CH-254 Survey of Organic and Bioorganic Chemistry

Section: *-01* T Th 10:30 – 11:50 Clarence T.C. Ching Hall 254
-02 W F 14:30 – 15:50 Henry Hall 109

Instructor: Angelique Showman
Office: WSC 108
Phone: (808) 739-8368
Email: angelique.showman@chaminade.edu
Office Hours: Mon: 0900-1000
Wed: 1630-1730
Fri: 0830-0930

Course Requirements:

Concurrent registration with CH254L
Scientific hand-held calculator with log function
Textbook or eBook: General, Organic and Biochemistry 8th Edition, Denniston (McGraw Hill) - Connect Plus: LearnSmart (Access Code Required)
ISBN #: 978-0-07-302657-3
eCollege (chaminade.ecollege.com)
Twitter

Course Recommendations:

Organic molecules and/or a molecule program
SciFinder/ChemSpider
Peer Led Team Learning (PLTL) – TBD

Prerequisites:

CH 201/201L (recommended with a C or better)

Course Description:

This chemistry course covers the basics of both organic and bioorganic chemistry with emphasis made toward nursing and health related majors. The organic chemistry portion of this course will cover the properties and reactions of organic compounds, which comprise of a variety of carbon-based compounds classified by their functional groups. This understanding of organic chemistry will be used in the second portion of the course, the bioorganic chemistry – the study of chemistry in living organisms. Bioorganic chemistry will investigate the structures and reactions of the four macromolecules that make up all living things: carbohydrates, lipids, proteins, and nucleic acids. In addition, this course will study the various processes that are essential to life, in which these macromolecules partake.

Course Competencies:

- Understand and employ the scientific method in solving complex problems associated with natural science.
- Recognize the importance of maintaining health and the hazards of common chemicals found in a laboratory.
- Understand how technology and science impacts daily lives.
- Awareness of ethical values and how they relate to personal values.
- Develop the ability to make sound judgment based on quantitative/qualitative assessment using logical deductive reasoning.
- Integrate knowledge and concepts learned from the various scholarly disciplines within natural science.
- Possess college level quantitative literacy.
- Ability to understand/create graphical and/or tabulated data to represent results.

Course Objectives:

- Identify and classify organic molecules based on their functional groups
- Provide the IUPAC name for a given organic compound
- Illustrate the mechanism of which organic compounds react
- Identify the product(s) of a reaction when given the reactants and conditions
- Evaluate the roles of carbohydrates, lipids, proteins, and nucleic acids in biochemical processes
- Use the properties and reactions of organic compounds to explain the reactions that occur in biochemical pathways
- Relate organic and bioorganic chemistry in the field of health and medicine
- Understand the benefits of organic chemistry as well as the negative effects on the environment and the relationship of these chemicals on biological processes.

Class Policies:

Attendance: In class quizzes/exams **cannot** be made up at a later time. If you miss a quiz or exam, a written explanation is for your absence is required (doctor's note or other document may be needed to determine if the absence is excused). Unexcused absences will result in a score of zero for that quiz or exam. Any student who does not take the final exam will fail the course.

Student Conduct: Please refer to the Student Handbook for the CUH policies on Classroom Behavior and Academic Dishonesty.

Music Devices and Cellphones: As a courtesy to other students and the instructor, the use of music devices, cell phones, smart phones, PDAs (personal digital assistant), pagers or any other electronic device with the potential to make noise is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. These devices must be turned off or placed on silent (not vibrate) during the entire lecture time. During quizzes and exams, these devices need to be turned off and stored with the professor until completion of the exam/quiz. If during an exam or quiz, your electronic device makes noise (this includes vibrating), you may be asked to turn in your exam/quiz for a grade of zero and leave the room while the rest of the class finishes. The use of any other electronic device other than an approved scientific calculator during exams or quizzes will be considered a form of academic dishonesty and will result in a failing grade for that assignment. Students who cannot comply with this rule will be asked to leave class. Please refer any questions to the Dean of Natural Sciences and Mathematics.

ADA Accommodations: Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at http://www.chaminade.edu/student_life/sss/counseling_services.php.

