

School of Pharmacy

This syllabus is not to be construed as a contract with the student and is subject to change.

The School of Pharmacy reserves the right to change the course syllabus. *The School should notify the students through the course notification system or by an email preferably through the Blackboard system.*

Materials used in this class may be copyrighted and should not be shared with individuals not enrolled in this course.

Course meeting days and time	Wednesday, Thursday 1:30 PM – 3:00 PM; Fall
Location	Studio Classroom L10
Team Leader / Instructor	Elaine Cruse, PharmD, CDE
Office	MEB 149
Phone	304-696-7380 (Marshall)
Email	crusee@marshall.edu
Office hours	Wednesday 12:00 PM – 1:00 PM and by appointment

Faculty	Email	Office	Phone Number	Office Hours / Appointments accepted?
Jeremy McAleer, Ph.D.	mcaleer@marshall.edu	MEB 235	304-696-7399	Tuesday 4:00 PM-5:00 PM and by appointment

Student: If the instructor accepts appointments, then please email the instructor for availability. The student can expect the instructor to respond to E-mails and phone messages within 72 hours. Each faculty member will be available to meet with students outside of office hours by appointment

Course Description: Students will learn about the therapeutic use of medication and non-medication interventions for reproduction, and treatment and prevention of endocrine and genitourinary diseases.

Prerequisites: P-3 status

**Text Books:
Required:**

Dipiro, JT, Talbert, RL, et. al. Pharmacotherapy: A Pathophysiologic Approach, 8th ed. McGraw-Hill Medical. 2011. ISBN-10: 0071703543 | ISBN-13: 978-0071703543

Recommended:

Course Objectives:

Number	Objective	Linkage to MUSOP Abilities (list ability numbers)	How Assessed
1	Describe the etiology, pathophysiology, epidemiology and pharmacology of endocrine diseases, genitourinary diseases and reproduction.	1	Examination IRAT/GRAT Active Learning Exercise
2	Identify pertinent clinical presentation and interpret diagnostic and laboratory test as they apply to directing drug therapy in patients with endocrine diseases, genitourinary diseases and reproduction.	1, 5, 6, 44	Examination IRAT/GRAT Active Learning Exercise
3.	Apply critical thinking skills to create and/or optimize an individualized pharmacotherapeutic care plan based upon patient-specific parameters.	1, 5, 6, 7, 8	Examination IRAT/GRAT Active Learning Exercise
4	Apply sociologic and economic considerations when determining a drug therapy plan for patients.	20, 45	Examination IRAT/GRAT Active Learning Exercise
5	Apply individual patient ethnicity and religious beliefs when determining the treatment plan.	20, 44	Examination IRAT/GRAT Active Learning Exercise
6	Apply evidence-based	1, 56	Examination

	medicine and appropriate medical literature evaluation techniques to aid in the decision-making process for a given patient and/or clinical scenario.		IRAT/GRAT Active Learning Exercise
7	Define therapeutic goals, recognize all treatment options, and understand the evidence-based rationale when preparing an individualized patient care plan.	1, 5, 6, 7	Examination IRAT/GRAT Active Learning Exercise
8	Determine concrete parameters and indicators of therapeutic success for endocrine diseases, genitourinary diseases, and reproduction diseases.	1, 5, 6	Examination IRAT/GRAT Active Learning Exercise
10	Manage adverse drug events using appropriate withdrawal and/or addition of drug therapy and supportive care.	1, 5, 6, 7	Examination IRAT/GRAT Active Learning Exercise
12	Identify and prevent potential drug related problems such as unnecessary drug therapy, need for additional drug therapy, ineffective drug, dosage too low, adverse drug reaction, dosage too high, and noncompliance.	1, 5, 6, 7	Examination IRAT/GRAT Active Learning Exercise

Schedule of Activities

(Note: Classes designated with two instructors will contain material provided by both DPSR and DPPAR)

Date	Meeting Format	Meeting Topic	Course Student Learning Outcomes	Instructor
Wednesday 8-27-14	Studio Classroom	Course Introduction & Type 1 and 2 Diabetes	<ul style="list-style-type: none"> • Explain factors that regulate basal and postprandial glucose levels (1) • Define causes of Type 1 and Type 2 Diabetes mellitus (1) • Describe medical complications resulting from acute hyperglycemia (1) 	Cruse; McAler

