EXPLORING ORGANIC CHEMISTRY FOR TEACHERS (CHMY 596)

Organic chemistry is an organized study of the myriad ways that carbon compounds form and interact. These interactions are often familiar to us in everyday applications. Indeed, it is often said that life on this planet is carbon-based. The intent of our course is to familiarize you with how the attributes of carbon atoms lead to the formation of a variety of compounds and to study the properties of those compounds. We will examine hydrocarbons first and then the oxygen containing compounds: alcohols, esters and carboxylic acids. We also look into the properties of nitrogen containing compounds such as amines and amides. We will also study the bonding and properties of polymers. We are made of organic compounds. We eat organic compounds and the organisms that share our planet are made of organic, carbon-based compounds.

Investigating these topics via an on-line approach will require your diligent, consistent and self-teaching efforts. As your instructor I have organized our course around four units, a comprehensive final exam and an optional teaching centered organic teaching project. I will prepare a weekly “packet” that will have the reading assignment for the week, a homework assignment of problems, a required discussion topic and my original commentary on the reading assignment. About every three weeks we will also have an exam as part of the packet. I know your teaching career also requires professional performance and many people depend on you to do that work. The packet will be ready at midnight (Mountain Standard Time) each Sunday evening so that you can have the entire week (until Sunday at midnight of the following week) to complete the course work and mesh with your professional teaching commitments.

Here is our course plan: (Based on “Introduction to Organic Chemistry”; by Brown and Poon)

Fourteen chapters in thirteen weeks…. (Chap. 1 is Week #1, Chap. 2 is Week #2, etc.)

UNIT ONE
Chapter 1: Covalent Bonding and Shapes of Molecules
Chapter 2: Acids and Bases
Chapter 3: Alkanes and Cycloalkanes * Week Three; Unit Exam I

UNIT TWO
Chapter 4: Alkenes and Alkynes
Chapter 5: Reactions of Alkenes
Chapter 6: Chirality; * Week Six; Unit Exam II

UNIT THREE
Chapter 8(A): Alcohols, Ethers, and Thiols & Chapter 7: Haloalkanes
Chapter 8(B) & Chapter 9(A): Benzene and its Derivatives
Chapter 9(B) & Chapter 10: Amines * Week Nine; Unit Exam III

UNIT FOUR
Chapter 13: Aldehydes and Ketones
Chapter 14: Carboxylic Acids & Chapter 15: Functional Derivative of Carboxylic Acids
Chapter 17: Organic Polymer Chemistry * Week Twelve; Unit Exam IV

FINAL EXAM & ORGANIC Optional Teaching Project * Week Thirteen
EARNING YOUR GRADE
The “Packet”
Graded components:
- 12 weekly Homework assignments: maximum of 16.4 points each x 11 best = 180 maximum
- 12 weekly Discussion participations: maximum of 11 points each x 11 best = 121 maximum

Four Unit Exams:
- Four exams at 125 points each = 500 points* (Can “drop” one Unit Exam if optional Teaching Project is completed)

Final Exam
- Comprehensive exam = 200 points

*Optional Teaching Project = 125 points (Can “replace” one Unit Exam score)

COURSE TOTAL = 1001 points
930 - 1001 A
900 - 929 A-
870 - 899 B+
830 - 869 B
800 - 829 B-
770 - 779 C+
730 - 769 C
700 - 729 C-
670 - 699 D+
630 - 669 D
600 - 629 D-
< 600 F

CONTACTS:
The preferred method of communication is the D2L platform email link. However, if that should fail contact me at rdesenfa@chemistry.montana.edu

The expectation is that you will complete all work on time. However, if you experience some unanticipated difficulty contact me right away. As a teacher I know you realize that fairness to everyone is important and you also realize that a semester often contains “unknowns.” Communication is very important. I am looking forward to working with you and certainly supporting your success in reaching your goals!

Every instructor in the MSSE Program is being asked to include the following statement in their syllabi:

Maintaining Intellectual Integrity (Plagiarism)
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. Adapted from MSU Syllabus language page:
http://www.montana.edu/teachlearn/TLResources/SyllabusLanguage.html