expected to spend a minimum of 2 hours of additional time completing learning activities. Thus, if a week has 15 hours of Instructor Contact, the student should plan on a minimum of 30 additional hours of study. Therefore, they typical student will devote 45 hours of effort to the course that week. The course hours estimated in this syllabus are for a "typical" student – some students will find that they will devote less time, while others will need to devote more time.

Textbooks

The following textbooks are required:

1. Foye WO, Lemke T, Williams DA. Foye's Principles of Medicinal Chemistry, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, PA, 7th Edition, 2013. ISBN-13:978-1609133450; ISBN-10:1609133455
2. AccessPharmacy, McGraw-Hill Professional, New York, NY (This resource is available through the UF Health Science Center Library.) The following resources will be frequently used:
    - Brunton L. Goodman and Gilman's The Pharmacological Basis of Therapeutics, McGraw-Hill Professional, New York, NY, 12th Edition, 2011. ISBN-13:978-0071624428; ISBN-10:0071624422 (Available in Access Pharmacy)
    - Dipiro, J, Talbert R, Yee G, Matzke G, Wells B, Posey L. Pharmacotherapy – A pathophysiologic approach. McGraw-Hill Professional, New York, NY, 9th Edition, 2014. ISBN-13:978-0071800532; ISBN-10:0071800530 (Available in Access Pharmacy)
    - Other available resources include: Multiple textbooks, Calculators, Pharmacotherapy Casebook and Care Plans, Cases, Self-Assessments and Multimedia Videos
3. Readings from the primary literature will also be assigned where appropriate.

Materials and Supplies Fees:

None

Student Evaluation & Grading

Evaluation Methods and how grades are determined

The Canvas© gradebook will be set up using the percentages below to compute the grade. The Case Studies Sessions and the Capstone will involve students working in assigned teams and collaboratively preparing for the class sessions and solving the case studies.

Assessment Item	Grade Percentage
iRATs Each Case Studies Session includes an iRAT (N = 8)	15
tRATs* Each Case Studies Session includes an iRAT (N = 8)	25*

Mid-term Exam	25
Final Exam	35
Total	100%

*Please note that tRAT points earned in this course will be reduced with an up to a 5-point deduction should your contribution to your team's effectiveness, assessed using CATME [peer assessment], finds that your performance requires improvement. For example, a student earning 13 of 15 possible points for the tRAT category could see earned points drop to 8 out of the 15 possible points.

Grading Scale (The following grade scale is used across all courses)

> 92.5%	A
89.5-92.4%	A-
86.5-89.4%	B+
82.5-86.4%	B
79.5-82.4%	B-
76.5-79.4%	C+
72.5-76.4%	C
69.5-72.4%	C-
66.5-69.4%	D+
62.5-66.4%	D
59.5-62.4%	D-
< 59.4%	E

Rounding of grades: Final course grade will only be rounded up if the decimal is 0.5 or higher. The above scale depicts this policy.

Educational Technology Use

The following technology below will be used during the course and the student must have the appropriate technology and software. **Appendix A** outlines who to contact if you have questions about technology.

1. ExamSoft®
2. Canvas® Learning Management System

Class Attendance Policy

Policy Across All 1PD-3PD courses:

Class attendance is mandatory for active learning sessions such as problem-solving sessions, case discussions, and laboratory sessions. Student attendance may be excused by the Teaching Partnership Leader in the following situations: documented illness, serious family emergencies, military obligation, severe weather conditions, religious holidays, and other reasons of serious nature. The Pharm.D. calendar allows for participation in special curricular requirements (e.g., professional meetings).

Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) are excused. Conflict with work schedules is an unexcused absence.

Requests for excused absences MUST be made by an email to the Academic Coordinator and the course facilitator prior to the scheduled session or if it is an emergency situation, as soon as possible. The student is responsible for follow up and confirming whether the absence is excused or unexcused. The Teaching Partnership Leader, Academic Coordinator, and your campus specific director must be CCD in this communication. The following format is recommended:

To: Academic Coordinator and Campus Course Facilitator
CC: Teaching Partnership Leader and your specific campus director
Subject: PHA XXXX – Excused Absence request
Dear Prof. _____,
Professionally and politely request an excused absence.
Explain the nature of conflict and rationale for receiving an excused absence.
Thank the faculty member for their consideration of your special request.
Salutation,
Type in your full name and last 4 digits of UF-ID #, and Campus Name

Failing to follow this policy will render the absence not excusable. A request for an "excused absence" does not guarantee acceptance. No precedence can be drawn from any courses in the College of Pharmacy or any other college within University of Florida.