Thursday 8-28-14	Studio Classroom	Diabetes	<ul style="list-style-type: none"> • Describe medical complications resulting from chronic hyperglycemia (1) • Review molecular causes of glucotoxicity and effects on blood vessels (1) • Describe drug targets used in diabetes therapy (1) • Identify pharmacological agents used to treat Type 1 diabetes (1) 	McAlier IRAT
Wednesday 9-3-14	Studio Classroom	Diabetes	<ul style="list-style-type: none"> • Identify pharmacological agents used for treating Type 2 diabetes (7) • Describe the pharmacokinetics of treatments used for Diabetes (7) 	McAlier GRAT
Thursday 9-4-14	Studio classroom	Diabetes	<ul style="list-style-type: none"> • State the factors that influence the goal HBA1C for a particular patient (1, 20) • State the goals of insulin therapy (1) • List the recommendations for treating a hypoglycemic event (1) • List the parameters used to determine if a patient has diabetes (1) • Explain, in lay language, the features and treatment of hypoglycemia (44,46) • Explain, in lay language, the differences between Type 1 and Type 2 Diabetes (44,46) • State the 2014 ADA recommendations with regard to immunizations, lipid goals, aspirin therapy, statin therapy, blood pressure and screening for complications (1) 	Cruse IRAT
Wednesday 9-10-14	Studio classroom	Diabetes	<ul style="list-style-type: none"> • Identify trends in blood glucose data (1) 	Cruse IRAT

			<ul style="list-style-type: none"> • Define the dawn phenomenon (1) • Describe the DCCT, UKPDS, and ACCORD trials and their findings regarding intensive glycemic control and incidence of complications (1) • Explain, in lay language, the role of insulin in the treatment of diabetes and the rationale behind basal/bolus insulin therapy (46) • Discuss the advantages and disadvantages of different insulin delivery options (1) 	
Thursday 9-11-14	Studio classroom	Diabetes	<ul style="list-style-type: none"> • Formulate recommendations for initiation of and changes in insulin therapy based on laboratory data, insulin characteristics, and individual patient characteristics (1,5,6,7,8,20,45) • Identify an appropriate treatment regimen for a patient with gestational diabetes (7) 	Cruse
Wednesday 9-17-14		Simulation	<ul style="list-style-type: none"> • Formulate recommendations based on problems identified through interaction with a simulated patient and appropriately communicate those recommendations to the simulated patient (1,46) 	Cruse; McAler
Thursday 9-18-14		Simulation	<ul style="list-style-type: none"> • Formulate recommendations based on problems identified through interaction with a simulated patient and appropriately communicate those 	Cruse; McAler

			recommendations to the simulated patient (1,46)	
Wednesday 9-24-14		Review of event Diabetes	<ul style="list-style-type: none"> • Review recommendations made in the care of standardized patient (1,46) • Compare the HBA1C lowering effect of agents used to treat diabetes (1) • Compare the advantages and disadvantages of each class of oral medications used in the treatment of diabetes (1) • Explain the rationale of choosing a particular agent based on patient-specific parameters (1) 	Cruse GRAT
Thursday 9-25-14	Studio classroom	Diabetes	<ul style="list-style-type: none"> • Discuss the plate method (1) • Describe the treatment of Diabetic Ketoacidosis (1,6) • Provide recommendations for pharmacotherapeutic treatment of Type 2 Diabetes based on specific patient factors (1,5,6,7,8, 45) 	Cruse
Wednesday 10-1-14	Studio classroom	Thyroid and Parathyroid Disorders	<ul style="list-style-type: none"> • Explain how thyroid hormones are synthesized (1) • Identify the causes of hypo and hyperthyroidism (1) • Review the ADME pharmacokinetics of drugs used to treat thyroid disorders (7) 	McAler
Thursday 10-2-14	Studio classroom	Thyroid Disorders	<ul style="list-style-type: none"> • Review the ADME pharmacokinetics of drugs used to treat thyroid disorders (7) • Describe the clinical features present in hypothyroidism and hyperthyroidism (1) • List appropriate counseling points for drugs used in the 	Cruse; McAler

