

CHEM 1020: Introduction to Organic Chemistry & Biochemistry
Syllabus
Spring 2014

Instructor: Brad T. Casali

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Office Hours: By appointment (email is the best way to reach me)

Lecture Time & Location: 6:00 PM – 7:30 PM SHCS 132

Lab Time & Location: 7:30 PM – 9:00 PM SHCS 228

Credit Hours: 4.0

Lab Hours: 3.0

Course Description: Structure and properties of representative carbon compounds and applications to everyday life. Nature and metabolism of biochemical compounds and relationship of nucleic acids to protein synthesis.

Prerequisite: CHEM 1010 or sufficient score on the Chemistry Assessment Test.

Course Content: The course will cover: (1) Saturated hydrocarbons, (2) Unsaturated hydrocarbons, (3) Alcohols, phenols, ethers, (4) Organic halogen and sulfur compounds, (5) Aldehydes and ketones, (6) Carboxylic acids and their derivatives, (7) Amines, (8) Amino acids and proteins, (9) Enzymes, vitamins, and chemical messengers, (10) DNA, RNA, protein synthesis, and molecular biology, (11) Carbohydrates, (12) Lipids, and (13) metabolism of carbohydrates, lipids, and proteins.

Required Text: The text required for the lecture portion of the course is "General, Organic, & Biological Chemistry" 2nd edition by Janice Gorzynski Smith from McGraw Hill. For the lab portion of the class, Laboratory Experiments for Chemistry 1020, Customized manual, McGraw-Hill Publishers.

Course Schedule (subject to change at instructor's discretion)

Date	Subject or Topic	Readings (<i>read before lecture</i>)	Laboratory Topic (<i>refer to Lab Manual for Experiment Sections</i>)
1/27	Organic molecules and alkanes	<i>Chp. 11, 12</i>	<i>Safety Discussion/Check-in Structure of Hydrocarbons</i>
2/3	Unsaturated hydrocarbons Organic compounds containing oxygen, halogen, or sulfur	<i>Chp. 13, 14</i>	<i>Reactions of Hydrocarbons</i>
2/10	Organic compounds containing oxygen, halogen, or sulfur	<i>Chp. 14</i>	<i>Reactions of Alcohols</i>
2/17	Three-dimensional shape of organic molecules	<i>Chp. 15</i>	<i>Stereochemistry</i>
2/24	EXAM 1	<i>Exam covers chapters 11, 12, 13, 14, and 15</i>	<i>Aldehydes and Ketones</i>
3/3	Aldehydes and	<i>Chp. 16</i>	<i>Carboxylic Acids, Esters, and Amides</i>

	Ketones		
3/10	SPRING BREAK	NO CLASS	NO LAB
3/17	Carboxylic acids and their derivatives	<i>Chp. 17</i>	<i>Amines Workshop</i>
3/24	Amines and Neurotransmitters Lipids	<i>Chp. 18, 19</i>	NO LAB
3/31	EXAM 2	Exam covers Chapters 16, 17, 18, and 19	Corn Oil Triglyceride Lipids
4/7	Carbohydrates	<i>Chp. 20</i>	Carbohydrates
4/14	Amino Acids, Proteins, and Enzymes	<i>Chp. 21</i>	Amino Acids, Peptides, and Proteins
4/21	Nucleic Acids and Protein Synthesis	<i>Chp. 22</i>	DNA and RNA
4/28	Integrated Metabolism	<i>Chp. 24</i>	Digestion of Carbohydrates and Lipids
5/5	FINAL EXAM	Final exam covers Chapters 20, 21, 22, and 24	NO LAB

Homework Assignments: The following problems *refer to the course textbook*, and each set of homework problems is due at the designated date. Homework is due at the beginning of class. Those turning in homework on time will receive a homework key to help study for the exam.

Homework Set #	Chapter	Problem #	Due Date
1	16	73, 78, 91, 92	3/24
	17	54, 69, 73	
2	19	62, 64, 68, 69, 97, 98	4/14
	20	30, 39, 40	
3	21	42, 61, 62, 66, 76	4/28
	22	30, 41, 48	

Grading:

Percent of Final Grade	
Exams (x3)	20%
Homework	25%
Laboratory	15%

***Scale is subject to change at instructor's discretion.*

Grade	Scale**
A	90.0 -100%
B	80.0 - 89%
C	70.0 -79%
D	60.0 - 69%
F	Under 59%

Policies

Preparation: Please read the chapters outlined above before you attend the class. As an additional suggestion, problems at the end of the chapter in the textbook are also good preparation to help you understand the material. Additionally, the University has a tutoring program set up if you feel you need extra help.