Makeup assignment(s) will be made for any excused absence(s) and will typically be submitted ***within one-week of the missed session(s)***. If the situation leads to missing multiple class sessions and makeup becomes difficult, the student and Teaching Partnership Leader will meet with the Associate Dean of Student Affairs to develop options such as a makeup/remediation plan or course withdrawal. The time period for this make up will be consistent with the UF attendance policies.

Class attendance requires full engagement of activities and discussions. The following are unacceptable during class: 1) read non-course related materials that are either in hard-copy or web-based, 2) study for other courses, 3) use a laptop for activities that are not course-related. Class participation will be reduced in such situations.

Please refer to the University Attendance Policy at
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Additional Policy Specific to This Course:
None

Quiz/Exam Policy

Policy across All 1PD-3PD courses:

1. Students must arrive and be seated promptly to be eligible to take the exam. To maintain exam security, students who arrive late for the exam will not be allowed to start the exam if they are more than 30 minutes late or if another student has left the room after seeing the exam. Students who have valid reasons for arriving late at the exam may request a makeup exam as outlined below.
2. No talking or other disruptive behavior during the distribution or taking of the exam.

3 Calculators must meet the following requirements: Only nonprogrammable calculators are allowed during exams for this course.
4. If you encounter calculator problems (e.g., dead battery), contact the Proctor.
5. Nonessential materials are NOT allowed at the student's desk during examination periods. Please leave all nonessential materials outside of or in the front of the examination room.
6. Other exam rules may be instituted during the progression of the course.
7. Once the exam commences, students may not leave the room without first turning in the exam. Once the exam is turned in, the examination period for the student is considered complete and the student must leave the examination room. If there is urgent need to use the restroom, the Proctor will provide guidance.

Failure to follow exam rules may be considered as evidence of academic dishonesty.

Additional Policy Specific to This Course:
None

Make-up Quiz/Exam Policy

Policy across All 1PD-3PD courses:

Makeup exams are given only under special circumstances. If the student is unable to take a scheduled examination, the Teaching Partnership Leader and Academic Coordinator must be notified before the examination or if it is an emergency situation, as soon as possible. In addition, a written letter of explanation requesting that the absence from the exam be excused, must be presented before the exam or if an emergency situation as soon as possible. An excused absence is allowable in the following situations: documented illness, serious family emergencies, military obligation, severe weather conditions, religious holidays, participation in special curricular requirements, excused absences for court-imposed legal obligations, and other reasons of serious nature. All excused absences will be considered on an individual basis by the Teaching Partnership Leader. For unusual situations (e.g., wedding that was planned before admission), the faculty member will communicate with student affairs.

The questions on the makeup exam may be in the form of essay, short answer, or multiple-choice and will be the same level of difficulty as the exam administered during the scheduled time. With the exception of highly extenuating circumstances, failure to follow the prescribed procedures or failure to attend the announced examination will result in a grade of zero for that exam. No precedence can be drawn from any courses in the College of Pharmacy or any other college within University of Florida.

The instructor will arrange an alternate deadline for the exam consistent with the University examination policies.

The student may contact the instructor to obtain details about why points were deducted. The student has two weeks following the return of the Exam to clarify any questions and appeal any possible grading errors. Any appeals on the final examination must be made in writing and submitted to your facilitator. When an appeal is made to re-grade an Exam, the entire Exam will be reevaluated and scored.

Additional Policy Specific to this Course:
None.

Policy on Old Quizzes and Assignments

Old quizzes and assignments are not provided.

General College of Pharmacy Course Policies

The following policies apply to all courses in the College of Pharmacy and are available on the COP website:

University Grading Policies

Please visit the following URL to understand how the University uses the course grade to compute your overall GPA: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Concerns, Appeals, and Complaints

Students who have concerns about their evaluation of performance and/or student-faculty relations should review the Student-Faculty Handbook for guidance. The Student-Faculty Handbook also outlines the chain of command for any appeals and/or complaints.

Academic Integrity Policy

Students are expected to act in accordance with the University of Florida policy on academic integrity (http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php). This Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the course's Teaching Partnership Leader.

