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PHA5561 Pathophysiology and Patient Assessment II

Spring 2020

3 Credit Hours – [A-E Grading]

The Pathophysiology and Patient Assessment II *course is the second of a two-course sequence that provides students with an integrated knowledge base in the physiological functions of the human body to prepare students for the understanding of pathological changes pertinent to the development and progression of various diseases. Corollary to the establishment of a solid understanding of human pathophysiology, key concepts will be reinforced through the application of learned knowledge to problem solving in the simulated patient assessment modules built into the course sequence.*

Teaching Partnership Leader

Lihui Yuan, Pharm.D., Ph.D.

- Email: yuanlh@cop.ufl.edu
- Office: P2-33
- Phone: 352-294-8594
- Office Hours: By appointment ONLY.

See Appendix A. for Course Directory of Faculty and Staff Contact Information.

Entrustable Professional Activities

This course will prepare you to perform the following activities which the public entrusts a Pharmacist to perform:

Patient Care Provider Domain

1. Collect information to identify a patient's medication-related problems and health-related needs.

    ST1.1 Collect a medical history from a patient or caregiver.

2. Analyze information to determine the effects of medication therapy, identify medication-related problems, and prioritize health-related needs.

    2.1. Assess a patient's signs and symptoms to determine whether the patient can be treated within the scope of practice or requires a referral

    ST2.2. Measure an adult patient's vital signs and interpret the results (e.g., body temperature, pulse rate, respiration rate, and blood pressure)

    ST2.3. Interpret laboratory test results

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Course-Level Objectives

Upon completion of this course, the student will be able to:

1. Differentiate between the mediators for innate and adaptive immunity and describe their involvement in immune responses
2. Understand the roles of various mediators in the inflammatory responses
3. Describe how the gastrointestinal system functions and the pathophysiology of common gastrointestinal disorders related to disruption of motility, absorption or secretion.
4. Describe the endocrine control of: male and female reproduction and growth
5. Describe endocrine control of glucose, lipid and calcium homeostasis.
6. Describe the endocrine factors contributing to regulation of appetite and satiety
7. Understand the pathophysiology of glucose and lipid metabolism in types of diabetes.
8. Describe the pathophysiology of the neurological system including the following: excitatory and inhibitory amino acids, neurotransmitters, and sensory processing.
9. Understand the neurocircuitry for movement regulation and the pathophysiology related to movement disorders
10. Describe the brain blood supply system and the pathophysiology related to stroke development.
11. Describe the physical signs and lab values that represent the physiological changes that occur in the following systems which are discussed during this course:
    a. Immunological
    b. Gastroenterological
    c. Endocrine
    d. Neurological
12. Collaborate as a team member and solve a problem/case that requires interpretation of pathophysiological findings including lab values, patient assessment findings, and diagnostic procedure results.

Course Pre-requisites

1. PHA5560: Pathophysiology and Patient Assessment I
2. PHA5103: Principles of Patient-Centered Care

Course Co-requisites

1. There are no co-requisites for this course.

Course Outline

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.

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Required Textbooks/Readings

Nemire R, Kier K, Assa-Eley MT. Pharmacy Student Survival Guide. 3rd Edition. McGraw-Hill, (Chapter 11 – Interpretation of Clinical Laboratory Data).

- Available via HSC Library – Access Pharmacy
    - http://accesspharmacy.mhmedical.com/book.aspx?bookid=1593

Use UF VPN to access UF Libraries Resources when off-campus.

The UF HSC library staff can assist you with questions or issues related to accessing online library materials. For assistance contact your College of Pharmacy librarian or visit the HSC Library Website at this URL: http://www.library.health.ufl.edu/

Suggested Textbooks/Readings

Suggested reading materials will be posted in the Canvas site.

Other Required Learning Resources

N/A

Materials & Supplies Fees

None

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Student Evaluation & Grading

Evaluation Methods and How Grades are calculated.

