

## CHMY 591: Exploring Biochemistry II - Metabolism Syllabus - Summer 2014

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### Course Purpose and Description:

This course is designed to serve as the second semester of a two-semester sequence of Biochemical Principles offered through the Masters of Science in Science Education Program at Montana State University. The course builds on topics covered in CHMY 591 (Exploring Biochemistry I), including carbohydrates, lipids, proteins and nucleic acids. The course investigates the metabolism of each of these biological molecules while exploring applications of these topics to a classroom setting. The intended audience for this course is instructors currently teaching chemistry related concepts who would like to incorporate biochemistry topics into their current curriculum. It is my hope that this class both leads to a greater understanding of metabolic concepts and enhances your teaching abilities in this area, as a result. This is not designed to be a course in biochemistry teaching methods, rather to provide an opportunity to deepen your background in metabolism concepts as part of the MSSE curriculum.

### Required Books/Materials:

*Principles of Biochemistry* by Moran, Horton, Scrimgeour, and Perry (5<sup>th</sup> ed.) Publisher: Prentice Hall ISBN 9780321707338

You can order the text through the Montana State University Bookstore at 1-888-247-2546. It will expedite your order if you ask to speak with the Textbook Department and tell the sales representative: the course number (CHMY 591), the title of the text, the course is offered online through Extended University. The text may also be available from other sources.

### Computer Requirements:

Internet access  
Desire to Learn (D2L) course platform will be used

### Learning Outcomes:

Students will be able to describe and contrast some/all of the listed features related to carbohydrate, lipid, amino acid and nucleotide metabolic pathways:

Features:	
1) biomolecule type	5) tissue/organ compartmentation
2) pathway type	6) cellular location
3) pathway net reaction	7) step/reaction details: substrate, product, enzyme, cofactors, chemistry of the reaction, energy
4) pathway profile	8) pathway regulation

### Course Structure Overview:

Throughout this seven-week course, we will cover one to two chapters per week from the *Principles of Biochemistry* textbook. Our course week will run Sunday at 9 pm MST to the following Sunday at 9 pm MST. There will be several **Weekly Requirements** associated with the given text book chapter assigned each week. These **Weekly Requirements** include the following activities for weeks 1-6: 1) text chapter reading, 2) chapter strategy/summary, 3) homework sets and 4) discussion activities. The weekly activities for week 7 include the final exam and final project. The intent of these activities is to 1) provide a variety of opportunities to enhance your understanding of the material and 2) to earn points towards your final grade. A more comprehensive description of the overall course organization can be found in the **Course Organization and Weekly Schedule Overview** documents. (Instructions for locating these documents are provided in the **red box** at the end of the Syllabus.)

### Weekly tasks

1) Text chapter reading	Weeks 1-6
2) Chapter strategy/summary reading	Weeks 1-6
3) Chapter homework	Weeks 1-6
4) Discussion	Weeks 1-6
5) Final Exam and Final Project	Week 7

We will use the course platform *Desire to Learn (D2L)* throughout the semester. If you are new to this course environment, it will take some getting used to and I will try to provide enough information within the course site and course documents to aid in this

transition.

**Grades:** Grades will be based on the following opportunities to earn points.

<b>Category</b>		<b>Points</b>
<b>Chapter Homework</b>	(high 5 of 6 homework sets, 40 points each)	200 pts (40%)
<b>Discussions</b>	(high 5 of 6 discussion topics, 15 points each)	75 pts (15%)
<b>Final Project</b>		75 pts (15%)
<b>Final Exam</b>		150 pts (30%)
<b>Total Points</b>		<b>500 pts</b>

**Final Grades/Points:**

A	465-500	B-	400-414	D+	335-349
A-	450-465	C+	385-399	D	315-334
B+	435-449	C	365-384	D-	300-314
B	415-434	C-	350-364	F	<300

Points will be reported as often as possible within the D2L course platform under the **Grades** option on the navigation bar. Final grades will be posted under the **Grades** option within the D2L course platform after they have been filed with the University. You will be able to view your grades and the D2L course website until the University closes access to the course.

A more detailed description of each of the point categories listed above is provided in the **Course Organization** document. In addition, a more detailed description of Homework and Discussion procedures can be found in the **Week 1 Requirements** document. (Instructions for locating these documents are described below in the **red box**.)

**Late Assignments:**

We all have days during the school year when we have far too much to do, and we miss deadlines. Please let me know if you have work or personal situations that require you to delay completing assignments. I will make allowances, within reason. Please contact me through the D2L email (preferred method of email). If D2L email is not accessible I can also be contacted at [asower@chemistry.montana.edu](mailto:asower@chemistry.montana.edu). As you would do with your students, I will be flexible, but I also want to be fair to everyone.

**Desire to Learn (D2L):**

For more information on getting acquainted with D2L, please visit the **"Help for Students"** resource at the following website <http://eu.montana.edu/btc/tlt/support/D2L/>. In addition, the **Getting Started with D2L** document, found on the **Content** page of the CHMY 591 course website, provides introductory information regarding D2L (see **red box** below).

**MSSE Academic Conduct Policy - Maintaining Intellectual Integrity:**

The University has a responsibility to promote academic honesty and integrity and to assure the highest ethical and professional standards and behavior in the classroom. Students who violate these standards commit academic misconduct and will be subject to academic and/or disciplinary sanctions described by Montana State University Policy and Procedures 410.00-440.00.

Paraphrasing or quoting another's work without citing the source is a form of academic misconduct. Even inadvertent or unintentional misuse or appropriation of another's work (such as relying heavily on source material that is not expressly acknowledged) is considered plagiarism. All sources of information that are not your original thoughts need to be cited. This includes, but is not limited to, journal articles, textbooks and online resources.

**Now that you have read the *Syllabus*, we will continue to get acquainted with the format, schedule and expectations of Exploring Biochemistry II - Metabolism. This information is detailed in several additional *Course Information* documents. Please proceed to these documents, found by selecting either 1) *Content* (left most option on the D2L navigation bar) or 2) *Course Resources* (right most option on the D2L navigation bar – select *Content* from the pull down menu). Once the *Content* page has been selected, locate the *Course Information* heading. Please read the following additional *Course Information* Documents: *Course Organization*, *Weekly Schedule Overview*, *Getting Started with D2L* (if you are new to D2L or would like a review of how to use D2L).**

**After the *Syllabus* and additional *Course Information* documents have been read, please read the *Week 1 Requirements* document. The *Week 1 Requirements* document can be viewed by locating the *Week 1* heading on the *Content* page, then click on *Week 1 Requirements*. Each Sunday at 9 pm a *Weekly Requirements* document will be posted that will provide a detailed checklist of all tasks to be completed that week.**

***Please do not hesitate to ask questions. I want you to be successful in the course!***