Students are also expected to abide by the UF Honor Code.

The following is the UF Honor Pledge: *We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code.*

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

Psychomotor and Learning Expectations

Psychomotor expectations relate to the ability to meet the physical demands of the pharmacy curriculum. Physically impaired students and students with learning disabilities such as hearing impairment, visual impairment, dyslexia or other specific learning disabilities such as sensory deficit or sensory-motor coordination problems should cooperate with the faculty and staff in addressing these problems in order to meet academic standards.

How to Request Learning Accommodations

Students with disabilities are strongly encouraged to register with Disabled Student Services in the Office for Student Services (P202 Peabody Hall) and it is recommend this be accomplished prior to starting the course.

- Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.
- Please visit the following URL for more information: http://www.dso.ufl.edu/drc

Please note that you must arrange for accommodations in advance; grades cannot be retroactively changed

Faculty and Course Evaluations

Students are expected to provide feedback on the quality of instruction in every course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu . Evaluations are typically open around mid-semester and need to be completed by the established deadline. Summary results of these assessments are available to students at https://evaluations.ufl.edu .

Computer and Other Technology Requirements

Students are required to meet the following computer and technology requirements:
http://pharmacy.ufl.edu/education/student-affairs/admissions/student-computer-requirements/

ExamSoft® is used for administration of exams and students are required to follow the procedures that are established for exam administration. Students must bring a laptop to class to complete exams and this laptop must meet the computer and technology requirements established by the College. These technology requirements require a backup battery with at least 2 hours of life. Students must also complete mock exams prior to the actual exam to assure that all computer features are supported by ExamSoft®.

Expectations In Class and Other Learning Activities

Students are expected to:

- Be diligent and timely in studying the course material.
- Be on time for class sessions, quizzes, and exams.
- Be prepared for group discussions and conference calls.
- Do your own work.
- Actively collaborate with peers when assigned to groups.
- Inform the course coordinator about an absence from an exam or other assigned class activity at least 24 hours prior to the event.
- Dress appropriately for class sessions or clinically related activities.
- Turn off cell phones and other electronic communication devices during a class session or phone conference.
- Be quiet during class sessions including peer presentations.
- Be focused and avoid distractive behaviors in class.
- Appropriately use the computer in class, i.e., do not be looking at unrelated information on the web site during class.
- Participate in class or group discussions.
- Raise one's hand to be recognized before making a comment during a class session.
- Be respectful to the teacher.

- Be respectful to fellow students in discussions.
- Be courteous, respectful, and civil when using discussion boards.
- Focus on the course learning activities; it is not respectful to study for other coursework during the class session.
- Address faculty with the appropriate title and name, i.e., Dr. (last name) or Professor (last name).
- Address concerns about performance or course material directly with the course coordinator, facilitator, or teaching assistant.
- Seek assistance with academic or personal difficulties as soon as possible.

Communications

Discussion Board Policy

The purpose of the discussion board is to provide a venue for you to enhance your learning. This is accomplished by having a thread for each module where you can post questions to the course coordinators. (A thread is a single link that is devoted to a topic.) The discussion board is also a place where your instructors may post virtual cases for you to work up.

Such interaction on the discussion boards with the instructors will allow you to clarify your questions and apply what you are learning in other parts of the course. The goal of these discussions is to help you learn.

Students Netiquette on the Discussion Board:

1. Post your comment on the correct discussion thread. If you have a question about A1 (Unit A - Module 1), post it in the discussion thread for A1 and not the B1 thread.
2. The discussion board is not a place to complain. Complaints should instead be directed directly to the instructor via email. This allows the primary course coordinator to quickly address your concern without causing distraction to other students who have limited time and want to focus on learning.
3. Use "netiquette." If you have never learned "netiquette" - please visit the following URL: http://www.albion.com/netiquette/corerules.html If you follow the rules of netiquette described in this URL, you will avoid posting an embarrassing or inappropriate comment.
4. The discussion board has been designed to allow you a place to ask further questions on the material to clarify any confusion, gain a deeper understanding of the material, or ask general course questions. A question you might see on a discussion board is “What do I need to study for the exam?” Please reflect on how this question can be perceived by your lecturing faculty as well as your fellow classmates. Rewording the question to address a specific topic would be more appropriate. For example, “Dr. XX, you listed numerous side effects for drug XX on slide XX. Of those, what are the most relevant that we could expect to occur and monitor for in clinical practice.” The type of material that is covered in these classes is material that is important for patient care. All of this material is important. There are variations in courses, but please make use of your syllabus since there might be guidance on how to prepare for various exams in your classes.
5. In most situations, lectures are released as planned by the course coordinators. Clarifying at the beginning of a semester on the planned release date/time, if not posted in the syllabus, is appropriate. Continual posts on the discussion board on weekly basis can become overwhelming for the course coordinator as well as your fellow students.

