Syllabus 2021
PHOL 482
Medical Physiology II
Block 5 – Respiratory Physiology
Block Coordinators: Dr. Walter F. Boron
(E-524; walter.boron@case.edu 216-368-8978)
Dr. Andrea Romani
(E-528; andrea.romani@case.edu 216-368-1625)
10:00am – 12:00am; E-501

Week 1
Mon 2/1/21  Dr. Boron Chapter 26: Organization of the Respiratory System (590-605)
Tue 2/2/21  Dr. Boron Chapter 27: Mechanics of Ventilation (606-627)
Thu 2/4/21  Dr. Boron Chapter 28: Acid-Base Physiology (628-646)
Fri 2/5/21  Translational: Frank Jacono “Pulmonary Pathophysiology: Clinical Correlations”

Week 2
Mon 2/8/21  QUIZ - Dr. Boron Chapter 29: Transport of Oxygen and Carbon Dioxide in the Blood (647-659)
Tue 2/9/21  Dr. Boron Chapter 30: Gas Exchange in the Lungs (660-674))
Wed 2/10/21  (10:00 – 11:00 am) Michael Decker: RESEARCH SEMINAR
Thu 2/11/21  Dr. Boron Chapter 31: Ventilation and Perfusion of the Lungs (675-699)
Fri 2/12/21  (10:00 – 11:00 am) Michael Decker: RESEARCH SEMINAR

Week 3
Mon 2/15/21  QUIZ - Dr. Boron Chapter 32: Control of Ventilation (700-720)
Tue 2/16/21  Translational: Andrea Romani “Obstructive & Restrictive Lung Disease”
Wed 2/17/21  (2:30-3:30) Open Forum with Dr. Romani
Thu 2/18/21  Study Day – No Class
Fri 2/19/21  Block 5 Exam

Syllabus 2021
PHOL 482 Medical Physiology
Block 6 – Gastrointestinal System + Metabolism
Room E501  10:00 – 12:00 a.m.

Block Coordinator:   Dr. William Schilling
(E508; william.schilling@case.edu, off. 216-368-8938)
Michael Wolfe MD         mwolfe@metrohealth.org
William Schilling PhD     william.schilling@case.edu
Theresa Pizarro PhD       theresa.pizarro@case.edu


Colleen Croniger PhD  cmc6@case.edu
Erica Roesch, MD  Erica.Roesch@uhhospitals.org
Andrea Romani MD, PhD  andrea.romani@case.edu
Katarina Greer, MD  Katarina.Greer@UHhospitals.org

Chapter and pages refer to B&B 3rd ed.

**Week 1**

Mon 2/22/21  Dr. Schilling: Overview of GI structure/function, motility and regulation
(ENS, AS, GI hormones, biogenic amines)
*Reading*: Chapter 41, + pp.565-569 The splanchnic organs + pp. 876-878 Filling/emptying of the stomach

Tues 2/23/21  M. Wolfe MD  Gastric Function: Reading = Chapter 42

Wed 2/24/21  12 -1 pm M. Wolfe, MD – research

Thur 2/25/21:  *Translational lecture* Michael Wolfe, MD
Gastric acid secretion and ulcer disease
*Reading*: ML SCHUBERT, DA PEURA Control of Gastric Acid Secretion in Health and Disease GASTROENTEROLOGY 2008;134:1842–1860
JA GOLDMAN et al. False-Positive Secretin Stimulation Test for Gastrinoma Associated With the Use of Proton Pump Inhibitor Therap. CLINICAL GASTROENTEROLOGY AND HEPATOLOGY 2009;7:600–602

Fri 2/26/21  Dr. Schilling: Pancreas and Salivary Glands; Bile; *Reading*: Chapter 43 + pp.960-962 Cholangiocyte and Gall Bladder

**Week 2**

Mon 3/1/21  Quiz: Dr. Schilling  Intestinal Fluid and Electrolyte Movement & Nutrient Digestion and Absorption (except lipid)
*Reading*: Chapter 44/45

Tues 3/2/21  Dr. Schilling; Lipid Digestion/Absorption
*Reading*: Primer of physical states of lipids.pdf + Bile formation/Enterohepatic Circulation pp.958-964

Wed 3/3/21  NO CLASS

Thur 3/4/21  Dr. De Salvo – Immunology of the GUT
Week 3

Mon 3/8/21  Quiz  Dr. Croniger  Carbohydrate metabolism  
Reading: Chapter 58: Carbohydrate metabolism + 
Crash Course: Metabolism and Nutrition, 4th ed. Chapter 4

Tues 3/9/21  Dr. Croniger  Lipid metabolism  
Reading: Chapter 58: Lipid Metabolism + 
Crash Course: Metabolism and Nutrition, 4th ed. Chapter 5

Wed 3/10/21  Translational Lecture  Erica Roesch MD  
Cystic Fibrosis and Clinical Management of Nutrition  
Reading: GS Montgomery, M Howenstine Cystic Fibrosis Pediatrics in Review 2009;30;302  

Wed 3/10/21 - 1 pm C. Croniger PhD – research

Thu 3/11/29  Dr. Romani  Hepatobiliary Functions  
Reading: Chapter 46:

Fri 3/12/21  Translational Lecture  Katarina Greer, MD  
Pathophysiological consequences of Liver Cirrhosis  

Week 4

Mon 3/15/21  Quiz  Dr. Romani: Liver as a Metabolic Organ  
Reading: Chapter 46

Tue 3/16/21  Translational Lecture  Dr. Romani: Metabolic Syndrome

Tue 3/16/21  12 -1 pm Dr. Romani – research: Alcoholism
Wed 3/17/21  NO CLASSES – STUDY DAY
Thur 3/18/21  NO CLASSES – STUDY DAY

Fri 3/19/21  **Block Exam**

**EXTRA**

*Translational Lecture*  Michael Wolfe, MD  The GI Tract and Its Role in Obesity: An Example of Translational Research


Integration of GI Functions

**Reading:** Regulation of Body Mass pp.1000-1005

Dr. Croniger Carbohydrate + Lipid Metabolism continued

**Syllabus 2021**

**PHOL 482**

**Block 7 - Endocrinology and Reproductive System**

Room E501  10:00 – 12:00 a.m.