Assessment Item	Grade Percentage
iRATs [4]	5%
tRATs [4]	15%
Quizzes (4 @2.5% each)	10%
Exam 1	20%
Exam 2	20%
Exam 3	30%
Total	100%

Table 1. Grading Scale

Percentage Range	Letter Grade
92.50-100%	A
89.50-92.49%	A-
86.50-89.49%	B+
82.50-86.49%	B
79.50-82.49%	B-
76.50-79.49%	C+
72.50-76.49%	C
69.50-72.49%	C-
66.50-69.49%	D+
62.50-66.49%	D
59.50-62.49%	D-
< 59.50%	E

Rounding of grades:

Final grades in Canvas will be rounded to the 2nd decimal place. If the decimal is X.495 or higher, Canvas will round the grade to X.50. The above scale depicts this policy and grades are determined accordingly. Grade assignment is made using this policy and NO EXCEPTIONS will be made in situations where a student's grade is "close."

Educational Technology Use

The following technology below will be used during the course and the student must have the appropriate technology and software.

1. ExamSoft™ Testing Platform
2. Canvas™ Learning Management System

For technical support, navigate to Educational Technology and IT Support Contact Information at this URL: http://curriculum.pharmacy.ufl.edu/current-students/technical-help/

Pharm.D. Course Policies

The Policies in the following link apply to this course. Review the Pharm.D. Course Policies carefully, at this URL: http://curriculum.pharmacy.ufl.edu/current-students/course-policies/

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Appendix A. Course Directory

Teaching Partnership Leader/Course Director:

Lihui Yuan, Pharm.D., Ph.D.
Email: yuanlh@cop.ufl.edu
Office: P2-33
Phone: 352-294-8594

Questions to Ask:

- Concerns about performance
- Guidance when there are performance problems (failing grades)
- General questions about content

Instructional Designer:

Holly Fremen
Email: holly.fremen@cop.ufl.edu
Office: HPNP 4312
Phone: 352-273-5558
Absence/Tardy Email: absent1pd@cop.ufl.edu (Visit the course policy site for further instructions)

Academic Coordinator:

Natalie Hasty
Email: nataliehasty@cop.ufl.edu Office: HPNP 4312
Phone: 352-273-6002
Absence/Tardy Email: absent1pd@cop.ufl.edu (Visit the course policy site for further instructions)

Educational Coordinators:

McKenzie Wallen
Email: mwallen@cop.ufl.edu
Office: Jacksonville Campus

Iverta Allen
Email: iallen1@cop.ufl.edu
Office: Orlando Campus

Questions to Ask:

- Issues related to course policies (absences, make up exams, missed attendance)
- Absence/tardy requests (Only the Academic Coordinator handles absence requests)
- Questions about dates, deadlines, meeting place
- Availability of handouts and other course materials
- Assignment directions
- Questions about grade entries in gradebook (missing grades, incorrect grade)
- Assistance with ExamSoft® (Distance campus students may contact the Educational Coordinator for use of Examplify and assistance during exams. The Academic Coordinator is the contact person for issues related to grading and posting of ExamSoft grades.)

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Other Teaching Partnership Faculty Members:

Christina DeRemer, Pharm.D.
Email: cderemer@cop.ufl.edu
Office: GNV
Phone: 352-273-6224

Maureen Keller-Wood, Ph.D.
Email: kellerwd@cop.ufl.edu
Office: GNV
Phone: 352-273-7687

Bin Liu, Ph.D.
Email: liu@cop.ufl.edu
Office: MSB P2-31
Phone: 352-273-7747

Brandon Warren, Ph.D.
Email:brandon.warren@cop.ufl.edu
Office: GNV
Phone: 352-273-7010

Guillaume (Will) de Lartigue, Ph.D.
Email: gdelartigue@cop.ufl.edu
Office: GNV
Phone: 352-273-6517

