BIOC 339-S Introduction to Biochemistry Summer Online Course

Summer 2019
2019 Course Schedule:

Lecture #	Chapter	Title	Instructor
1	1	Course organization, Biomolecules	Gunther
2	2	Structures of Cells	Gunther
3	3	Water – Structure and Properties	Gunther
4	3	Water ionization, pH, Buffers	Gunther
5	4	Thermodynamics, The Role of ATP	Gunther
6	5	Amino Acids & Peptides	Gunther
7	5	Protein Primary Structure & Molecular Evolution	Gunther
8	5	Secondary, Tertiary, Quaternary Structure & Domains	Gunther
9	5	Fibrous Proteins and Globular Proteins	Gunther
10	6	Enzyme Kinetics	Gunther
11	6	Enzyme Inhibitors, Cofactors & Coenzymes	Gunther
12	6	Enzyme Mechanisms & Enzyme Regulation	Gunther
-	-	**Exam 1- May 23/June 13 (Section 7D2/7D1)**	**Gunther**
13	7	Carbohydrates: Monosaccharides & Glycosides	Gunther
14	7	Polysaccharides & Glycoconjugates	Gunther
15	-	Blood coagulation	Gunther
16	8	Glycolysis	Gunther
17	8	Gluconeogenesis	Gunther
18	8	Glycogen metabolism & Pentose Phosphate Pathway	Gunther
18	9	Citric Acid Cycle	Gunther
20	9	Oxidation-Reduction Reactions, Reactive Oxygen Species	Gunther
21	10	Electron Transport, Oxidative Phosphorylation	Gunther
22	11	Lipids	Gunther
23	11	Membranes	Gunther
24	11	Membrane Transport	Gunther
25	11	Digestion, Lipoproteins, Endocytosis	Gunther
-	-	**Exam 2 - June 6/June 27 (section 7D2/7D1)**	**Gunther**
26	12	Lipids: Uptake, glyceroneogenesis & lipolysis	Gunther
27	12	Fatty Acid Degradation & Synthesis	Gunther
28	12	Regulation of FA Metabolism; Membrane Lipid Metabolism	Gunther
29	12	Cholesterol Metabolism and Atherosclerosis	Gunther
30	14	N-Fixation and Incorporation	Gunther
31	14	Amino Acid Synthesis & AA Biosynthetic Reactions	Gunther
32	14	Nucleotide Structures & Purine Nucleotide Synthesis	Gunther
33	14	Pyrimidine Nucleotide Synthesis & Deoxynucleotides	Gunther
34	15	Protein Turnover & Amino Acid Catabolism	Gunther

35	15	Disorders of AA metabolism; Catecholamine & Nucleotide & Heme Catabolism	Gunther
36	16	Hormones and 2nd Messengers I	Gunther
37	16	Hormones and 2nd Messengers II	Gunther
-	-	**Exam 3 - June 20/July 11 (Section 7D2/7D1)**	**Gunther**
38	16	Integration of Metabolism: Division of Labor & The Feeding-Fasting Cycle	Gunther
39	17	DNA Structure and Chromosomes	Gunther
40	17	RNA & Viruses	Gunther
41	17	DNA Replication – Prokaryotes	Gunther
42	18	DNA Replication – Eukarotes; DNA Repair	Gunther
43	18	Transcription	Gunther
44	18	Gene Expression – Prokaryotes	Gunther
45	18	Gene Expression – Eukaryotes	Gunther
46	18	Carcinogenesis	Gunther
47	18	Translation I: the Genetic Code	Gunther
48	18	Translation II: Prokaryotes & Eukaryotes	Gunther
49	18	Protein Modifications & Targeting	Gunther
-	-	**Exam 4 - July 3/July 25 (Section 7D2/7D1)**	**Gunther**
(optional)	**Makeup Exam**	**July 10/July 31**	**Gunther**
-	**Comprehensive Final**	**July 11/August 1 (Section 7D2/7D1)**	**Gunther**

Lecture materials for Block 1 (Lectures 1-12) released week of May 13 (Section 7D2) or June 3 (Section 7D1).
Lecture materials for Block 2 (lectures 13-25) released week of May 27 (Section 7D2) or June 17 (Section 7D1).
Lecture materials for Block 3 (lectures 26-37) released week of June 10 (Section 7D2) or July 1 (Section 7D1).
Lecture materials for Block 4 (lectures 38-49) release week of June 24 (Section 7D2) or July 8 (Section 7D1).

Homework for block 1 Due 11:59 PM, May 23 (Section 7D2) or June 13 (Section 7D1).
Homework for block 2 due 11:59 PM, June 6 (Section 7D2) or June 27 (Section 7D1).
Homework for block 3 due 11:59 PM, June 20 (Section 7D2) or July 11 (Section 7D1).
Homework for block 4 due 11:59 AM, July 5 (Section 7D2) or 11:59 PM July 25 (Section 7D2).