

## SPRING 2018

### GENERAL PHYSIOLOGY 5103

#### Course Co-Directors:

**Parimal (Perry) Chowdhury, Ph.D., Professor – 501-686-5443; Office Biomed Two 241A-2**  
**Rosalia C.M. Simmen, Ph.D., Professor – 501-526-7575; Biomed One 212D**

The course is designed to develop a foundation in human physiology by its focus on the functional activities and control mechanisms of cells, tissues and organs and the integration of organ system to maintain homeostasis. Class lectures are supplemented with discussions of assigned papers as a forum for integrating research findings with basic concepts.

#### GENERAL INFORMATION:

1. **All Classes will be held:**

**Monday, Wednesday and Friday**  
**9:00 am – 9:50 am**  
**Conference Room 205/207**  
**Biomedical Research Center One**

2. **Six Exams:** As Scheduled below from **7:50 am – 9:50 am**

Exam questions are short answer, essay, or multiple choice.

**EXAM #1 - 1/26/2018**

**EXAM #2 - 2/16/2018**

**EXAM #3 - 3/07/2018**

**EXAM #4 - 4/04/2018**

**EXAM #5 - 4/27/2018**

**EXAM #6 - 5/14/2018**

3. **Textbook:** Required textbook is Textbook of Medical Physiology, Guyton and Hall, 13<sup>th</sup> Edition. Other readings will be assigned by individual Instructors.

5. **Grading:** Students will be assigned a grade based on exam scores. Each teaching/learning event will have 10 points of exam question(s). Grades will be scaled, with the class average typically set at B.

6. **Course Evaluation:** The course will be evaluated by the students following UAMS procedures. Each Instructor will be evaluated by the students at the end of the exam covering his/her specific course materials.

**General Physiology**  
**Department of Physiology and Biophysics**  
**Biomedical Research Center One – Conference Room 205/207**  
**Lecture Schedule – Spring 2018**  
**9:00 am – 9:50 am**

<b>DATE</b>	<b>LECTURE</b>	<b>INSTRUCTOR</b>
1/08/18	Plasma Membrane, Membrane Transport, and Resting Membrane Potential	Dobretsov
1/10/18	Action Potential, Synaptic Transmission, and Neurotransmission	Dobretsov
1/12/18	Sensory Physiology	Dobretsov
<b>1/15/18</b>	<b>Holiday (Martin Luther King, Jr. Day)</b>	
1/17/18	Bone Biology	Morello
1/19/18	Skeletal Muscle	Morello
1/22/18	Skeletal Muscle	Morello
1/24/18	Assigned Special Topics for Discussion	Morello Dobretsov
<b>1/26/18</b>	<b>EXAM 1 (Biomed I - Room 205/207 7:50 a.m. –9:50 a.m.) Includes 7 learning events by Dobretsov and Morello</b>	<b>2 hours</b>
1/29/18	Overview of the Cardiovascular System and Hemodynamics; Electrical Activity of the Heart	Jennings
1/31/18	Excitation-Contraction Coupling; Normal Electrocardiogram	Jennings
2/02/18	Heart as a Pump; Cardiac Cycle	Jennings
2/05/18	Microcirculation; Local and Humoral Control	Jennings
2/07/18	Neural Control; Blood Pressure Regulation	Jennings
2/09/18	Cardiac Output, Venous Return	Jennings
2/12/18	Self-Directed Learning Exercise Muscle Blood Flow and Cardiac Output	Jennings
2/14/18	Cardiovascular Review	Jennings
<b>2/16/18</b>	<b>EXAM 2 (Biomed I - Room 205/207 7:50 a.m. –9:50 a.m.) Includes 7 learning events by Jennings</b>	<b>2 hours</b>
<b>2/19/18</b>	<b>Holiday (President's Day)</b>	
2/21/18	Pulmonary Ventilation	Jennings
2/23/18	Pulmonary Circulation	Chowdhury
2/26/18	Principles of Gas Exchange	Chowdhury
2/28//18	Transport of Oxygen and Carbon Dioxide in Blood and Tissue Fluids	Chowdhury
3/02/18	Regulation of Respiration	Chowdhury
3/05/18	Assigned Special Topics for Discussion	Chowdhury
<b>3/07/18</b>	<b>EXAM 3 (Biomed I - Room 205/207 7:50 a.m. –9:50 a.m.) Includes 7 learning events by Jennings and Chowdhury</b>	<b>2 hours</b>

<b>DATE</b>	<b>LECTURE</b>	<b>INSTRUCTOR</b>
3/09/18	Kidney Function (I)	Kurten
3/12/18	Kidney Function (II)	Kurten
3/14/18	Regulation of Fluid and Electrolyte Balance (I)	Kurten
3/16/18	Regulation of Fluid and Electrolyte Balance (II)	Kurten
<b>SPRING BREAK 3/19/18 – 3/23/18</b>		
3/26/18	Control of Acid-Base Balance by Body Buffers and the Respiratory System	Wight
3/28/18	Control of Acid-Base Balance by the Renal System	Wight
3/30/18	Analysis of Acid-Base Disturbances (computer laboratory)	Wight
4/02/18	Assigned Special Topics for Discussion	Kurten Wight
4/04/18	<b>EXAM 4 (Biomed I - Room 205/207 7:50 a.m. –9:50 a.m.) Includes 8 learning events by Kurten and Wight</b>	<b>2 hours</b>
4/06/18	<b>Research Day 2018 - NO CLASSES OR EXAMS</b>	
4/09/18	Neurogastroenterology and Gut Motility	FA Simmen
4/11/18	Gastrointestinal Secretion, Digestion and Absorption	FA Simmen
4/13/18	Frontiers in Gastroenterology and Hepatology	FA Simmen
4/16/18	Endocrine Control Mechanisms, Hypothalamus and Pituitary	RCM Simmen
4/18/18	Female Reproductive System	RCM Simmen
4/20/18	Male Reproductive System	RCM Simmen
4/23/18	Fertilization, Pregnancy, and Fetal/Neonatal Physiology	RCM Simmen
4/25/18	Assigned Special Topics for Discussion	RCM Simmen
4/27/18	<b>EXAM 5 (Biomed I - Room 205/207 7:50 a.m. –9:50 a.m.) Includes 8 learning events by Simmen and Simmen</b>	<b>2 hours</b>
4/30/18	Pancreas and Adipose Physiology	K Shankar
5/02/18	Endocrine Regulation of Calcium, Phosphate and Bone Homeostasis	Morello
5/04/18	Adrenal Gland	Franco
5/07/18	Thyroid Gland	Franco
5/09/18	Exercise Physiology	Franco
5/11/18	Assigned Special Topics for Discussion	Franco, Morello
5/14/18	<b>EXAM 6 (Biomed II - Room 155-2 7:50 a.m. – 9:50 a.m.) Includes 6 learning events by Shankar, Morello and Franco</b>	<b>2 hours</b>