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Dates of Recommended study	Mod#	Activity	Unit Topic	Contact Time MIN	Objectives	Responsible
01/02/20	1	Module	Module 1: Introduction to the course; Immune Function and Inflammatory Response		1-2, 11-12	Bin Liu, Lihui Yuan
01/02/20	1	Video Lecture	Summary of PHA5560 and introduction to PHA5561	30		Lihui Yuan
01/02/20	1.1	Video Lecture	Watch: Innate Immunity	60		Bin Liu
01/03/20	1.2	Video Lecture	Watch: Adaptive Immunity, Part I	60		Bin Liu
01/06/20	1.3	Video Lecture	Watch: Adaptive Immunity, Part II	60		Bin Liu
01/07/20	1.4	Video Lecture	Watch: Chronic Inflammation	60		Bin Liu
01/08/20	1.5	Video Lecture	Watch: Acute Inflammation	60		Bin Liu
01/09/20 10:40-11:30 AM	**1**	**Active Learning Session--VC**	**Required Attendance: Quiz 1 (15 min, covers lectures 1.1 to 1.5); Discussion (35 min)**	**60**		**Bin Liu, Lihui Yuan**
01/13/20	1.6	Video Lecture	Watch: Hypersensitivity and Wound Healing	90		Bin Liu
01/14/20	1	ALS Prep	Watch ALS Prep: Signs, symptoms, and laboratory markers of immunologic response, inflammation, and infection	30		Lihui Yuan
01/16/20 10:40-12:35 PM	**1**	**Active Learning Session--VC**	**Active Learning Session 1: Immune and Inflammatory Response to Microbial**	**120**	**1-2, 11-12**	**Bin Liu, Lihui Yuan**

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			Infections and Tissue Injuries; Preventative and Hyperactive Immune Responses *iRAT/tRAT 1 *Patient Assessment			
		Quiz In-class Graded	iRAT/tRAT 1			
	1	In-class Activity-Ungraded	TBL Activities			Bin Liu, Lihui Yuan
01/16/20	2	Module	Module 2: Gastrointestinal (GI) System		3, 11-12	Guillaume de Lartigue, Lihui Yuan
01/16/20	2.1	Video Lecture	Watch: Intro to GI Disorders	60		Guillaume de Lartigue
01/16/20	2.2	Video Lecture	Watch: Esophageal Disorders	30		Guillaume de Lartigue
01/17/20	2.3	Video Lecture	Watch: Gastric Disorders	60		Guillaume de Lartigue
01/17/20	2.4	Video Lecture	Watch: Liver Disorders	60		Guillaume de Lartigue
01/20/20	2.5	Video Lecture	Watch: Pancreas Disorders	60		Guillaume de Lartigue
01/21/20 2:15-3:15 PM	**2**	**Active Learning Session--VC**	**Required Attendance: Quiz 2 (15 min, covers lectures 2.1 to 2.5); Discussion (35 min)**	**60**		**Guillaume de Lartigue, Lihui Yuan**
01/21/20	2.6	Video Lecture	Watch: Small Intestinal Disorders	45		Guillaume de Lartigue
01/21/20	2.7	Video Lecture	Watch: Large Intestine Disorders	60		Guillaume de Lartigue
01/22/20	2.8	Video Lecture	Watch: Regulation of Food Intake and Obesity	60		Guillaume de Lartigue
01/22/20	2	ALS Prep	Watch ALS Prep: GI and Liver Function Assessment	30		Lihui Yuan

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01/23/20 2:15-4:10 PM	**2**	**Active Learning Session--VC**	**Active Learning Session 2: Gastrointestinal System *iRAT/tRAT 2 *Patient Assessment**	**60**	**3, 11-12**	**Guillaume de Lartigue, Lihui Yuan**
	2	Quiz In-class Graded	iRAT/tRAT 2			
	2	In-class Activity-Ungraded	TBL Activities			Guillaume de Lartigue, Lihui Yuan
01/28/20 2:00-4:00 PM	**1-2**	**Exam**	**Exam 1: Module 1-2**		**1-3, 11-12**	
01/28/20	3	Module	Module 3: Neurological System		8-12	Brandon Warren, Lihui Yuan
01/28/20	3.1	Video Lecture	Watch: Pain: Signal Reception, Transduction and Perception	60		Brandon Warren
01/29/20	3.2	Video Lecture	Watch: Amino Acid Neurotransmitters	60		Brandon Warren
01/30/20	3.3	Video Lecture	Watch: Biogenic Amines: Catecholamines Norepinephrine, Epinephrine, Dopamine	75		Brandon Warren
01/31/20	3.4	Video Lecture	Watch: Biogenic Amines: Histamine and Serotonin	60		Brandon Warren
02/03/20	3.5	Video Lecture	Watch: Cholinergic System	45		Brandon Warren
02/04/20	3.6	Video Lecture	Watch: Opioids	90		Brandon Warren
02/05/20	3.7	Video Lecture	Watch: Fatty Acid Neurotransmitters	60		Brandon Warren
02/06/20 10:40-11:30 AM	**3**	**Active Learning Session--VC**	**Required Attendance: Quiz 3 (15 min, covers lectures 3.1 to 3.5); Discussion (35 min)**	**60**		**Brandon Warren, Lihui Yuan**

