Overview: Biology 303 was developed to provide Biology majors with a basic understanding of intermediary metabolism. Biology majors have the option of taking Biology 303 or Organic Chemistry 321/322. Although pre-health science students are welcome to take Biology 303 as an elective, they should not substitute Biology 303 for Organic Chemistry or for the Biochemistry requirement typically taken by pre-health students (check your individual degree program to make sure). Please see your advisor or me if you have any questions about whether or not you should be enrolled in Biology 303.

Biology 303 will be divided into three sections: Section I of the course will focus on reviewing the “fundamentals” of Chemistry and Biochemistry. This section will cover the basics of biomolecules and their molecular properties. Section II introduces the major classes of biomolecules and their molecular properties. Section III covers intermediary metabolism and is by far the largest component and major focus of this course. This section contains a heavy emphasis on the integration of metabolic processes and is intended to help synthesize the basic biochemical concepts learned throughout the semester.

Prerequisites: Biology 105X-106X and Chemistry 105X-106X. If you do not have the appropriate prerequisites you should see me immediately. If you wish to gain special permission to take this 300 level course without the required prerequisites, please provide me with a written request (e-mail preferred) no later than the second week of class. Your request should include an explanation of why it is necessary for you to take this course out of sequence. I will respond to you by email. If you have enrolled in the course without the necessary prerequisites and without my permission, your name will be withdrawn from the class list (prior to the withdrawal date) or you will receive a failing grade (after the withdrawal date).

Attendance: All students are required to attend class on the first or second meeting to save their place on the class roll (in cases where students are on the waitlist). If you have not attended class by the second class meeting, or notified us that you will not be present, your name could be dropped from the class. Lecture and lab attendance for the remainder of the semester is strongly encouraged.

Required Text: Lehninger Principles of Biochemistry; Nelson and Cox 4/e
Recommended Text: Metabolic Regulation, A Human Perspective; Frayn
Lab/Discussion periods: Students should experience science as a process of inquiry that is based on methods of scientific investigation. We will distribute supplementary reading assignments (journal articles) weekly and students will have homework assignments based on this reading. In addition, quizzes on the reading assignments will be routinely, but not always, given at the beginning of the lab periods, and questions from the readings will be on the exams.

Homework and Study Groups: The objective of assigning “homework” is to encourage students to read the assignments and to demonstrate the real-world applications of metabolism. I expect all students to have read assigned material prior to the laboratory period. Students will be evaluated on their ability to participate in class and laboratory discussions and their performance on exams and homework questions. I strongly recommend the formation of study groups as a means to discuss the reading material. Long-term memory increases when you review the material frequently. “If you don’t use it, you’ll lose it!” Form a study group of 3-5 students and meet at least once a week and before exams. If you are not quite sure what to do or you don’t quite know where to start, come by my office or the TA’s office and we will help. You are strongly encouraged to work in groups of 3-5 students to discuss the homework readings and answer the homework questions.

Exams & Grading:

- Exam I 100 points
- Exam II 100 points
- Exam III 100 points
- Laboratory readings, questions, & quizzes 200 points
- Lecture Participation 50 points
- Final Exam 200 points

Total: 750 points

Exams will cover material presented in the lectures, lab/discussion periods, readings and the textbook. I do not give make-up exams. Please mark exam dates on your calendar now. Every year I am asked if there are exceptions to this rule and there are none, so plan your trips according to the scheduled exam dates. If you have a legitimate excuse for missing an exam, I will calculate your total grade on the basis of the exams that were taken. No early or late final exams will be given. If you have any questions, please feel free to talk to me about them or send me an email before you make travel arrangements that can not be changed.

Class notes: I will attempt to put my presentations on Blackboard early in the semester, and post a more complete set after the lecture if the content was changed. If you have registered for Biology 303, I will automatically add your name as a user for this class, unless you instruct me not to do so (in writing). Then, every time I update Blackboard, I will send an email notice to all users.

Final Grades: Please note that you will not be evaluated using the +/- grading policy that is described on page 77 of the 2007-2008 UAF catalog.