

BIOCHEMISTRY WITH A MEDICAL PERSPECTIVE

Online Biochemistry Course, Faculty of Medicine, University of Toronto, Canada

Course Schedule

Winter Semester 17 January 2022 to 28 May 2022

Week	Section / Online Quiz	Dates (Week Start)	Video Lecture Topics	Lecturer	Text Chapter	Clinical Insights By Dr. Murray
1 & 2	Biochemistry Basics and Proteins	17 Jan 2022	Course Introduction to Biochemistry Water and pH Amino Acids Protein 3D Structure	Dr. Reithmeier	1 2 3 4 5	Water and pH Balance Vitamin C Deficiency Causes Scurvy
	Quiz 1	31 Jan 2022				
3 & 4		31 Jan 2022	Enzymes Hemoglobin	Dr. Baker	6-8 9	Variations in Km Can Have Physiological Consequences Sickle Cell Anemia
	Quiz 2	14 Feb 2022				
5 & 6		14 Feb 2022	Carbohydrates Lipids Membranes: Structure and Function	Dr. Baker Dr. Reithmeier	10 11 12, 13	Lactose Intolerance Digitalis
	Quiz 3	28 Feb 2022				
7 & 8	Metabolism	28 Feb 2022	Metabolism, Glycolysis Glycogenolysis PDC, TCA, ETC, Ox.Phos/PMF	Dr. Baker	15, 16 24 18 – 21	Exercise Depends on Various Means of Generating ATP Beriberi-A Disease Due to Deficiency Of Thiamine (Vitamin B-1)
	Quiz 4	14 Mar 2022				
9 & 10		14 Mar 2022	Fat Catabolism, Fat Synthesis Insulin Glycogen Synthesis Diabetes GNG	Dr. Baker	27-29 13, 27 25 27 17	Hyperglycemia GSDs
	Quiz 5	28 Mar 2022				

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11 & 12		28 Mar 2022	Cholesterol Lipoproteins Eicosanoids PI Synthesis and Signalling AA Synthesis and Degradation	Dr. Baker Dr. Reithmeier	29 29 28 29, 13 30, 31	Tay-Sachs Disease Inherited Defects Of The Urea Cycle Cause Hyperammonemia
	Quiz 6	11 Apr 2022				
13 & 14	Nucleic Acids	11 Apr 2022	Nucleic Acid Structure Nucleotide Metabolism DNA Replication DNA Repair	Dr. Kelley Dr. Reithmeier Dr. Kelley	33 32 34 35	Some Genetic Diseases Are Caused by The Expansion of Repeats of Three Nucleotides Cancers Are Caused by Defective Repair of DNA
	Quiz 7	25 Apr 2022				
15 & 16		25 Apr 2022	Transcription Gene Expression, Regulation RNA Processing	Dr. Kelley	36 37 38	Mutations that Affect pre-mRNA and Alternative Splicing Cause Disease
	Quiz 8	09 May 2022				
17 & 18		09 May 2022	Genetic Code, tRNAs and Amino Acids Translation, Translation Regulation Protein Secretion Recombinant Technologies, CRISPR	Dr. Kelley Dr. Wyatt	39 40 40 41	Some Antibiotics and Some Toxins Act by Inhibiting Protein Synthesis Gene Therapy, Transgenic Animals
	MOCK Quiz	Available 23 May 2022				

Final Examination 2022

Date

28 May 2022

Time

3 hrs

Material Tested

Final exam includes all topics covered throughout the course