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02/07/20	3.8	Video Lecture	Watch: Movement Regulation and Disorders	60		Bin Liu
02/10/20	3.9	Video Lecture	Watch: Stroke	60		Bin Liu
02/11/20	3	ALS Prep	Watch ALS Prep: Assessment of Pain, Stroke and other common neurological signs	30		Lihui Yuan
02/12/20 8:30-10:25 AM	**3**	**Active Learning Session--VC**	**Active Learning Session 3: Neurological System *iRAT/tRAT 3 *Patient Assessment**	**120**	**7-12**	**Bin Liu, Brandon Warren, Lihui Yuan**
		Quiz In-class Graded	iRAT/tRAT 3			
	3	In-class Activity-Ungraded	TBL Activities			Bin Liu, Brandon Warren, Lihui Yuan
02/14/20 2:00-4:00 PM	**3**	**Exam**	**Exam 2: Module 3**			
02/14/20	4	Module	Module 4: Endocrine System		4-7, 11-12	Christina DeRemer, Lihui Yuan, Maureen Keller-Wood
02/14/20	4.1	Video Lecture	Watch: Principles of Endocrinology, Part 1	30		Lihui Yuan
02/14/20	4.2	Video Lecture	Watch: Principles of Endocrinology, Part 2	45		Lihui Yuan
02/14/20	4.3	Video Lecture	Watch: Male Reproduction	45		Maureen Keller-Wood
02/14/20	4.4	Video Lecture	Watch: Female Reproduction, Part 1	60		Maureen Keller-Wood
02/17/20	4.5	Video Lecture	Watch: Female Reproduction, Part 2	45		Maureen Keller-Wood
02/17/20	4.6	Video Lecture	Watch: Bone Growth and Calcium Homeostasis	60		Christina DeRemer

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02/17/20	4.7	Video Lecture	Watch: Thyroid Pathophysiology	60		Christina DeRemer
02/18/20 9:35-10:25 AM	**4**	**Active Learning Session--VC**	**Required Attendance: Quiz 4 (15 min, covers lectures 4.1 to 4.6); Discussion (35 min)**	**60**		**Christina DeRemer, Lihui Yuan, Maureen Keller-Wood**
02/19/20	4.8	Video Lecture	Watch: Glucose and Lipid Metabolism, part 1	60		Lihui Yuan
02/19/20	4.9	Video Lecture	Watch: Glucose and Lipid Metabolism, part 2	60		Lihui Yuan
02/20/20	4.10	Video Lecture	Watch: Diabetes Overview, part 1	60		Lihui Yuan
02/20/20	4.11	Video Lecture	Watch: Diabetes Overview, part 2	60		Lihui Yuan
02/20/20	4	ALS Prep	Watch ALS Prep: Markers of Endocrine Health	30		Lihui Yuan
02/21/20 1:55-3:50 PM	**4**	**Active Learning Session--VC**	**Active Learning Session 4: Endocrine System *iRAT/tRAT 4 *Patient Assessment**	**120**	**6-7, 11-12**	**Christina DeRemer, Lihui Yuan**
		Quiz In-class Graded	iRAT/tRAT 4			
	4	In-class Activity-Ungraded	TBL Activities			Christina DeRemer, Lihui Yuan
02/25/20 8:30-10:30 AM	**All**	**Exam**	**Exam 3: Modules 1-4**		**All**	
			Total Min	2790		
			Total Hours	46.5		

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