Block Coordinator:  Dr. Andrea Romani
(E528:  amr5@po.cwru.edu;  off: 217-368-1625)

**WEEK 1**

<table>
<thead>
<tr>
<th>Mon</th>
<th>3/22/2021</th>
<th>Dr. Romani</th>
<th>Organization of Endocrine Control (Ch. 47)</th>
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<tbody>
<tr>
<td>Tue</td>
<td>3/23/2021</td>
<td>Dr. Romani</td>
<td>Adrenal Gland -Cortical Hormones (Ch.50)</td>
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<tr>
<td>Wed</td>
<td>3/24/2021</td>
<td>Dr. Romani</td>
<td>Adrenal Gland -Medullary Hormones (Ch. 50)</td>
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<td>Thu</td>
<td>3/25/2021</td>
<td>Dr. Shuen</td>
<td><strong>Research Seminar:</strong> Mechanisms of secretion in Chromaffine cells</td>
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<td>Fri</td>
<td>3/26/2021</td>
<td>Dr. Romani</td>
<td><strong>Translational Class:</strong> CUSHING</td>
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**WEEK 2**

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<th>Dr. Croniger</th>
<th>Leptin and Adiponectin</th>
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<tr>
<td>Tue</td>
<td>3/30/2021</td>
<td><strong>QUIZ</strong> Dr. Dubyak</td>
<td>Endocrine Pancreas: Insulin &amp; Glucagon (Ch.51)</td>
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<td>Wed</td>
<td>3/31/2021</td>
<td>Dr. Romani</td>
<td><strong>Research Seminar:</strong> Role of 11 β-HSD1 in the hepatocyte</td>
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<td>Fri</td>
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<td>Dr. Romani</td>
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**WEEK 3**

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<tbody>
<tr>
<td>Mon</td>
<td>4/5/2021</td>
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<td>Dr. Romani</td>
<td>Growth Hormone &amp; Body Mass (Ch. 48)</td>
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<td>Tue</td>
<td>4/6/2021</td>
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<td>Dr. Romani</td>
<td>Bone Metabolism; PTH, Vit. D (Ch.52)</td>
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<td>Wed</td>
<td>4/7/2021</td>
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<td>Dr. Romani</td>
<td>Male Reproductive System (Ch. 54)</td>
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<td>Thu</td>
<td>4/8/2021</td>
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<td>Dr. Romani</td>
<td>Female Reproductive System (Ch. 55)</td>
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<td>Fri</td>
<td>4/9/2021</td>
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<td>Dr. Romani</td>
<td>Translational Class: <strong>ECLAMPSIA &amp; ED</strong></td>
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**WEEK 4**

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<td>Mon</td>
<td>4/12/2021</td>
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<td>Dr. Mesiano</td>
<td>Sexual Differentiation (Ch. 53)</td>
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<td>Tue</td>
<td>4/13/2021</td>
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<td>Dr. Mesiano</td>
<td>Fertilization, Pregnancy &amp; Lactation (Ch.56)</td>
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<td>Wed</td>
<td>4/14/2021</td>
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<td>Dr. Romani</td>
<td>Fetal &amp; Neonatal Physiology (Ch. 57)</td>
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<td>Wed</td>
<td>4/14/2021</td>
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<td>Dr. Romani</td>
<td>Translational Class: <strong>ENDOMETRIOSIS</strong></td>
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<tr>
<td>Thu</td>
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**Syllabus 2021**

**Medical Physiology PHOL 482**

**Translational Physiology PHOL 484**

**Block 8 – Physiology of Everyday Life**

- Block Coordinator: Dr. Michael Decker, Robbins E510; mj6@case.edu
- Block Co-Coordinator: Dr. Joseph C. LaManna, Robbins E611; JCL4@case.edu
- 10:00 am to 12:00 noon in E501

Teaching Assistants: Med.: amb388@case.edu  Trans. – Janani.ramachandran@case.edu

**Week 1**

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<tr>
<td>Mon</td>
<td>4/19/21</td>
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<td>Dr. Decker</td>
<td>Chapter 61: Environmental Physiology</td>
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<td>Tues</td>
<td>4/20/21</td>
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<td>Dr. Decker</td>
<td>Translational Lecture: (USN and USAF work)</td>
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<td>Wed</td>
<td>4/21/21</td>
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<td>Dr. Damato</td>
<td>Chapter 62: Aging</td>
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<td>Thurs</td>
<td>4/22/21</td>
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<td>Dr. Hornick</td>
<td>Translational Lecture: Geriatrics/Aging Hornick</td>
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<td>Fri</td>
<td>4/23/21</td>
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<td>Dr. Decker</td>
<td>Translational Lecture Sleep and it Disorders</td>
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<td>Mon</td>
<td>4/26/21</td>
<td>Quiz: Dr. LaManna</td>
<td>Chapter 60: Exercise Physiology</td>
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<td>Tues</td>
<td>4/27/21</td>
<td>Dr. Jenkins</td>
<td><em>Translational Lecture: Exercise Physiology</em></td>
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<td>Wed</td>
<td>4/28/21</td>
<td>Dr. LaManna</td>
<td>Chapter 59: Regulation of Body Temperature</td>
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<td>Thur</td>
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