CHEM 524 Section 001, Spring 2014 Course Syllabus

Instructor: Dr. Nicholas Grossoehme
Office: Sims 302A
Office hours: MWF 2-4. I have an open door policy, so feel free to come by at other times.
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Meeting Times: Tuesday and Thursday, 8:00 – 9:15 AM, Sims 113C
Credit Hours: 3

Course Website:
http://chem.winthrop.edu/faculty/grossoehme/link_to_webpages/courses/chem524/chem524home.html

Textbook: Principles of Biochemistry Nelson and Cox 6th Edition

Web Resources: Information (e.g. lecture notes) will be distributed through the course website. Additional material may be distributed via Blackboard.

Course Objectives and Student Learning Outcomes: *Upon completion of this course, the successful student will be able to:*

- Understand and appreciate the major metabolic pathways including carbohydrate, lipid, amino acid, and nucleotide metabolism.
- Incorporate prior knowledge of bimolecular structure to understand important chemical processes in metabolism.
- Discuss the role of central metabolites.
- Describe the major regulatory mechanisms involved in metabolism.
- Describe the major signal transduction mechanisms.
- Comfortably access a variety of resources to discover the biosynthetic or degradation strategy for a given molecule.

Tentative Course Schedule: Subject to change - Available here

Grading for the Course:

Prelecture Problems: Unless otherwise noted, 3-5 problems will be assigned prior to every lecture and will be due one hour before the start of class. These problems are based on the assigned reading and will not demand much of your time if you have looked over the material. These are worth one point each; I will use them to gauge potential grade 'bumps' for borderline grades at the end of the term.

Homework: Homework problems are assigned weekly and will be available on the course website. While group work on these problems is largely encouraged, remember that the point is to help ***you*** master the material. Therefore, make sure that you understand how these problems are solved. ***I consider homework to be free points if you do the work****.*

In Class Activities: Several activities are planned that will aim to use course content to explore contemporary issues in science and society. Evaluation for these projects will include participation/contribution and a final product (short paper, poster, etc.).

Final Project: Each student will be asked to select an interesting biological small molecule (*e.g.* creatine, riboflavin, etc.) and investigate the catabolic and/or anabolic pathway(s) that lead to the synthesis or degradation of that molecule. This project must provide an overview and description of each chemical step in the pathway (*i.e.* use an appropriate program to draw the structures of each intermediate metabolite) and discuss the enzyme(s) important for that specific transformation. Additionally, at least one step in the pathway must be selected for a more in depth investigation in the enzyme that catalyzes the reaction. This

project must culminate in a 10 page paper and a 15 minute presentation given to the class during the final exam period.

Quizzes: Several **unannounced** quizzes will be given throughout the term. Make sure you stay up to date on the material. These quizzes will be designed to take ~10 minutes at the beginning of a class.

Tests: Three exams, worth 150 points each, are designed to assess your mastery of the material. They will be concept based and will require you to apply what you have learned to a variety of different scenarios. Keep in mind that they are specifically designed to be difficult.

Test 1 (February 11)
Test 2 (March 13)
Test 3 (April 24)

Point Distribution

Pre-lecture problems	25 @ 1 points each	25
Homework		150
Quizzes		100
In Class Activities		100
Final Project Paper		100
Final Project Presentation		75
Exams	3 @ 150 points each	450
Total possible points		1000

Grades:

Grade	%
A	90 - 100 %
B+	88 - 90 %
B	80 - 88 %
C+	78 - 80%
C	70 - 78 %
D	60 - 70 %
D-	55 - 60%
F	< 55 %

Late Work Policy: Late work will be accepted. If the material is received within 24 hours of the due date, 10% of the points will be deducted. An additional 10% will be deducted each day the work is late until a maximum of 50% is deducted.

Attendance: I will not take attendance, however I will notice if you are consistently absent. You will be responsible for anything covered during the lectures**.** Absence from a test without a verifiable reason is inexcusable and the student will receive a zero for that test. Absence from a test with a legitimate excuse will be accepted and a makeup exam will be arranged. **Please be on time. I find tardiness disrespectful and chronic tardiness will not be tolerated.**

Technology in the Classroom: Out of respect for everyone in the room, please turn your cellular telephones to 'Silent' and (if applicable) mute your laptop computers. Laptop computers or tablet computers (e.g. Ipads) may only be used for taking notes during the class period or interactive activies. Students failing to adhere to these rules will be asked to leave should their behavior prove disruptive to the class. No telephones or laptops may be used during exams or quizzes.

Drop Policy: As described in the Winthrop University Undergraduate catalog

Student code of conduct: As noted in the Student Conduct Code: "Responsibility for good conduct rests with students as adult individuals." The policy on student academic misconduct is outlined in the "Student Conduct Code

Academic Misconduct Policy" in the online *Student Handbook* (http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf).

Students with Disabilities: Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 803-323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

Study Tips:

- Ask questions.
- Prepare for the lectures. Know what we will talk about.
- Attend class, take good notes and ask questions
- Read all assigned material before and after hearing a lecture on it.
- Review other sources of information (textbooks, online, etc). Ask for extra material.
- Regularly review lecture notes. Think you understand…review the notes one more time.