

**BTEC210- Biotechnology Research Experience
FALL 2007 (11250) Assignment Schedule
Monday/Wednesday: 12:00 to 5:00PM**

Module I (September 5 – 12)

Week	Date	Assignment Due
1	September 3	Labor Day-no class
	September 5	Review syllabus and course schedule; Post message to Blackboard discussion board
2	September 10	Review lab safety procedures Lab group assignments; Problem Set (MSDS on-line exercise)
	September 12	Reading: Thieman & Palladino; Chapter 1 (pp. 1-21)

Module II (September 17 – October 31)

Week	Date	Assignment Due
3	September 17	Problem Set #3 due; Pipetting Quiz P1 prep; Problem Set Reading: Thieman & Palladino; Chapter 2 (pp. 22-30)
	September 19	Quiz: Lab Safety and Solution Prep
4	September 24	P2 prep DNA Structure on-line exercise due; Reading: Thieman & Palladino; Chapter 2 (pp. 31-44)
	September 26	P1 Report due (10 points) Reading: Thieman & Palladino; Chapter 2 (pp. 45-50)
5	October 1	Restriction Enzymes on-line exercise due Reading: Thieman & Palladino; Chapter 3 (pp. 51-84) Reading: supplemental reading on genome mapping
	October 3	P3 prep; P2 Report due (10 points) NCBI Map Viewer on-line exercise (in class)
6	October 8	P4 prep; Genetic Map Construction Exercise due; Reading: Thieman & Palladino; Chapter 8 (pp. 169-183)
	October 10	Supplemental reading on genome
7	October 15	P3 Report due (10 points)
	October 17	Blotting/Hybridization problem set Reading: Thieman & Palladino; Chapter 5 (pp. 105-135)
8	October 22	P5 prep; Hybridization Problem Set due (10 points); Supplemental reading on forensics
	October 24	Reading: Thieman & Palladino; Chapter 4 (pp. 85-104)
9	October 29	P6 Protocol: Transformation
	October 31	P6 Protocol: GFP Plasmid Isolation and Observation Supplemental reading on transformation

Module III (November 5 – 14)

Week	Date	Assignment Due
10	November 5	Supplemental Reading on GFP protein
	November 7	Quiz: Techniques for Working with DNA (10 points) P7 Protocol: GFP Protein Expression
11	November 12	Veteran's Day
	November 14	P5 Report due (10 points) Take home Quiz #1 P7 Continued: GFP Protein Isolation and Analysis Reading: Thieman & Palladino; Chapter 11 (pp. 233-269)

Module IV (November 19 – December 19)

Week	Date	Assignment Due
12	November 19	Protocol 6 Observations due (10 points); GFP on-line exercise (in class) Protocol 8 Prep
	November 21	Take home Quiz #1 due (10 points) Supplemental reading
13	November 26	Protocol 8 Prep: Reading: Thieman & Palladino; Chapter 11 (pp. 233-269)
	November 28	Protocol 9
14	December 3	Protocol 9 and 10 Supplemental reading
	December 5	Take home Quiz #2 (10 points) Protocol 10 Continued Supplemental reading
15	December 10	Protocol 11 and 12 prep; Take Home Quiz #2 due (10 points)
	December 12	Protocol 11/12 continued/discussed
16	December 17	P8/9/10 Lab Report Due (30 points); Quiz Due (10 points) Review Material:
	December 19	FINAL EXAM (50 points)

BT210 COURSE OUTLINE

1. Intro to Biotechnology: Reading: Thieman & Palladino; Chapter 1 (pp. 1-21)
2. CELLS: All life forms are made of cells: Chapter 2 (pp. 23 – 30)
3. Cell Structure and Compartments
 - a. Cell membrane
 - b. Organelles
 - c. Nucleus
4. Genome Chapter 2 (pp. 31 – 44)
 - a. DNA structure
5. Genetic Manipulation: Chapter 3 (pp. 51-84)
6. Evolution: Chapter 2 (pp. 45 – 50)
 - a. Mutation
7. Non-Coding DNA: Chapter 8 (pp. 169-183)
 - a. Repetitive elements
 - b. Non-repetitive DNA
 - c. RFLP
 - d. Finger Mapping
 - e. Forensic
8. Coding DNA Chapter 5 (pp. 105 – 135)
 - a. Gene regulation
 - b. Transcription
 - i. Prokaryotic Gene Regulation and RNA Processing
 1. Translation and Degradation
 - ii. Eukaryotic Regulation and RNA Processing
 1. Translation
 2. Reading Frame
 3. Codon
 4. Ribosomes
 5. tRNA
 6. rRNA
 7. Protein Structure: Chapter 4 (pp. 85 – 104)
 8. Protein Function
 - a. Enzymes
 - b. Monoclonal antibodies
 - c. Hemoglobin
 - d. Structural proteins
9. Medical Biotechnology: Chapter 11 (pp. 233-269)

Grading:

P1 report:	10 pts
P2 report:	10 pts
P3 report:	10 pts
P5 report:	10 pts
P6 response:	10 pts
P7 report:	10 pts
P8/9/10 reports:	10 pts
Quiz 1:	10 pts
Quiz 2:	10 pts
Quiz 3:	10 pts
Test:	20
Notebook	10 pts
Lab performance	20 pts
Exam	50 pts
Total Points:	200 pts = 100%