## Chemistry 354 - Biochemistry Laboratory Fall 2010 Schedule

Lab location and hours: Room 311, New Science Building, Wednesdays 2-5 pm.

<u>Objectives:</u> This laboratory program has been designed to introduce the student to the study of biological molecules. Experiments will include procedures for the quantification, isolation and characterization of various cellular components. The goals is to get students familiar with common techniques used in biochemistry labs.

**Instructor:** 

Marcello Forconi Room 302 New Science forconim@cofc.edu 953-3616

Building

**Teaching Assistant:** 

David Thieker <a href="mailto:dfthieke@edisto.cofc.edu">dfthieke@edisto.cofc.edu</a>

## Textbook:

Experiments in Biochemistry. A Hands-On Approach 2<sup>nd</sup>. Ed. by Farrell and Taylor, Brooks/Cole, 2006 Additional required material will be provided through the eReserve webpage for this lab.

## **Grading:**

**Pre-Lab Exercises:** Associated with each lab is Pre-Lab exercise which is due at the beginning of each lab period. It must be handed in at the beginning of each lab period or no credit can be given. The Pre-Lab exercises count for 10 % of your final grade. Pre-lab exercises will be posted on the library's eReserve webpage for this course.

*Lab Reports*: Associated with each lab is a lab report which is due the week after the lab is completed. Lab reports count 55% of your grade. No late reports will be accepted. Lab reports can be found on the library's eReserve webpage for this course.

*Final Exam*: The final exam is cumulative, will cover the theory from assigned readings and the manipulation of data similar to those collected during experiments and will count as 35% of your grade.

*Laboratory Notebooks*: You must keep a traditional bound laboratory notebook with all entries in ink. All data must be recorded directly into the notebook during the lab period. Samples of all calculations should be recorded. You may wish to record other helpful information as well. Notebooks will not be graded, but will be available for reference purposes during the final exam.

**Grade Ranges** 

A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
В	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Please note: No grades will be registered until the biochemistry lab is CLEAN at the end of the semester; clean all glassware as you use it and return it to its proper location.

<u>Academic Dishonesty:</u> Cheating and dishonesty will not be tolerated. Please refer the Student Handbook for the specific definitions. Classroom disruption will also not be tolerated. Serious and persistent classroom disruption could result in disciplinary charges, as explained in the Student Handbook.

## **SCHEDULE:**

Date	Experiment
Sep 1	Check in - Introduction
Sep 8	I. Using Pipettors/ TLC of Amino Acids Prelab Reading Assignment Chapter 1 – Biochemistry Boot Camp (pages 1-36) and Ion-Exchange Chromatography (pages 121-135).
Sep 15	I. Beer's Law and Absorption Spectra Prelab Reading Assignment pages 63-81
	II. Carbohydrates  Obtain the handout for this lab from the Lab handout folder on the library's eReserve webpage.
Sep 22	I. Carbohydrates II. Beer's Law and Absorption Spectra
Sep 29	I. Protein Sequence & Structure Database  Obtain the handout for this lab from the Lab handout folder on the library's eReserve webpage.
	II. Buffer Preparation Prelab Reading Assignment - Pages 37-62
Oct 6	I. Buffer Preparation II. Protein Sequence & Structure Database
Oct 13	LDH Extraction Prelab Reading Assignment 89-100, 109-120
Oct 20	I. LDH Q Sepharose Ion Exchange Chromatography Prelab Reading Assignment 121-143, 145-152  II. LDH Kinetics
	Prelab Reading Assignment 94-100, 111-112, 211-220, 231-238
Oct 27	I. LDH Kinetics II. LDH Q Sepharose Ion Exchange Chromatography
Nov 3	SDS-PAGE of LDH – Quaternary Structure of LDH Prelab Reading Assignment 239-250, 251-256
Nov 10	LDH Specific Activity and Concentration  Prelab Reading Assignment 98-100, 104, 106-107, 205
Nov 17	SDS-PAGE – Subunit Molecular Weight of LDH Preparations and Native Gradient Page Prelab Reading Assignment 239-250, 263-268
Dec 1	I. GC-MS of Fatty Acid Esters
Dec 11	Final Exam