			treatment of thyroid disorders (20)	
Wednesday 10-8-14	Studio classroom	Thyroid and Parathyroid Disorders	<ul style="list-style-type: none"> • Create a patient-specific treatment plan for a patient with a given thyroid disorder (5, 6, 7, 8, 20, 56) • Identify appropriate monitoring parameters in the treatment of thyroid disorders (1, 5, 6, 20) 	Cruse IRAT/GRAT
Thursday 10-9-14	Studio classroom	Pituitary and Adrenal Disorders	<ul style="list-style-type: none"> • Identify causes of hyper- and hypo-pituitarism (1) • Review the mechanism of action, adverse effects and contraindications for medications that treat pituitary disorders (7) 	McAler
Friday 10-10-14	Studio classroom	EXAM 1	Exam 1 11:00 AM-1:00 PM Exam material cutoff is Wednesday 10-8-14	Cruse; McAler
Wednesday 10-15-14	Studio classroom	Pituitary and Adrenal Disorders	<ul style="list-style-type: none"> • Review ADME of drugs used to treat pituitary disorders. (7) • Define HPA axis (1) • List causes of Cushing's syndrome, hyperaldosteronism and adrenal insufficiency (1) 	McAler GRAT
Thursday 10-16-14	Studio classroom	Pituitary and Adrenal Disorders	<ul style="list-style-type: none"> • Describe ADME of drugs used to treat adrenal disorders. • List side effects of drugs used to treat adrenal disorders 	McAler
Wednesday 10-22-14	Studio classroom	Pituitary and Adrenal Disorders	<ul style="list-style-type: none"> • Differentiate between Cushing's Disease and Cushing's Syndrome (1) • Describe the clinical features of hypercortisolism and hyperaldosteronism. (1) • Recommend appropriate treatment options for a patient with hyperaldosteronism, hypercortisolism, or 	Cruse IRAT/GRAT

			<p>Cushing's syndrome (1, 5, 6, 7, 8)</p> <ul style="list-style-type: none"> • Discuss factors that determine whether to taper corticosteroid doses prior to withdrawal of corticosteroid (1) • Demonstrate knowledge of equipotent steroid doses (1) • Discuss the adverse effect profiles and the monitoring parameters for medications used in the treatment of adrenal gland disorders (1, 8) • Discuss when to taper glucocorticoids and appropriate tapering regimens (1) • Recommend an appropriate treatment plan for a patient with acromegaly (5,8) • Compare and contrast the clinical presentation of each pituitary disorder. (1, 5, 7) • Formulate appropriate patient-counseling information to be provided to a patient receiving somatostatin-analog therapy (46) • Discuss the role of dopamine agonists in the treatment of hyperprolactinemia and as acromegaly (1) 	
Thursday 10-23-14	Studio classroom	Reproductive Health / Contraception	<ul style="list-style-type: none"> • Review reproductive health physiology (1) 	McAler
Wednesday 10-29-14	Studio classroom	Infertility	<ul style="list-style-type: none"> • Identify treatments that may improve female fertility and the mechanism of how they work (1) 	McAler IRAT

Thursday 10-30-14	Studio classroom	Pregnancy and lactation	<ul style="list-style-type: none"> Review physiological changes during pregnancy that affect ADME (1) List environmental and pharmacologic teratogens (1) 	McAlear
Wednesday 11-5-14	Studio classroom	Menstruation- related disorders; endometriosis	List therapeutic options and drug side effects associated with endometriosis-induced pain (1, 7)	McAlear GRAT
Thursday 11-6-14	Studio classroom	Infertility; BPH; ED	<ul style="list-style-type: none"> Discuss the factors that exacerbate BPH (1) Describe the clinical features present in BPH (1) Discuss the role of pharmacologic and nonpharmacologic treatments for BPH (1) Create a patient-specific treatment plan that is appropriate for a patient with BPH (1,5,6,7,8,20,45) 	McAlear; Cruse
Friday 11-7-14	EXAM		Exam 2 8:00 AM-10:00 AM Exam material cutoff is Wednesday 11-5-14	Cruse; McAlear
Wednesday 11-12-14	Studio classroom	BPH, Erectile Dysfunction, Contraception	<ul style="list-style-type: none"> Discuss the factors that exacerbate erectile dysfunction (1) Discuss the role of pharmacologic and nonpharmacologic treatments in the treatment of erectile dysfunction (1) List appropriate counseling points to deliver to patients with erectile dysfunction who are using pharmacologic therapy (46) Explain the risks and benefits of the various agents used to prevent pregnancy (1) 	Cruse