Faculty member Response Time:

1. The Course Coordinators/instructors will work to respond to postings within 24 hours of the posting between Monday and Friday 12N. Responses on weekends and holidays will be sporadic. (On weekends when assignments are due, students are advised to post questions before 12Noon on Friday.)

Email Communications:

1. When communicating with faculty via email, the subject line needs to include the course number & title.
2. At the end of the email, in addition to listing your name, list your academic year and campus/site.

Question/Answer sessions in live class sessions:
Time is usually reserved at the end of the class for questions regarding the material to clear up any confusion or expand on material covered in the particular section. This is a valuable time for all students and since time is limited, the questions should focus on the topics at hand. Questions such as, "What material will be covered on an upcoming exam?" or, "Do we need to know dosing for the exam?" are inappropriate during this time period. In our profession, all material is important. However, if this question does need to be asked, please consider using the discussion board to clarify any specific exam questions.

Religious Holidays
Please see the University policy on attendance and religious holidays:
http://www.registrar.ufl.edu/catalog/policies/regulationattendance.html#religious.

Counseling and Wellness Center
Students who are experiencing issues and events that could adversely affect academic performance and personal health should be encouraged to meet with the course coordinator or facilitator or appropriate administrator for guidance. Students in the Gainesville area may contact the UF Counseling and Wellness Center for Gainesville students (352-392-1575; http://www.counseling.ufl.edu). Students outside the Gainesville area may obtain similar contact information from the campus/program administrator.

Emergencies
Call the University Police Department for emergencies: 392-1111 or 9-1-1

Student Crisis
Students who are experiencing issues and events are also encouraged to contact their local crisis center. For Alachua County the Crisis Center number is 352-264-6789; for Jacksonville and Duval County 904-632-0600 and toll free for Northeast Florida at 1-800-346-6185; for Orlando 407-425-2624; and, for St. Petersburg 727-344-5555 and Tampa 211 or 813-234-1234.

The following national call numbers are also available for students who reside outside of the main COP campuses: a) 1-800-273-8255, and b) 1-800-784-2433.

How to Access Services for Student Success
Students who need guidance for course success or who are having academic difficulty should contact their advisor/facilitator or Campus Director/Senior Associate Dean for assistance.

Faculty Lectures/Class Activities/Presentations Download Policy
Photography, Audio-visual recording, and transmission/distribution of classroom lectures and discussions is prohibited unless there is expressed written permission. Recorded lectures and class sessions are authorized solely for the purpose of individual or group study with other UF College of Pharmacy students enrolled in the same class. Such recordings may not be reproduced, shared, or uploaded to publicly accessible web environments. Students who do not adhere to this policy will be considered to be breeching COP copyrights and/or FERPA law.

Please see the following URL for COP Policies:
http://file.cop.ufl.edu/studaff/policies/General%20COP%20Course%20Policies.pdf

Appendix A. Faculty and Staff: Who to Contact

Academic Coordinator:

1. Questions about dates, deadlines, meeting place
2. Availability of handouts and other course materials
3. Assignment directions
4. Questions about grade entries gradebook (missing grades, wrong grade)
5. Assistance with ExamSoft®

Teaching Partnership Leaders

1. Issues related to course policies (absences, make up exams, missed attendance)
2. Questions about grades
3. Concerns about performance
4. Guidance when there are performance problems (failing grades)
5. General questions about content

Other Teaching Partnership Faculty Members

1. Questions about specific content

Technical Support:

Contact the College of Pharmacy MediaHelp Desk for assistance with course-related technical issues (e.g., Canvas access, video access, printing of documents). The MediaHelp Desk may be reached via the following:

Phone: 352-273-6281 (9am-4PM ET)
Email: mediahelp@cop.ufl.edu (response is delayed outside of M-F 9AM-4PM ET)

Contact the University of Florida Computing Help Desk for addresses issues related to:

