16:682:531 Basic Biochemistry
Generic Syllabus
Kyle Murphy and Gerben Zylstra

Day	Book Chapter	Module 0 & 1: Introduction and Overview
1	1	Introduction to Biochemistry
2	2	Water and weak interactions
3	3	Energy
		Module 2: Proteins and Enzymes
4	5	Primary level of protein structure
5	6	3-D Structure of Proteins
6	8	Enzymes
7	8	Enzymes
		Module 3: Carbohydrates and Carbohydrate Metabolism
8	9	Carbohydrates
9	11	Carbohydrate Metabolism
10	12	Carbohydrate Metabolism
11	12	Carbohydrate
12	13	Citric Acid Cycle
13	14	Electron Transport and Oxidative Phosphorylation
14		**Exam 1 (Material from Modules 1, 2 & 3)**
		Module 4: Lipid and Nitrogen Metabolism Topics
15	10	Lipids and Membranes
16	16	Lipid Metabolism
17	18	Amino Acid and Nitrogen Metabolism
18	19	Nucleotide Metabolism
		Module 5: Integration of Metabolism and the Central Dogma
19	17 & 20	Integration of Metabolism and Signal Transduction
20	4 & 22	DNA and RNA / DNA Replication
21	22	DNA and RNA / DNA Replication
22	24	Transcription and Post-transcriptional Processing
23	24	Transcription and Post-transcriptional Processing

24	25	Translation and Post-Translational Protein Processing
25	25	Translation and Post-Translational Protein Processing
26	26	Regulation of Gene Expression
27		Techniques and interpreting data
28		**Exam 2 (Material from Modules 4 & 5)**

Book: Appling, Anthony-Cahill, and Mathews: Biochemistry: Concepts and Connections

Evaluation and Grading:

12% Self-guided Learning Module Quizzes (in Sakai test and quizzes)
12% Mastering Chemistry Assignments (masteringchemistry.com)
12% End of Module Quizzes
20% Exam 1
20% Exam 2
12% Enzymology paper
12% Metabolic pathway paper