Thursday 11-13-14	Studio classroom	Contraception	<ul style="list-style-type: none"> • Formulate appropriate counseling points for the agents used to prevent pregnancy (46) • Compare and contrast monophasic, multiphasic, extended-cycle, continuous, and progestin-only oral contraceptives (1, 5, 7) • Explain the rationale behind choosing a monophasic, multiphasic, extended-cycle, continuous, or progestin-only oral contraceptives (1) • Identify selected drugs that interact with hormonal contraceptives (5,7,20) 	Cruse IRAT
Wednesday 11-19-14	Studio classroom	Pregnancy and lactation	<ul style="list-style-type: none"> • Develop a counseling plan for a patient considering pregnancy (46) • Define the FDA pregnancy categories (1) • Summarize the strategies used to minimize effects of drug administration in a lactating patient • Explain the role of medications available to treat pregnancy-induced conditions as well as conditions present before pregnancy (1) • Identify selected teratogens (1) 	Cruse IRAT/GRAT
Thursday 11-20-14	Studio classroom	Infertility	<ul style="list-style-type: none"> • Identify the risk factors for infertility (1) • Describe the tests used in the diagnosis of infertility (1) • Compare and contrast the pharmacologic treatments of infertility (1, 7) • List appropriate counseling points for the use of pharmacologic and 	Cruse GRAT

			non-pharmacologic treatments for patients facing infertility (46)	
Wednesday 11-26-14	Thanksgiving Break			
Thursday 11-27-14	Thanksgiving Break			
Wednesday 12-3-14	Studio classroom	Menstruation- related disorders; Endometriosis	<ul style="list-style-type: none"> • Describe the clinical presentation of dysmenorrhea, menorrhagia, amenorrhea, and anovulatory bleeding (1) • Compare and contrast the clinical presentations of PMDD and PMS and the approach to treatment for each (1) • Recommend appropriate lifestyle modifications for patients with dysmenorrhea, menorrhagia, amenorrhea, anovulatory bleeding, PMDD, and PMS (1) • Discuss the role of pharmacologic treatments for patients with dysmenorrhea, menorrhagia, amenorrhea, and anovulatory bleeding (1, 7) • List the signs and symptoms of endometriosis (1) • State the goals of treatment for endometriosis (1) • State the appropriate monitoring parameters for patients using pharmacologic treatment for endometriosis (1) 	Cruse GRAT
Thursday 12-4-14		Class pulled for optional review and completion of evaluations		Cruse; McAleer

Thursday 12-11-14	FINAL EXAM		*Final Exam 8:00 AM-10:00 AM 30% Comprehensive 70% New Material	Cruse; McAleer
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Course Evaluation (grading):

Point or Percentage Distribution:

2 Exams of equal value*	= 40% of final grade
1 Cumulative Final Exam*	= 25% of final grade
Patient simulation experience	= 5% of final grade
Active Learning Exercises^	= 10% of final grade
IRAT ¹	= 10% of final grade
GRAT ²	= 10% of final grade
Total Points Available	= 100

(- indicates a major assessment)*

(^=ALEs in this course)

(¹ – Individual readiness assessment test)

(² – Group readiness assessment test)

Letter grades distribution: A = 89.50 to 100%
 B = 79.50 to less than 89.50%
 C = 69.50 to less than 79.50%
 F = Less than 69.50%

Course Evaluation (assessment):

Student Evaluation:

Survey: each student will have the opportunity to evaluate each instructor as well as course content via the school's universal evaluation survey.

Faculty Evaluation: Faculty members participating in the course will attend class as often as possible to evaluate overall performance

Attendance policy: Each student is required to attend class. Attendance is mandatory at graded events, and every class session may potentially involve a graded event in the form of IRAT, GRAT, ALE, patient simulation or exam. Only excused absences are accepted – see university and school policies. In the event of an excused absence, the student will be able to make up any IRATs or ALEs missed. The ALE may be a different activity / assignment than the ALE in the classroom. However, given the nature of the GRATs, GRATs will be unable to be made up. Once a student has received an excused absence, any make-up work will be completed within 7 days or the student will forfeit the right to make-up those assignments. It is the student's responsibility to contact the faculty to discuss missed work.

