

# BIOCHEMISTRY WITH A MEDICAL PERSPECTIVE

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

## Course Schedule

Fall Semester 28 September 2015 to 20 Feb 2016

Week	Section / Online Quiz	Dates (Week Start)	Video Lecture Topics	Lecturer	Text Chapter	Clinical Insights By Dr. Murray
1 & 2	<b>Biochemistry Basics and Proteins</b>	28 Sep 2015	Course Introduction to Biochemistry Water and pH Amino Acids Protein 3D Structure	Dr. Reithmeier	1 2 3 4 5	<b>Water and pH Balance</b> <b>Vitamin C Deficiency Causes Scurvy</b>
	<b>Quiz 1</b>	<b>13 Oct 2015</b>	<b>**QUIZ MOVED TO TUESDAY</b>			
3 & 4		12 Oct 2015	Enzymes Hemoglobin	Dr. Baker	6-8 9	<b>Variations in Km Can Have Physiological Consequences</b> <b>Sickle Cell Anemia</b>
	<b>Quiz 2</b>	<b>26 Oct 2015</b>				
5 & 6		26 Oct 2015	Carbohydrates Lipids Membranes: Structure and Function	Dr. Baker Dr. Reithmeier	10 11 12, 13	<b>Lactose Intolerance</b> <b>Digitalis</b>
	<b>Quiz 3</b>	<b>09 Nov 2015</b>				
7 & 8	<b>Metabolism</b>	09 Nov 2015	Metabolism, Glycolysis Glycogenolysis PDC, TCA, ETC, Ox.Phos/PMF	Dr. Baker	15, 16 24 18 – 21	<b>Exercise Depends on Various Means of Generating ATP</b> <b>Beriberi-A Disease Due to Deficiency Of Thiamine (Vitamin B-1)</b>
	<b>Quiz 4</b>	<b>23 Nov 2015</b>				
9 & 10		23 Nov 2015	Fat Catabolism, Fat Synthesis Insulin Glycogen Synthesis Diabetes GNG	Dr. Baker	27-29 13, 27 25 27 17	<b>Hyperglycemia</b> <b>GSDs</b>
	<b>Quiz 5</b>	<b>07 Dec 2015</b>				

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11 & 12		07 Dec 2015	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
			<b>BREAK (19 Dec 2015 to 03 Jan 2016)</b>			
	<b>Quiz 6</b>	<b>04 Jan 2016</b>				
13 & 14	<b>Nucleic Acids</b>	04 Jan 2016	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
	<b>Quiz 7</b>	<b>18 Jan 2016</b>				
15 & 16		18 Jan 2016	Transcription Gene Expression, Regulation RNA Processing	Dr. Kelley	36 37 38	Mutations that Affect pre-mRNA and Alternative Splicing Cause Disease
	<b>Quiz 8</b>	<b>01 Feb 2016</b>				
17 & 18		01 Feb 2016	Genetic Code, tRNAs and Amino Acids Translation, Translation Regulation Protein Secretion Recombinant Technologies	Dr. Kelley	39 40 40 41	Some Antibiotics and Some Toxins Act by Inhibiting Protein Synthesis Gene Therapy, Transgenic Animals
	<b>MOCK Quiz</b>	<b>Available 15 Feb 2016</b>				

## Final Examination 2016

### Date

20 February 2016

### Time

9:30 am - 12:30 pm

### Material Tested

Final exam includes all topics covered throughout the course