



Syllabus - Summer On-line Medical Biochemistry

(www.canvas.instructure.com)

COPYRIGHTS STATEMENT AND REDISTRIBUTION OF RESOURCES:

All resources for the Summer On-line Medical Biochemistry course modules are owned and copyrighted to Tulane University. They are for the sole use of students enrolled in this course, and are not for redistribution or posting to outside individuals and/or websites. It is illegal to provide these resources to others not taking the course, or upload resources to ANY outside websites. This includes all PDF files and video recordings.

COURSE MODULE CONTENT AND OUTLINE:

Learning resources are all on-line, including study guides, reading synopses, streaming videos, case studies and block assessment questions. Syllabus is the same for both the prep- and remedial courses.

MODULE I	METABOLIC BIOCHEMISTRY MODULE (32 TOPIC SESSIONS)
5-20-19	Summer Medical Biochemistry: View This Video First (Course Introduction Video), Review Syllabus and Contact me w/ Qs.
Block A.	Fundamentals
5-21-19	A1. Biomolecules
5-21-19	A2. Biomembranes
5-22-19	A3. Amino Acids
5-22-19	A4. Protein Structure
5-23-19	A5. Enzymes I
5-23-19	A6. Enzymes II
5-24-19	A7. Metabolic Design
5-27-19	Holiday – Study Day
Block B.	Carbohydrate Metabolism
5-28-19	B1. Glycolysis Reactions
5-28-19	B2. Glycolysis Regulation
5-29-19	B3. Gluconeogenesis
5-29-19	B4. Glycogen Metabolism
5-30-19	B5. Pentose Phosphate Pathway
5-30-19	B6. Metabolism of Other Sugars
Block C.	Energy Production
5-31-19	C1. Pyruvate Dehydrogenase Complex
6-3-19	C2. Citric Acid Cycle
6-3-19	C3. Oxidative Phosphorylation
6-4-19	Study Day - Review of Blocks A-C

Block D.	Lipid Metabolism
6-5-19	D1. Fatty Acids and Triglycerides
6-5-19	D2. Fatty Acid Metabolism
6-6-19	D3. Review - Regulation of Metabolism
6-6-19	D4. Apolipoproteins and CVD
6-7-19	D5. Cholesterol Metabolism
6-7-19	D6. Steroid End Products
6-7-19	D7. Phospholipids, Sphingolipids and Eicosanoids
Block E.	Nitrogen Metabolism
6-10-19	E1. Urea Cycle
6-10-19	E2. Amino Acids I
6-11-19	E3. Amino Acids II
6-11-19	E4. Nucleotide Metabolism
Block F.	Complex Disease States
6-12-19	F1. Ethanol Metabolism and Alcoholism
6-12-19	F2. Diabetes
6-13-19	F3. Vitamins I
6-13-19	F4. Vitamins II
6-14-19 to ** 6-18-19 (plus weekend)	Study Days - Review of Blocks A-F
6-19-19	Metabolic Biochemistry Module Exam
	** If enrolled in only the Cellular Module (Not Taking the Metabolic Module), the start date is June 14th, and includes all Block A - Fundamental topics.
	Fundamentals topics are covered on these dates: A1/A2 (6-14), A3/A4 (6-17), A5/A6 (6-18), and A7 (6-19).
MODULE II	CELLULAR BIOCHEMISTRY MODULE (26 TOPIC SESSIONS)
Block G.	Genomics
6-20-19	G1. Nucleotide Structure
6-20-19	G2. Organization of the Human Chromosome
6-21-19	G3. DNA Replication, Damage & Repair
6-21-19	G4. DNA Analysis and Technology
6-24-19	G5. DNA Recombination
6-24-19	G6. DNA-Binding Proteins and Gene Regulation
6-25-19	G7. Transcription and RNA Processing
6-25-19	G8. Translation and Protein Processing
6-26-19	Study Day - Review of Block G (and Block A if only taking Cellular Module)

Block H.	Protein Trafficking
6-27-19	H1. ER/Golgi
6-27-19	H2. Receptor Mediated Endocytosis
6-28-19	H3. Mitochondrial and Nuclear Transport
Block I.	Structural Proteins
7-1-19	I1. Microtubule Structure
7-1-19	I2. Cytoskeleton
7-2-19	I3. Collagen
7-2-19	I4. Extracellular Matrix
7-3-19 to 7-4-19	Holiday and Study Day - Review of Blocks G-I (and Block A if only taking Cellular Module)
Block J.	Blood
7-5-19	J1. Blood Proteins: Hemoglobin
7-5-19	J2. Sickle Cell Anemia and Thalassemia
7-8-19	J3. Immunoglobulins
Block K.	Signal Transduction
7-8-19	K1. G Protein Coupled Receptors
7-9-19	K2. Single Transmembrane Receptors
7-9-19	K3. Nuclear Receptors
7-10-19	Study Day - Review of Blocks J-K
Block L.	Cell Cycle and Cancer
7-11-19	L1. Microtubules and the Cell Cycle
7-11-19	L2. Cell Cycle Regulation
7-12-19	L3. Cancer
7-12-19	L4. Apoptosis I
7-12-19	L5. Apoptosis II
7-15-19 to 7-18-19	Study Days - Review of Blocks G-L (and Block A if only taking Cellular Module)
7-19-19	Cellular Biochemistry Module Exam

Within a week of your completion of the Summer On-line Medical Biochemistry Course, we will send you a link to a survey monkey site and ask your opinions about the course, its organization and content, and how it has helped you in achieving your education goals. We welcome your feedback and input on what we did right, and how this can be improved in for the future.

Thank You.

David S. Franklin, PhD, Course Director (franklin@tulane.edu)

Kelly Ragland, Course Administrator (kraglan@tulane.edu)