

Case Western Reserve University – University Program Medical School

Block 3: Action Plan 2017-2018

Year 1 (July – May)

<p>Becoming A Doctor</p> <p>Block 1 (5 Weeks)</p> <p>Population Health, Epidemiology, Biostatistics, Health Disparities</p> <p>Field Experiences Assessment Week</p>	<p>The Human Blueprint</p> <p>Block 2 (11 Weeks)</p> <p>Endocrinology, Reproduction, Development, Genetics, Molecular Biology, Cancer Biology</p> <p><u>Integrative Week</u> Assessment Week</p>	<p>Food to Fuel</p> <p>Block 3 (10 Weeks)</p> <p>Gastroenterology, Nutrition, Biochemistry</p> <p><u>Integrative Week</u> Assessment Week</p>	<p>Homeostasis</p> <p>Block 4 (14 Weeks)</p> <p>Cardiovascular, Pulmonary, Renal, Cell Physiology and Pharmacology</p> <p><u>Clinical Immersion Week</u> Assessment Week</p>
<p>Structure (Anatomy, Radiology and Histopathology)</p> <p><u>Foundations of Clinical Medicine</u> (Tuesday Seminars, Communications, Physical Diagnosis, Patient Based Experiences)</p>			

1. Course Description:

There are three topics in our block: nutrition, the gastrointestinal system, and biochemistry. These three topics are related and we will emphasize the connections between the topics. At the same time, they are independent subjects with their own principles and language; it is important that you learn them as both related and independent disciplines. In addition, biochemistry and nutrition are basic sciences; these disciplines provide a vocabulary that you will need for other parts of the curriculum.

The **nutrition** section will discuss the micronutrients (vitamins and minerals) and macronutrients (carbohydrates, proteins and lipids) required for human health. The vitamins and minerals are cofactors for many of the biochemical processes that will be discussed in the biochemistry section. We will discuss the digestion and absorption of micronutrients. You will also learn how the overall energy balance of macronutrients is necessary for growth and the maintenance of weight. We will discuss the diseases and the metabolic consequences of malnutrition and obesity. *Note that the important themes of the nutrition section appear throughout the block, not just in the core sessions.*

The **biochemistry** component has two major threads. The first of these is protein structure and function. You will learn about proteins, both as structural components of cells and tissues and as enzymes. This information is important for understanding proteins as the targets of most drugs. The second thread is metabolism--the transformations of small molecules. We will discuss both catabolism (the breakdown of fuels for energy) and anabolism (the synthesis of the body's building blocks). Key features of our discussion of metabolism will be: i) the roles of individual organs, and ii) the regulation of these processes to permit the adaptation of metabolism to various physiological and metabolic states.

In the **gastroenterology** section you will learn about the functions of the gastrointestinal tract in health and disease. We will focus on the normal physiology of these organ systems, including esophagus, stomach, small and large intestine, liver, pancreas, and gall bladder. The principal functions of these organs are the digestion and absorption of nutrients. We will discuss how these functions are accomplished by integrating motility, secretion of small molecules and proteins, digestion, and absorption. This material will be integrated with the presentation of the important diseases of these organs.

2. Block Co-Leaders:

Colleen M Croniger, PhD.
Martin Snider, PhD.

3. Design Team:

Anthony Post, MD
Katarina Greer, MD
Ashely Faulx, MD
Monica Gerrek, PhD
Nicole Pilasky – course manager
Michelle Mumaw- course manager

4. Block Objectives:

- 1) The student will explain the biochemical basis for digestion of food, and the absorption, transport, storage, and utilization of fuels in health and disease.
- 2) The student will define the importance of nutrition and its impact on metabolism.
- 3) The student will define and explain normal GI physiology and major diseases of the GI organs and the liver.
- 4) The student will define and explain the bioethics of genetic testing, organ transplant, end of life care, and newborn screening.
- 5) The student will define and explain anatomy of the GI tract.

5. In the grid below, please list the specific course changes you made this year based

What changes were made 2017-2018?	How did the changes work?	What would you like to change next year 2018-2019?
Added Nutrition TBL on Diets-Interprofessional Scholars Collaboration in Teaching and Learning (iSCTL) project with Lynn Kam and an M2 student	Just-in-time feedback was positive. The students appreciated the learning environment of this TBL. They found it helpful for teaching about healthy diets to their patients.	
Martin Snider changed MSG to large interactive session on Hemoglobin	Students really liked this session.	<ul style="list-style-type: none">• Consider switching other sessions to this format.• Disseminate how we did this.
Added an interactive session on lysosomal disorders (McCandless and Snider)	Students had a hard time finding a context for this session. This will be changed for next year	Make CaseMed Minute video to use instead

on last year's report.

6. What were the successful, innovative components of your block that you would like to share with other Blocks?

Martin Snider changed the MSG on hemoglobin to a larger interactive session with student response (pair and share) because the material did not work as a TBL. The MSG had 7 problems. This material was reworked into the new format. There was introductory material for each of the problems, followed by MCQs, which the students answered in pairs using clickers. This was followed by student discussion of the possible answers and then the correct answer was revealed. As in TBL, the discussion was the most lively when the answers were evenly distributed among the possible choices.

7. What specific changes in the curriculum (lectures, TBL, IQ cases, other) that you plan to make next year?

Changes anticipated for next year	Reason for changes (evidence)
New TBL on lipid metabolism and nutrition	Replacing lysosomal storage disease session.

8. Please review your Block objectives. Have you added or deleted major concept areas to your Block?

No changes

Deletions	Additions
N/A	N/A

9. Formative Assessments (MCQs and SEQs). What specific changes do you plan to make to the Block next year?

Changes anticipated for next year	Reason for changes (evidence)
Work on the biochemistry SEQs	To make them higher order thinking
map using Blooms taxonomy	Keep improving the exam

10. Acknowledgements:

Nicole Pilasky, Michelle Mumaw, Celinda Miller, Katie Battistone, Yifei Zhu, and the entire Curricular Affairs staff for the excellent work.