

Survey of Organic & Biological Chemistry (Chem-141)

Spring, 2004

Professor: Jean-Pierre Michaud (Mesho)
Wentworth 18 974-7320 jonpierr@hawaii.edu

Course Goals:

In essence I would like you all to be able to think and “see” as chemists. Try seeing the world from a molecule’s point of view. We, our bodies and our world are all made of chemicals: everywhere you look – almost everything you see or touch. So if we can understand even a bit of the physical underpinnings of the behavior of these chemicals, we have learned some very fundamental and broadly applicable things about ourselves and our world. More specifically, I would like you all to join me on a journey to...

- 1) To understand (some of) the basic principles governing the behavior of matter – especially organic matter: organic compounds and biological processes.
- 2) To learn enough chemistry to be able to do well in: physiology, pharmacology, nursing, agriculture and nutritional sciences.
- 3) To become at least semi-conversant in organic & biochemistry.
- 4) To be able to communicate with other health-care, biology and agriculture professionals in areas such as: (ab)normal body chemistry, (mal)nutrition, pharmacology and toxicology.
- 5) To gain an increased sense of wonder and amazement!
(at least a little insight into the amazing molecular dance that is us!)

- from the subatomic, to the extra galactic... it's all a fascinating, dynamic dance! -

Any student with a documented disability who would like to request accommodations, please contact the University Disability Services Office - Campus Center Rm 311, 933-0816 (V), 933-3334 (TTY) - as early in the semester as possible.

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Course Outline & Policies Spring 2004

Professor: Dr. Jean-Pierre Michaud (Mesho)
Office hours: TR 3:30-5:00 or by appointment.

office: Wentworth 18
phone: 974-7320
email: jonpierr@hawaii.edu

Text: Timberlake, 4th Edition

- 1 There will be occasional short quizzes worth 6-12 points. Quizzes will be unscheduled. Show up. Quizzes aim to see if you're doing the reading and understanding the lectures. Attendance counts. Please bring paper and pen or pencil and arrive on time. Sorry, No make-ups for quizzes!
- 2 Grading will be based on the quizzes and the exams. You can drop your lowest exam. The grades will be based on the percentage breakdowns shown below. I reserve the option to curve. If you don't come to class regularly, and do all the reading, don't expect to do well in the course.

	points	Estimated Course Grade
Quizzes 6-10 points each	~ 60	A = 89 - 100
Only top 3 of 4 midterms used to calculate grade		B = 79 - < 89
3 Best Exams (3 x 100)	300	C = 69 - < 78
Final Exam (comp.)	200	D = 55 - < 69
Total possible	560	F = < 55 %

- 4 We will base the lessons largely on the text. Lectures will also cover material not in the text. If you read the material BEFORE coming to class, and bring your text to class, it should make the course *much* easier. Personally, I would make notes right in my text. This always seems to help me clarify the vague, ambiguous or controversial points and offers a good springboard for questions or discussion. Also, I like to start with the summary points and 'key terms' in back of each chapter. Seeing these things before & after reading each chapter helps me to set the stage, know what to look for, and recognize new & old friends. Come to lecture.
- 5 Exams will be multiple choice drawn mostly from the book and the problem solution sets in the UHH library. *Please* read the book!! If you can show your answer to a test question is accurate according to the text - *OR* - if you can convince me your answer makes good chemical sense, you *may* get full credit for it! Please note: All Exams will be CLOSED BOOK, CLOSED NOTE, no talking. Raise hand for question.
- 6 Failure to show up for an exam normally results in a zero grade. Because you can drop the lowest exam score, makeup exams will very rarely be given and only then under special circumstances. If you know in advance that missing an exam is unavoidable, and documentable (jury duty, scheduled surgery), a make up exam can be scheduled providing that you discuss the situation with me IN ADVANCE. No advance notice, no make-up.
- 7 I'm here to help you learn, but I can not 'download' the info into your brain (nobody can). You have to study! Study hard, read the material *before* you come to class, ask questions on ideas that aren't clear, *and yes!!!*, know the material if you want to pass. Study with fellow students and ask for help (it helps them too!), and *please* feel free to drop in during office hours or scheduled times if you still aren't clear (bring in your favorite questions and/ or problems you've worked). I am here for you. Use me; I can help you learn a lot (even chemistry!).

◇ Happy Hunting!!!

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Tentative Course Schedule for Spring 2004

Instructor: Jean-Pierre Michaud, Ph.D.
Office Hours: 3:30-5:00 OR by appointment

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<u>Class #</u>	<u>Date</u>	<u>Chapter</u>	<u>Topic</u>
1	13-Jan	Open Mind	Course Goals, Syllabus & Grading (why worry?)
2	15-Jan	1+2	Introduction to Organic Chemistry: Alkanes
3	20-Jan	3	Alkenes, Alkynes, and Aromatic Compounds
4	22-Jan	4	Compounds with Oxygen, Sulfur, or a Halogen
5	27-Jan	9	Amines (have N) (not just for breakfast anymore)
6	29-Jan	Exam 1	
7	3-Feb	10	Amino Acids and Proteins (a new language)
8	5-Feb	7	Carboxylic Acids and their Derivatives
9	10-Feb	5	Aldehydes and Ketones (mmm, scents & flavors)
10	12-Feb	6	Carbohydrates (sweet symphonies of form & function)
11	17-Feb	13	Carbohydrate Metabolism
12	19-Feb	13	More on Carbohydrate Metabolism
13	24-Feb	Exam 2	
14	26-Feb	14	The Generation of Biochemical Energy
15	2-Mar	14	The Generation of Biochemical Energy
16	4-Mar	11	Enzymes and Vitamins (don't leave home w/o 'em!)
17	9-Mar	12	Nucleic acids and protein synthesis
18	11-Mar	12	Nucleic acids and protein synthesis
19	16-Mar	TBA	Testable Video (byopc)
20	18-Mar	Exam 3	
21	23-Mar	SPRING BREAK! and Prince Kuhio Day	
22	25-Mar	SPRING BREAK! and Prince Kuhio Day	
23	30-Mar	8	Lipids (energy, structure, signaling)
24	1-Apr	15	Lipid Metabolism
25	6-Apr	15	Protein and Amino Acid Metabolism
26	8-Apr	15	Protein and Amino Acid Metabolism
27	13-Apr	TBA	Testable Video (byopc)
28	15-Apr	all+	Review to-date
29	20-Apr	H.O.	Chemical Messengers: (who ya gonna call?)

30	22-Apr	H.O.	Hormones, Neurotransmitters, and yes, Drugs
31	27-Apr	H.O.	Chemistry of Consciousness (-of molecules & mind!) (mice & men are down the hall...)
32	29-Apr	Exam 4	
33	4-May	all+	<i>Review</i>
		FINAL	