Title IX: Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct will NOT be tolerated at Chaminade University of Honolulu. If you have been the victim of sexual misconduct, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, I must report the matter to the Title IX Coordinator. Should you want to report to a confidential source you may contact the following:

Counseling Center | 808-735-4845 |
Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role. | 808-735-4774|

Grading and Exams:

Homework and Worksheets: Most homework problems for each chapter will be assigned on Connect. They are for credit and to help your grasp the concepts covered in lecture. Worksheets will also be provided to give you an opportunity to practice problems similar to those in the end of chapter quizzes and exams. You will **NOT** succeed in this course without practicing the concepts through the homework and worksheet problems.

PLTL: Peer Led Team Learning sessions and locations will be announced at a later date; if you have a conflict with your session, please come see me. Sessions are assigned in order to ensure that groups are small enough to maximize the benefits of learning in the PLTL collaborative environment. Worksheets will be handed out in lecture prior to the PLTL session; you are expected to have attempted the problems and have questions for the PLTL tutor. Quizzes may be given at the end of the PLTL session to assess your understanding of the material and may be collected for extra credit. Attendance for PLTL is highly recommended but not mandatory; however, it is another excellent resource to help you learn the complex concepts in this course. PLTL Worksheets will not be for credit, but will prepare you for the End of Chapter Quizzes, Midterm and Final Exam; keys for the worksheet will be posted prior to the Midterm and Final exams.

Exams: Exams include one midterm and one final exam. Scientific hand-held calculator is allowed. No other electronic devices are permissible including cellular or smart phones (iPhone, Blackberry, etc.).

Final Exam Dates: Final exam dates will be announced later in the semester. Do not schedule work, plane tickets home, etc during the Monday-Thursday exam week scheduled by the university as the final exam time can fall during any time this week. This exam will be cumulative, covering all of the material presented in class over the semester. Any student who does not take the final exam will fail the course.

Course Grades: The course grades will be based on the following scale (700 total points). Any changes will be announced in class. Attending and participating in **PLTL** will be worth 50 points.

Participation/Attendance – 50 points	End of Chapter Quizzes – 200 points
Connect Homework – 50 points	Midterm I – 150 points
Connect Quizzes – 100 points	Final exam – 150 points

Letter grade (based on 700 points):
A = 90 - 100% (627 – 700 points)
B = 80 - 89% (557 – 626 points)
C = 70 - 79% (487 – 556 points)
D = 60 - 69% (417 – 486 points)
F = 59% and below (<416 points)

Opportunities for Help: If you need assistance with the material for this course, come to my office for help! I have set office hours, but I am often available at other times. Outside of these hours, it is best if you make an appointment with me so that I can make arrangements for a study space. Feel free to drop by or send me an email (using your Chaminade account!) to make a specific appointment. In addition, there are Chemistry tutors available at the AAP. ***Do NOT wait until the last minute to get help!***

Websites:

eCollege - Your instructor will be utilizing eCollege; here you will have access to the slide handouts for the lectures, worksheets, worksheet keys, etc. as well as class announcements. In addition, I urge you to use the discussion feature to discuss homework problems or other questions you may have regarding the material. I will be monitoring any discussions, so I can provide additional information and assistance if needed.

Textbook and ConnectPlus – Connect will be used as a study tool to help you understand the concepts covered in lecture; remember, if you purchased Connect in the Fall semester, you still have access. New students joining us for the Spring semester who purchased their textbooks through the bookstore should have received an access code; if you purchased a used book, Connect access can be purchased through the website. Be sure to watch the videos and the practice assignment on how to use Chemdraw before jumping into the study cards, homework assignments and online quizzes. To access Connect, be sure to sign up using the below links:

Section-01: http://connect.mheducation.com/class/a-showman-2015_ch254_01
Section-02: http://connect.mheducation.com/class/a-showman-2015_ch254_02-1

Twitter: You will be required to have a Twitter account for class announcements, science articles and access to ShowMe examples used in lecture/lab. Please use your first and last name when creating your Twitter account. Follow me on Twitter:
https://twitter.com/CUH_nrschem_Ang

Quizlet: I have provided a few study cards for this course. You can join the course via http://quizlet.com/join/9s4sVE2mH. It is free to create a Quizlet account; please use your first and last name in your account name.

Tentative Class Schedule and Important Dates:

Class schedule is subject to change and will be announced in class as needed.