1. Gatorlink accounts,
2. Gatorlink email,
3. myUFL, and
4. ISIS.

Phone: (352)-392-4357

Appendix B. Teaching Partners

Name	Email	Phone
Yousong Ding, Ph.D.	yding@cop.ufl.edu	352-273-7742
Michelle Farland, Pharm.D.	mfarland@cop.ufl.edu	352-273-6293
Oliver Grundmann, Ph.D.	grundman@ufl.edu	
Randy Hatton, Pharm.D.	rhatton@cop.ufl.edu	352-472-0102
Emily Huesgen, Pharm.D., MPH	ehuesgen@cop.ufl.edu	352-273-6365
Robert Huigens, Ph.D.	rwhuigens@ufl.edu	352-273-7718
Jackie Jourjy, Pharm.D.	jjourjy@cop.ufl.edu	407-313-7006
Lindsey Childs-Kean, Pharm.D.	lchilds-kean@cop.ufl.edu	727-394-6213
Adonice Khoury, Pharm.D.	akhoury@cop.ufl.edu	352-273-8136
Ken Klinker, Pharm.D.	dklinker@cop.ufl.edu	352-265-0111 ext. 45892
Hendrik Luesch, Ph.D.	luesch@cop.ufl.edu	352-273-7738
Bin Liu, Ph.D.	liu@cop.ufl.edu	352-273-7747
Paige May, Pharm.D.	paige.may@va.gov	
Kourtney LaPlant, Pharm.D.	Kourtney.LaPlant@va.gov	
Sven Normann, Pharm.D.	normann@cop.ufl.edu	352-273-6305
Anzeela Schentrup, Pharm.D, Ph.D.	schena@shands.ufl.edu	352-265-8309
Sihem Bihorel, Ph.D., Pharm.D., M.S.	sihem.bihorel@ufl.edu	407-313-7037
Veena Venugopalan		

Randy Hatton, Pharm.D. (Academic Director)
Yousong Ding, Ph.D.
Michelle Farland, Pharm.D.
Oliver Grundmann, Ph.D.
Emily Huesgen, Pharm.D., MPH
Robert Huigens, Ph.D.
Jackie Jourjy, Pharm.D.
Lindsey Childs-Kean, Pharm.D.
Adonice Khoury, Pharm.D.
Ken Klinker, Pharm.D.
Hendrik Luesch, Ph.D.
Bin Liu, Ph.D.
Paige May, Pharm.D.
Kourtney LaPlant, Pharm.D.
Sven Normann, Pharm.D.
Anzeela Schentrup, Pharm.D, Ph.D.
Sihem Bihorel, Ph.D., Pharm.D., M.S.
Veena Venugopalan, Pharm.D.

Appendix C. Student Guide for Case Studies

Students are accountable for recalling and applying content learned in all prior courses.

Case studies will also require application of one or more of the following Transcending Concepts:

☐ Evidence-based practice	☐ Informatics	☐ Problem solving
☐ Social considerations	☐ Behavioral considerations	☐ Communications
☐ Law and ethics	☐ Health-wellness	☐ Drug delivery systems
☐ Pharmacokinetics	☐ Personalized medicine	☐ Special populations
☐ Self-care	☐ Interprofessional collaboration	☐ Medication safety
☐ Pharmacoeconomics	☐ Population-based care	

COLLECT *(SO: Subjective and Objective Data)*

Students/teams must be able to gather subjective and objective information about the patient in order to understand the relevant medical and medication history and clinical status of the patient. Data are collected by simulated patient interview, medical record review, pharmacy profile review, and/or communication with other members of the healthcare team. Physiological, psychological, and sociological variables are expected to be considered.

2. Patient Name:
3. Main Disease Focus:
4. Type of Encounter/Setting [new patient, established, ED, hospital, clinic, refill, etc]:
5. Opening Statement from the Patient:
6. If patient is “unavailable” identify who represents the patient:
7. Age:
8. Gender:
9. Marital Status:
10. Height/Weight:
11. Socioeconomic Status:
12. Language:
13. Appearance:
14. Dress:
15. Other Family Members:
16. Patient History [What has been happening?]:
17. Chief Complaint(s):
18. Symptoms:

19. Characteristics:
20. History/Onset/Acuity/Severity/Progression/Location/Aggravating Factors/Relieving Factors:
21. Actual/Feasible Diagnoses:
22. Current Medical Problems:
23. Relevant Past Medical History:
24. Medication List [Name, strength, dose, interval, duration, indication [if known], persistence, adherence]:
    a. -From Patient
    b. -From Pharmacies
    c. -From Primary Care Physician
    d. -From Specialty Physicians/Hospitalization/ED/Clinic
    e. -Nonprescription
    f. -Dietary Supplements
25. Reasons for nonpersistence or adherence:
26. Information that the patient gives about their medications:
27. Immunization History:
28. Smoking History:
29. Alcohol Use/History:
30. Caffeine Intake:
31. Illicit Drug Use:
32. Sleep Habits:
33. Pertinent Laboratory Findings:
34. Pertinent Vital Signs:
35. Pertinent Physical Exam Findings:
36. Other Diagnostic Tests:
37. Allergies [include rationale]:
38. Intolerance [include history]:
39. Patient's Affect:
40. Patient's Attitude/Agenda:
41. Patient Mannerisms/Nonverbal Behaviors:

Students/teams will also be expected to ask questions during case discussions or simulated patient encounters to gather information not readily available in the chart/written case document.

ASSESS *(A: Assessment; Ask Clinical Questions; Acquire the Best Evidence; and Appraise)*

Students/teams will be expected to assess the information collected and the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.

1. This evaluation will require:
    i. understanding, explaining, and assessing the patient's health status;
    ii. interpretation of physical and patient assessments;
    iii. assessment of each medication for appropriateness, effectiveness, safety, economics, persistence, and adherence;
    iv. assessment of health and functional status, risk factors, health data, cultural factors, health literacy, access to medications, and other aspects of care;
    v. assessment of immunization status and need for preventative care;
    vi. integration of knowledge, clinical experience, and patient data to formulate and test hypotheses about the etiology of medication-related problems; and,
    vii. identification of potential and actual medication-related problems.

Students/teams will also be expected to accomplish the following:

1. Outline a list of Drug-related Problems.
2. Explain Each Basic Science Concept Emphasized:
    a. **Pathophysiology:**
        i. Describe the pathophysiology of disease state(s) and identify appropriate drug targets (cellular/molecular), biochemical processes, and organ changes for therapeutic intervention.
        ii. Specifically, for a given disease state: describe the basic pathophysiology of the disease including an explanation of the abnormal processes and the resulting disease signs and symptoms; outline risk factors and/or diagnostic indicators (e.g., lab values, diagnostic test results); and, determine classes of drugs that will treat the disease state and ameliorate the underlying pathophysiology and signs/symptoms.
    b. **Pharmacology:**
        i. Compare and contrast the therapeutic and adverse effects of drug classes that are appropriate for treating the disease state.
        ii. Describe major pathways for metabolism and the pharmacological consequences of metabolism.
        iii. Identify the most common/serious drug interactions and adverse effects. Identify important precautions and contraindications.
        iv. Compare and contrast the therapeutic and adverse effects of drugs within a given class.
        v. Discuss significant pharmacodynamic considerations.
    c. Medicinal Chemistry:

i. Apply knowledge about structure-activity relationships and cellular/molecular mechanisms of action to identify drug classes that are appropriate for treatment of the disease state.
ii. Specifically, for each drug class: Identify the relevant therapeutic targets and explain the mechanism(s) of action.

d. Pharmaceutics:

i. Recommend any unique storage, handling, or use requirements to ensure patient safety and clinical efficacy.
ii. Discuss significant pharmacokinetic considerations (e.g., effect of food of absorption, influence of route of administration on onset, dose, elimination, etc).

3. Explain Each Transcending Concept Emphasized in this Case:
4. Discuss Drug Information Questions/PICOT Statements Relevant to this Case and accurate/complete responses for each question:
    a. Patient-Population-Problem/Intervention/Comparison/Outcomes/Time Frame
5. Summarize the Best Evidence for Each Problem/Question:
    a. -Search Strategy
    b. -Guidelines
    c. -Landmark Clinical Trials
    d. -Best Available Evidence [with Limitations]
6. Identify important Literature Appraisal Issues.

PLAN *(P: Plan)*

Students/teams will be expected to develop an individualized **patient-centered** care plan in collaboration with the patient [and/or their caregiver], other healthcare professionals, and other interested parties.

