Syllabus CHEM 6573

Molecular Biochemistry (Fall 2011)

Schedule: Tuesday, Thursday 9:35-10:55 am,

Location: CoC 102

Instructor: Yomi Oyelere, IBB 3305, 4-4047

aoyelere@chemistry.gatech.edu

Office hours: Mondays and Fridays 3:30 – 4:30 pm; or by appointment

Prerequisites: CHEM 6501 and CHEM 6502, or equivalent.

Textbook: *Molecular Cell Biology* by Lodish et al., 6th edition, W.H. Freeman and Co., 2007

Other recommended textbook:

Biochemistry by Voet & Voet, 4th edition, Wiley

Honor Code: Each student must sign his/her exam and quiz stating that he/she conforms to the Georgia Institute of Technology Honor Code (see: http://www.deanofstudents.gatech.edu/Honor/).

Slides: The slides shown in class are placed on https://t-square.gatech.edu/portal/

Evaluation: The course contains 5 examination categories, the results of which will be counted according to the following scheme:

Exams 1, 2a/b	15 % each (only the better result of 2a and 2b will be counted)
Exam 3	20 %
2 Quizzes	15 %
Presentation	20 %
Essay	15 %

Grades (Tentative): 80-100 = A, 66-79 = B, 56-65 = C, 46-55 = D. Below 45 = F.
For Pass/Fail: Pass = 66-100, Fail = below 65.

Requests for Re-grading: Requests for reconsideration of graded materials must be made in writing during the week the exams are returned.

Attendance Policy: Attendance at exams and class activities is mandatory.

Essays must be at least 1 page but no more than 2 pages (**font: Arial 11, single spacing, 1 inch margins**). Essays handed in late will receive no credit.

Power Point slides of the **presentations** must be submitted to the course instructor no later than 24 hours ahead of time.

Tentative list of topics and approx. timeline:

Week	Date(s)	Topics	Chapter(s)
1-2	Aug 23, 25, 30,	*I. Fundamentals* Cells and their building blocks, Basic Organic Chemistry, Basic Thermodynamics	1, 2.2-2.4
2	**Sep 1**	**Quiz 1** (Chapters 1, 2.2-2.4) *I. Fundamentals* Basic Kinetics	3.3
3	Sep 6	*II. Proteins* Structure and Function	2.1, 3.1
3	**Sept 8**	**Exam 1**	**1, 2, 3.1**
4, 5	Sept 13, 15, 20	*II. Proteins* Structure and Function **No Class on Sept 22**	3.2-3.5
6	**Sep 27**	*III. Molecular Genetics* DNA, RNA and Viruses	4.1, 4.7
6	Sep 29	*III. Molecular Genetics* DNA Replication, Repair and Recombination	4.2, 4.5, 4.6
7	**Oct 4**	**Exam 2a**	**3.2-3.5, 4.1, 4.7**
7, 8	Oct 6, 11, 13	*III. Molecular Genetics* Transcription, mRNA processing, Protein Biosynthesis	4.3, 4.4, 8.1
9	Oct 20, 25	*III. Molecular Genetics* Structure of Chromatin, Control of Gene Expression	6.6, 7
10	**Oct 27**	**Exam 2b**	**4.2-4.6,** 6.6, **8.1**
11	**Nov 1**	**Hand out of Topics for Essay and Presentation** *IV. Molecular Genetic Techniques* PCR, DNA cloning	5.2
11	**Nov 3**	**Quiz 2** (Chapters 5.2, 6.6, 6.7) *IV. Molecular Genetic Techniques* DNA sequencing, Microarrays	5.3
12	**Nov 8**	*No Class*	13
12, 13	**Nov10, Nov 15**	**Quiz 3** (Chapters 5.3, 13) *V. Intracellular Organization* Protein Sorting, Vesicle traffic	14.2
13	Nov 17	*V. Intracellular Organization* Vesicle traffic	14.3-14.6
14	**Nov 22**	**Exam 3**	**6.6, 7, 5.2, 5.3, 13, 14.2-14.6**
15	Nov 29	**Hand in of Essay** *V. Intracellular Organization* Cytoskeleton	17, 18
15, 16	**Dec 1, 6, 8**	**Student Presentations**	