Organic Chemistry

Week	Dates	Description
1	1/13 & 14	Course Information Ch. 10: Review: Intro to Organic Molecules and Functional Groups **Connect CH10 HW/Quiz Due 1/18 by midnight**
	1/15 & 16	Ch. 10/11: Saturated and Unsaturated Hydrocarbons
2	**1/20**	***Fr. Chaminade, Martin Luther King Day***
	1/21	***Add/Drop Ends***
	1/20 & 21	**End of Chapter Quiz Chapter 10 Review** Ch. 10/11: Saturated and Unsaturated Hydrocarbons
	1/22 & 23	Ch. 10/11: Saturated and Unsaturated Hydrocarbons **Connect CH10 Cycloalkanes/Rxns HW/Quiz Due 1/28 by midnight** **Connect CH11 HW/Quiz Due 1/28 by midnight**
3	1/27 & 28	Ch. 12: Alcohols, Phenols, Thiols and Ethers
	1/29 & 1/30	**End of Chapter Quiz Ch 10/11: Sat and Unsat. Hydrocarbons** Ch. 12: Alcohols, Phenols, Thiols and Ethers Cont. **Connect Ch 12 HW/Quiz Due 2/4 by midnight**
4	2/3 & 4	Ch. 13: Aldehydes and Ketones
	2/5 & 6	**End of Chapter Quiz Ch 12** Ch. 13: Aldehydes and Ketones Cont. **Connect Ch 13 HW/Quiz Due 2/11 by midnight**
5	2/10 & 11	**End of Chapter Quiz Ch 13** Ch. 14: Carboxylic Acids
	2/12 & 13	Ch. 14: Carboxylic Acids Cont. **Connect Ch 14 HW/Quiz Due 2/18 by midnight**
6	**2/16**	***Presidents' Day Holiday***
	2/17 & 18	**End of Chapter Quiz Ch 14** Ch.15: Amines and Amides
	2/19 & 20	Ch.15: Amines and Amides Cont. **Connect Ch 15 HW/Quiz Due 2/25 by midnight**
7	2/25 & 26	TBA
	2/27 & 2/28	**Midterm I: Ch 10, 11, 12, 13, 14, 15**

Bioorganic Chemistry

Week	Dates	Description
8	3/3 & 4	Ch. 16: Three-Dimensional Shape of Molecules
	3/5 & 6	Ch. 16: Carbohydrates
9	3/10 & 11	Ch. 16: Carbohydrates Cont. **Connect Ch 16 HW/Quiz Due 3/16 by midnight**
	3/12 & 13	Ch. 17: Lipids
10	3/17 & 18	**End of Chapter Quiz: Ch 16** Ch. 17: Lipids **Connect Ch 17 HW/Quiz Due 3/23 by midnight**
	3/19 & 20	Ch. 18: Amino Acids and Proteins **Connect Ch 18 HW/Quiz Due 3/30 by midnight**
11	3/24 & 25	**SPRING BREAK**
	3/26 & 27	**SPRING BREAK**
12	3/31 & 4/1	***Bag It***
	4/2 & 3	***Good Friday – NO CLASS***
13	**4/6**	***Last Day to Withdraw***
	4/7 & 8	**End of Chapter Quiz: Ch 17/18**
	4/9 & 10	Ch 19: Enzymes **Connect Ch 19 HW/Quiz Due 4/15 by midnight**
14	4/14 & 15	Ch. 20: Nucleic Acids and Protein Synthesis
	4/16 & 17	**End of Chapter Quiz: Ch 19** Ch. 20: Nucleic Acids and Protein Synthesis Cont. **Connect Ch 20 HW/Quiz Due 4/22 by midnight**
15	4/21 & 22	**End of Chapter Quiz: Ch 20** Ch. 21-23: Carbohydrates/Fatty Acid Metabolism and Energy Production
	4/23 & 24	Ch. 21-23: Carbohydrates/Fatty Acid Metabolism and Energy Production
16	4/28 & 4/29	Ch. 21-23: Carbohydrates/Fatty Acid Metabolism and Energy Production.
	4/30 & 5/1	TBA
Final Exam	Section-01	TBA
	Section-02	TBA

Class schedule is subject to change and will be announced in class as needed.