Course Title/Number	**Introductory Biochemistry Laboratory / CHM 366 Section 201**
Semester/Year	Spring / 2016
Days/Time	Wednesday / 3:00pm – 5:50pm
Location	211 Byrd Biotechnology and Science Center
Instructor	John Rakus, Ph.D
Office	478 Science Building
Phone	304-696-6627
E-Mail	rakus@marshall.edu
Office Hours	M: 10:00am-12:00pm (S-460); TWF: 9:30am-11:00am (S-478)
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description: From Catalog

Introduction to basic biochemistry laboratory techniques including chromatography, electrophoresis and enzyme kinetics; methods for identification and characterization of biochemical systems.

The table below shows the following relationships: How each student learning outcome will be practiced and assessed in the course.

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will develop a direct understanding of the underlying theory and basic use of common biochemical laboratory techniques.	-In class lab activities -Blackboard quizzes	-Blackboard quizzes -Lab reports -Journal presentations
Students will design and execute original research projects.	-In class lab activities -Blackboard quizzes	-Lab reports -Lab conduct
Students will present published and original research results.	-In class lab activities -In class journal club -Blackboard quizzes	-Lab reports -Journal presentations

Required Texts, Additional Reading, and Other Materials

There is no required textbook. Reading material will be provided on MUOnline. A bound notebook dedicated to CHM 366 is required.

Course Requirements/Due Dates

Proposal 1: Jan 27	Blackboard Quiz 1: Jan 20	Blackboard Quiz 7: Mar 9
Proposal 2: Mar 16	Blackboard Quiz 2: Jan 27	Blackboard Quiz 8: Mar 16
Lab Report 1: Mar 9	Blackboard Quiz 3: Feb 3	Blackboard Quiz 9: Mar 30
Lab Report 2: May 4	Blackboard Quiz 4: Feb 10	Blackboard Quiz 10: Apr 13
Pretest: Jan 13	Blackboard Quiz 5: Feb 17	Blackboard Quiz 11: Apr 20
Post-test: Apr 27	Blackboard Quiz 6: Feb 24	Blackboard Quiz 12: Apr 27
Journal Clubs: Feb 10, 17, 24, Mar 30, and Apr 13, 20.		

Grading Policy

Proposal 1	5%	Lab Report 1	20%	A: 90-100%
Proposal 2	5%	Lab Report 2	20%	B: 80-89%
Pretest	10%	Post-test	10%	C: 70-79%
Quiz Average (2 drops)	10%	Journal Club	10%	D: 60-69%
Lab Conduct	10%	**Total**	**100%**	F: 50-59%

Attendance Policy

Attendance for CHM 366 is mandatory. Each non-excused absence will result in a 5% (one-half letter grade) deduction from your overall grade.

Capstone Policy

CHM 366 is designed to give students practical experience in basic biochemical laboratory techniques through original research projects. These projects are unique to CHM 366 and cannot be used to substitute for capstone or independent study credit. Students who take CHM 491 with Dr. Rakus must complete a project independent of their CHM 366 projects.

Tentative Course Schedule

Week	Meeting Date	Project	Tasks	Assignment
1	Jan. 13, 2016	C-linked Glycosylation	Course Introduction; Selection of groups; Introduction to the Problem	Pretest (in class)
2	Jan. 20, 2016	C-linked Glycosylation	Project ideas and development; pre-proposals; making buffers	Blackboard Quiz 1
3	Jan. 27, 2016	C-linked Glycosylation	Sample preparation; protein concentration assays	Blackboard Quiz 2 Proposals
4	Feb. 3, 2016	C-linked Glycosylation	Sample isolation and gels/blots	Blackboard Quiz 3
5	Feb. 10, 2016	C-linked Glycosylation	Sample isolation and gels/blots	Blackboard Quiz 4 Journal Club 1
6	Feb. 17, 2016	C-linked Glycosylation	Sample isolation and gels/blots	Blackboard Quiz 5 Journal Club 2
7	Feb. 24, 2016	C-linked Glycosylation	Final experiments	Blackboard Quiz 6 Journal Club 3
8	Mar. 2, 2016	Malate Dehydrogenase	Introduction to the Problem; Bioinformatics: sequence searches and structure databases	
9	Mar. 9, 2016	Malate Dehydrogenase	Protein purification and kinetics; pre-proposals	Blackboard Quiz 7 **Lab Report 1**
10	Mar. 16, 2016	Malate Dehydrogenase	Protein purification and kinetics	Blackboard Quiz 8 Proposals
11	Mar. 23, 2016	No Class: Spring Break		
12	Mar. 30, 2016	Malate Dehydrogenase	Mutagenesis	Blackboard Quiz 9 Journal Club 4
13	Apr. 6, 2016	No Class: Instructor and TA out of town		
14	Apr.13, 2016	Malate Dehydrogenase	Mutagenesis and kinetics	Blackboard Quiz 10 Journal Club 5
15	Apr. 20, 2016	Malate Dehydrogenase	Mutagenesis and kinetics	Blackboard Quiz 11 Journal Club 6
16	Apr. 27, 2016	Malate Dehydrogenase	Mutagenesis and kinetics, final experiments	Blackboard Quiz 12 Post-test (in class?) **Lab Report 2 (May 4)**