

**Course Syllabus**  
**CH1140 - Introduction to Organic, Inorganic and Biochemistry**  
**College of Science and Arts**  
**Spring 2010**

***Instructor Information***

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Instructor: Lynn R. Mazzoleni, Ph.D., Assistant Professor  
Office Location: 402d Chemical Sciences Building  
Telephone: (906) 487-1853  
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Office Hours: MW 1:00 pm – 2:00 pm & TR 4:00 pm – 5:00 pm OR by Appointment

***Course Identification***

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Course Number: CH1140-0A  
Course Name: Introduction to Organic, Inorganic and Biochemistry  
Course Location: 101 Chemical Sciences Building  
Class Times: MWF 11:05 am – 11:55 am  
Prerequisites: CH 1100 or (CH 1110 and CH 1111) or CH 1112

***Course Description/Overview***

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This course introduces the principles of organic, inorganic, and biochemistry. Topics will include: kinetics, equilibrium, thermodynamics, acid-base reactions, oxidation-reduction reactions, organic compound nomenclature, organic compound structures, stereoisomers and stereochemistry, organic compound reactions, carbohydrate nomenclature, protein structure and function, and enzymes activity.

***Course Learning Objectives***

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- Calculate solution concentrations.
- Describe equilibrium relationships.
- Determine reaction rates and use rate laws to determine reactant concentrations.
- Calculate ion concentrations from pH data.
- Provide examples of the importance of pH in chemical and environmental systems.
- Draw structures of organic compounds.
- Describe the relationship between the structure and physical properties of organic compounds.
- Draw constitutional isomers.
- Write equations for fundamental reactions of organic compounds.
- Write equations for substitution reactions.
- Apply the systems of classifying and naming monosaccharides.

- Determine whether a molecule has a chiral center and explain stereoisomerism.
- List the functions of proteins.
- Draw the primary structure of an amino acid and classify amino acids.
- Describe the effect enzymes have on the activation energy of a reaction.
- Discuss the roles of cofactors and coenzymes in enzyme activity.

## **Course Resources**

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### **Chemistry Learning Center (CLC)**

- Coordinator: Louis Blau (contact information: [lablau@mtu.edu](mailto:lablau@mtu.edu) or 487-2297)
- Location: 208 Chemical Sciences Building
- CLC Website <http://www.chemistry.mtu.edu/pages/clc/overview.php>

**“Students who participate in the Chemistry Learning Center activities usually earn half to a full grade higher than students who don't. Whether you are a student who struggles with chemistry or just has a question or two, you are invited to visit us and participate at a level that meets your needs.”**

**–Lois Blau, Coordinator CLC**

### **Supplemental Instruction (SI)**

- SI sessions are weekly informal review sessions that provide you with an opportunity to meet your peers to compare notes, discuss important concepts, and develop strategies for understanding the subject material.
  - SI Leader: Steven J. Brandner, EEN Sophomore ([sjbrandn@mtu.edu](mailto:sjbrandn@mtu.edu))
  - SI Meetings & Location:
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### **Course Websites**

- Blackboard <http://www.courses.mtu.edu>

### **Required Course Textbook**

1. Chemistry, 10th Edition, ©2010 McGraw-Hill Higher Education, ISBN 978-0-07-351109-2
2. Organic Chemistry: A Short Course, 12<sup>th</sup> Edition, © 2007 Houghton Mifflin Co., ISBN 978-0-618-59073-5

### **Course Supplies**

- **An iClicker device is required.** iClicker is a response system that allows you to respond to questions in class; you will be graded on your participation. In order to receive this credit, you will need to register your iClicker remote in class. iClicker will be used almost every day in class, and you are responsible for bringing your remote daily.

## ***Course Schedule***

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**Homework:** Assignments will be due on Monday at 11:05 am of each week (week 2 through week 15).

**Quizzes:** Short quizzes will be given in class on Friday of each week (week 1 through week 14).

### **Exam Schedule:**

- Exam 1: Monday, February 1, 2010 at 6:00 pm
- Exam 2: Monday, March 1, 2010 at 6:00 pm
- Exam 3: Monday, April 5, 2010 at 6:00 pm
- Exam 4: During the week of April 26th, 2010 TBA

## ***Grading Scheme***

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### **Grading Policy**

Grades will be based on the following:

Exams (150 points each)	600
Homework (12 of 14 assignments x 15 points each)	180
Quizzes (12 of 14 quizzes x 15 points each)	180
Class Participation	40
<b>Total Points</b>	<b>1000</b>

### **Late Assignments**

**No make-up quizzes will be given.** No make-up exams will be given for unexcused absences. Official MTU excused absences are granted by the Office of Student Affairs (OSA). If you know that you will have an excusable absence on an exam day, you are required to make arrangements with me as soon as possible for an alternate exam date.

**Late homework assignments will be penalized by 3 points per weekday (11:05 am) up to 3 days late. Homework more than 3 days late will not be accepted.** However, since emergencies and unpredictable events do occasionally occur, I have given you each 2 freebies. There are 12 homework assignments this semester, but only the top 10 grades will be used to calculate your 150 total points for homework.

### **MTU Grading System**

<b>Grade</b>	<b>Course Points</b>	<b>G.P.A.</b>	<b>Rating</b>
<b>A</b>	930 -1000	4.00	Excellent
<b>AB</b>	880 – 929	3.50	Very good
<b>B</b>	820 – 879	3.00	Good
<b>BC</b>	760 – 819	2.50	Above average
<b>C</b>	700 – 759	2.00	Average
<b>CD</b>	650 – 699	1.50	Below average
<b>D</b>	600 – 649	1.00	Inferior
<b>F</b>	0 - 599	0.00	Failure

## ***Collaboration/Plagiarism Rules***

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Standards of academic conduct are set forth in the MTU Academic Integrity Code [http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic\\_integrity.html](http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html). When you registered for this course, you acknowledged your awareness of the Academic Integrity Code and you are obliged to become familiar with your rights and responsibilities as defined by this Code. Violations of the Code will result in disciplinary actions. Examples of violations include plagiarism or receiving inappropriate assistance on homework, quizzes, and/or exams.

**Cell phones, Blackberries, iPods, PDAs, or any other electronic devices are not to be used in the classroom.** Please make sure to bring a standard calculator with you to class. Note: graphing calculators are not permitted for use during exams. Calculators on other devices are strictly prohibited. Information exchanges on these devices during class are also prohibited and violate the Academic Integrity Code of Michigan Tech.

Cheating is a very serious academic offense. Therefore, allegations of cheating will be referred to the Dean of Student Affairs for appropriate action. Please see me if you have any questions about academic violations as described in the Code or as they relate to particular requirements in this course.

## ***University Policies***

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If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements. The Affirmative Action Office has asked that you be made aware of the following:

*Michigan Tech complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990. If you have a disability and need a reasonable accommodation for equal access to education or services at Michigan Tech, please call the Dean of Students Office, at 487-2212. For other concerns about discrimination, you may contact your advisor, department head or the Affirmative Action Office, at 487-3310*

**Academic Integrity:**

[http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic\\_integrity.html](http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html)

**Affirmative Action:**

<http://www.admin.mtu.edu/aao/>

**Disability Services:**

[http://www.admin.mtu.edu/urel/studenthandbook/student\\_services.html#disability](http://www.admin.mtu.edu/urel/studenthandbook/student_services.html#disability)

**Equal Opportunity Statement:**

<http://www.admin.mtu.edu/admin/boc/policy/ch3/ch3p7.htm>