1. Specific and General Therapeutic Goals
    a. Consider clinical outcomes in the context of the patient's overall health and access to care
2. Therapeutic Plan
    a. Develop an individualized patient-centered plan in collaboration with the patient, caregiver, in collaboration with other healthcare professionals, and other interested parties.
        i. Therapeutic Alternatives: Evaluate alternatives for the patient before establishing the plan
        ii. Develop the Therapeutic Plan:
            1. Address medication-related problems and optimizes therapy considering the goals and desires of the patient;

2. application of established guidelines, evidence-based medicine, and population-based treatment plans;
3. accurate and patient-specific dosing (including dosage adjustment for renal/hepatic dysfunction, starting dose, maximum doses, timing of doses, effects of food on absorption, route of administration, and pharmacokinetic design for narrow therapeutic index drugs;
4. parameters for monitoring response and frequency of monitoring;
5. parameters for monitoring adverse effects and frequency of monitoring;
6. plan for patient counseling/education;
7. plan for patient counseling/education; and
8. Considerations for care continuity, including follow-up and transitions of care as appropriate.

3. Patient/Caregiver Engagement: Involve the patient through education, empowerment, and self-management

IMPLEMENT *(Apply)*

Students/teams will be expected to implement the care plan in a simulated situation that requires collaboration with the patient/caregiver, other healthcare professionals, and other interested parties.

1. When implementing the care plan, the following are to be accomplished:
    a. medication and health-related problems are addressed;
    b. preventative care including vaccine administration are provided;
    c. medication therapy is initiated, modified, discontinued, or administered as authorized;
    d. education and self-management training is provided to the patient/caregiver;
    e. refers and provides transitions of care as needed;
    f. barriers are identified and addressed, when possible; and, schedules follow-up care as needed to achieve goals of therapy.

FOLLOW-UP, MONITOR, & EVALUATE

Students/teams are expected to monitor and evaluate the effectiveness of their care plan and modify the plan in collaboration with other health care professionals and the patient/care giver.

1. The following are continually monitored and evaluated:
    a. medication appropriateness, effectiveness, and safety and patient adherence through available data, biometric test results and patient feedback;
    b. clinical endpoints that contribute to the patient's overall health; and, outcomes of care, including progress toward or achievement of goals.
2. Specific Recommendations for Follow-up and Monitoring
3. List of Quality Improvement Outcomes

a. Process Measures
b. Clinical Outcomes

COLLABORATE

Students/teams will be expected to role plan collaborating with patients, caregivers, other healthcare providers, and interested parties when taking care of patients.

COMMUNICATE

Student/teams will be expected to succinctly communicate with patients/caregivers, other healthcare team members, and other interested parties (policy makers, employers, insurance companies, payers) throughout the patient care process.

Examples of typical communications are:

1. Important Communication Points and Methods for Data Collection
2. Important Communication Points for Assessment
3. Collaborate with Team Members: Specific therapeutic approaches for individual patients based on scientifically and logically validated assessment of the patient's health care needs and an ethical consideration of the patient's health care goals and desires
4. Communicate the Assessment and Plan via Face-to-face, Telephone, and/or Written documentation
5. Communicate Benefits, Risks, Economics, & Other Factors to:
    a. Patient/Family
    b. Prescribers
    c. Policy Makers
    d. Payers (Insurance Companies, PBMs, Employers, and/or Hospitals)

DOCUMENT

Students/teams will be expected to create written patient care notes (SOAP notes, intervention notes, consultation notes) using the standardized formats learned in prior classes and this course.

1. SOAP notes are expected to include the following elements
    a. Subjective
        i. Clear
        ii. Complete Pertinent Information
        iii. Only Pertinent Information
    b. Objective
        i. Verified Medication List
        ii. Clear
        iii. Complete Pertinent Information
        iv. Only Pertinent Information
    c. Assessment

i. Complete and Prioritized List of Medication-related Problems
ii. Therapeutic Goals
    1. Alternatives are Accurately Presented
iii. Findings Synthesized with Enough Depth to Explain but are a Concise Assessment
iv. Clear Positions

d. Plan
i. Pertinent Plan with Necessary Instructions
ii. Balances Benefits, Risks, and Costs
iii. Education and Follow-up is Collaborative and Considers Systems
iv. Specific Monitoring Plan

2. Responses to Drug Information Questions in the PICOT Format with Summary of the Evidence
    a. Limitations of the Evidence Stated

Syllabus Final Version:
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