Course correspondence: Please check your email regularly as email will serve as the main communication point for information about the course.

Course Website: The course has a website at the following address: <http://btc8.webs.com/> . Here, you can find practice exams and other course related material.

Homework: There are three homework assignments due (marked as HW Set # on the schedule above). These assignments will be due at the beginning of class of the due date. These homework problems will be useful for preparation for exams.

Assignments turned in late: **Late homework will not be accepted.** Any homework turned in late will receive a zero on that particular assignment.

Exams: The exams will cover the material outlined in the course schedule above. Each exam is worth 20% of the final grade, for a total of 60% overall of your final grade.

Exam Format: The general format for the exam will include multiple choice, fill ins (e.g. provide a selected reagent, product, etc.), true and false questions, and problems that will require short answers. The exams will generally emphasize more application of skills than memorization. Additionally, there will be practice exams which mirror the difficulty of the current exams posted online (with answers) for your practice. **Each exam will be held in the lecture room (SHCS 132)** and you will be allotted the normal lecture time.

Incomplete Grades: Under exceptional circumstances an incomplete grade will be granted. No makeup laboratories will be possible. Arrangements will be made with the instructor to complete work.

Withdrawal: Students who cannot complete the course must OFFICIALLY withdraw from that course. Students who stop attending class are not automatically withdrawn.

Laboratories: Students must wear safety glasses at all times in the laboratory. Closed toe shoes must be worn; no sandals are allowed. Shorts and midriff tops are not permitted. Students must read the experiments in advance. Laboratory procedures will be reviewed as a class for the first 10 minutes of lab session. Laboratory reports are due at the beginning of the next lab period. Each laboratory will be worth 10 points. **There will be no makeup laboratory sessions. Students must have a 60% in lab to pass the course.** Late lab reports are penalized -50%.

Laboratory Grading

Attendance and Participation	2 points
Report	8 points

Academic Credit: According to the Ohio Board of Regents Operating Manual, one (1) semester hour of college credit will be awarded for each lecture hour. Students will be expected to work at out-of-class assignments on a regular basis which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity. For laboratory hours, one (1) credit shall be awarded for a minimum of three laboratory hours in a standard week for which little or no out-of-class study is required since three hours will be in the lab (i.e. Laboratory 03 hours). Whereas, one (1) credit shall be awarded for a minimum of two laboratory hours in a standard week, if supplemented by out-of-class assignments which would normally average one hour of out-of class study preparing for or following up the laboratory experience (i.e. Laboratory 02 hours). Credit is also awarded for other hours such as directed practice, practicum, cooperative work experience, and field experience. The number of hours required to receive credit is listed under Other Hours on the syllabus. The number of credit hours for lecture, lab and other hours are listed at the beginning of the syllabus. **Make sure you can prioritize your time accordingly. Proper planning, prioritization and dedication will enhance your success in this course.**

Accessibility (ADA) Policy: If you need accommodations because of a documented disability, or issues of accessibility to online, hybrid, or web-enhanced classes, please contact the ACCESS office at one of the campuses listed below as soon as possible. Visit on the web at <http://www.tri-c.edu/apply/specialinterest/disabilities>.

Eastern	(216) 987-2052	TDD (216) 987-2230*
Metropolitan	(216) 987-4344	TDD (216) 987-4048*
Western	(216) 987-5079	TDD (216) 987-5117*
Westshore	(216) 987-5079	TDD (216) 987-5117*
Brunswick	(216) 987-5079	TDD (216) 987-5117*
Off-Site	(216) 987-5079	TDD (216) 987-5117*

If you have emergency medical information to share, or if you will need assistance in the event of an evacuation, please discuss this with me in private or contact the Access Office.

Student Conduct and Academic Honor Code: Any student found to have committed or to have attempted to commit any act of dishonesty, including cheating, plagiarism, or other forms of academic dishonesty, is subject to the disciplinary sanctions outlined in the Student Judicial System.

Refer to the [Student Conduct Code 3354:1-30-03.5](#) and [Student Judicial System 3354:1-30-03.6](#) for more information about violations and College disciplinary procedures. The Student Conduct and Academic Honor code can be accessed via My Tri-C Space on the Student Services tab. The policies are located in the College Guidelines channel located near the bottom of the page.

- Penalties for Academic Dishonesty are defined in the [Student Judicial System 3354:1-30-03.6](#) - (D) Sanctions.
- Plagiarism as Academic Dishonesty is defined in **Tri-C Student Handbook** via My Tri-C Space on the *Student Services* tab under *College Guidelines*.