Classroom materials: Students are expected to have a physical or electronic copy of required textbooks available for use in the classroom during all scheduled class times. Students are also expected to have applicable Turning Point hardware and/or software available during all scheduled class times. Turning Point hardware and/or software is expected to be registered and interfaced with Blackboard by the student.

UNIVERSITY POLICIES

University policies regarding Academic Dishonesty, Students with Disabilities, University Computing Services' Acceptable Use, Affirmative Action, and Sexual Harassment can be found at <http://www.marshall.edu/wpmu/academic-affairs/policies/>.

School of Pharmacy Policies

SOCIAL JUSTICE POLICY STATEMENT

Marshall University is committed to bringing about mutual understanding and respect among all individuals and groups at the University. As part of Marshall University, School of Pharmacy has made a commitment to social justice. Therefore, no one will be discriminated against on the basis of race, gender, ethnicity, age, sexual orientation, religion, social class, or differing viewpoints. Each student will be viewed as a valuable member of this class and as the faculty for the course, I will strive to facilitate an atmosphere/learning environment where mutual understanding and respect are actualized.

ACADEMIC, ETHICAL, AND PROFESSIONAL CONDUCT

Student expections for academic, ethical, and professional conduct are defined within the school's [Ethical and Professional Conduct Policy](#) and the university's [Academic Dishonesty Policy](#).

Second Chance and Remediation Policy

Second chance and remediation are mechanisms designed to assist students who have struggled within the classroom environment in demonstrating achievement of classroom and curricular learning outcomes. These processes are described in sections 200.001.003 (Second Chance) and 200.001.004 (Remediation) of the [Academic Standards for Grading, Progressions, Dismissal, and Re-admission Policy](#).

Test Security Policy

In order to ensure the security of all examinations, the School of Pharmacy has adopted the following policies:

1. Test Administration

A. Non-electronic testing

- a. Students may not access any electronic equipment during the exam that has not been provided by the faculty, including but not limited to calculators and laptops.

B. Electronic testing

- a. Only those resources (electronic or otherwise) approved by the instructor may be used or accessed during the testing session.

- b. Students enrolled within courses using electronic testing must download and install the [Respondus Lockdown Browser](#). The installation will require an installation code that must be acquired from Computing Services.
- C. Testing environment
 - a. No unauthorized food or drinks
 - b. Only prescription glasses allowed, no hats, no hoodies
 - c. Write name on scratch paper and turn in after completion of examination
 - d. If calculators are necessary MUSOP calculators will be provided
 - e. Only items allowed in examination room is laptop, writing utensil, and mouse. (All personal belongings are to be outside the classroom)

2. Test Review

- A. Students will not be allowed to view any exam without direct supervision of course faculty or site facilitator
- B. Students must review tests within time specified by the course faculty.
- C. Limited numbers of students may be allowed to view the exam at one time depending on office size, space, and faculty preference.
- D. Students will be allowed to review the exam only one time, and time limits may be placed on review as specified by course faculty.
- E. NO notes can be taken by the student while reviewing the test, and students are not allowed to access any electronics while reviewing the tests. NO copies electronic or written!
- F. Individual student printouts for exams are to be retained by the faculty.
- G. Faculty have the right to place further restrictions on test review as deemed necessary.

3. Examination / IRAT/GRAT inquiries:

A. Examination:

- 1. Complete a test question review form (located on blackboard in course content – Test Folder
- 2. Form must be submitted to a course team member within 48 hours of examination score release (if no supporting documentation is provided the inquiry will not be reviewed.)
- 3. The team will provide a response within 48 business hours.

B. IRAT / GRAT:

- 1. Complete an IRAT/GRAT question review form (located on blackboard in course content – Test Folder
- 2. Form must be submitted to course team member by 10:00am the day after the IRAT / GRAT administered. (If no supporting documentation is provided with the form the inquiry will not be reviewed.)
- 3. The team will provide a response within 48 business hours