CHEM 228-200: Organic Chemistry 2 Honors†

9:45 – 11 am, TR, Spring 2021

click here for Zoom link for all lectures

Professor: Kevin Burgess, room 2161 ILSB

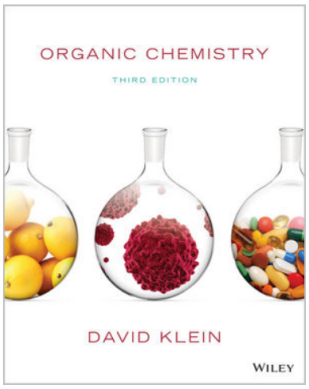
Assistant: Andrea Scott, room 2161 ILSB, ascott@chem.tamu.edu Mon - Fri 12:15 – 4:15 pm

A. Books

I recommend Angela Duckworth's *Grit: The Power of Passion and Perseverance* (in print, or as an audiobook). We will not be using this, and students are certainly not required to buy it, but anyone faced with a challenging goal, of any kind, would benefit from this book.

In class, I will be using primarily: *Sophomore Organic Chemistry 2 By Inquisition, by Kevin Burgess*, from *http://www.byinquisition.org*. Bring this book to every class; without it you will not be able to follow the lecture well. The only reason to buy the book online now is to study in advance. However, in the first two classes there will be an opportunity to buy these books at a discount.

Textbook. Sophomore Organic Chemistry 1 and 2 are written to facilitate self-study and flipped teaching. Students will need a text book too, but none is *required*. I recommend picking up a *used* hard copy of this one, *Organic Chemistry, 3rd Edition*, by David R. Klein:



Organic Chemistry, 3rd Edition

David R. Klein

ISBN: 978-1-119-50396-5 | January 2018 | 1312 Pages

E-BOOK	PRINT	WILEYPLUS
Starting at just $46.00	Starting at just $56.00	

Textbook Rental (130 days)	$56.00
Loose-leaf	$166.95

THE 4th EDITION IS NOW AVAILABLE, though it will be difficult to find a used copy.

The second or first edition would work too, or other chemistry textbooks (the one by McMurry is used extensively at TAMU). It would be wasteful to buy a new copy of an expensive textbook. Problems from these books will *not* be assigned. However, to do well it is good to read a decent textbook and combine this with any web resource: resourcefulness is encouraged. Students thinking of buying a book other than Klein or McMurry might tell me which one first and ask for an opinion.

ChemDraw and Word Processing. *ChemDraw and a word processing program is required for the assignments*. Buy a copy of ChemOffice and install it on your laptop, and get access to Word, or some other program that can generate a Word document. There is at the drastically discounted rate for students to buy ChemDraw through TAMU. Students who cannot afford it, or do not have a laptop, must ask someone else for access to their copy of ChemDraw and Word.

B. Other Resources

Internet

The course website is at eCampus.tamu.edu; sign in requires NetID and password. Course material will be posted at this website. It is students' responsibility to check email and the eCampus website for class-related information, but the primary mode of communication will be in lectures.

Molecular Models

Molecular models are highly recommended because they assist visualization of molecular shape and structure, but they are *not* allowed in exams. Darling Models, Molecular Visions Molecular Model Kit**,** TAMU Edition, sometimes may be purchased from the Student Affiliate Chapter of the American Chemical Society in Room 104, Chemistry.

Study Groups

I will form in-class study groups, and recommend that you meet in study groups outside class too. You *may* discuss problems on the lecture handouts with this each other, and with any SI leader.

YouTube Videos

I have been making YouTube videos on 227 and 228 for several years, but have not published a complete set. Most of these videos are tailor-made for my books to be used in this course. They are only about ~5 min long, but most summarize a 75 min lecture corresponding to one chapter in the book.

Here is a link to one of the videos you might watch early in 228. Please subscribe to my channel and hit the alert button so that you will be notified every time a new video appears.

C. Course Description

Organic Chemistry 2 (CHEM 228), builds on the mechanistic foundation built in 227 (prerequisite) and provides more specific information useful for many other disciplines including biology, biochemistry, chemical engineering, physiology, pharmacology, health sciences, and polymer science.

To master 227 and 228, learn the concepts and practice drawing answers in the graphical language that organic chemists use (curly arrows on line diagrams). Students who do not grasp the basic concepts find organic chemistry incomprehensible. Understanding concepts, though, is *not* enough. It is also necessary to be able to apply them by drawing solutions to problems clearly and accurately. Exams in OCHEM test ability to understand *and communicate* structures, reaction mechanisms, and synthetic sequences. It is impossible to write Chinese characters by reading about them for a semester, without drawing any. Could you do this even if you already speak a Chinese dialect? OCHEM is similar, but much easier than learning Mandarin from scratch. Success in the class correlates with purposeful practice: (i) identifying key concepts; (ii) understanding them by reading, web research, discussion *etc*; and, (iii) developing the skill to communicate them clearly by drawing chemical structures and mechanisms.

I teach a flipped class from my books: *Sophomore Organic Chemistry By Inquisition*. Each chapter contains more problems than will be solved in class and students should solve the rest in their own time. The quizzes, exams and final tend to consist of problems similar to those in the book.

Most successful students follow this sequence:

(i) read a textbook on the chapter I am about to cover in *By Inquisition*;

(ii) work the rest of the problems in *By Inquisition* after the lecture, perusing the textbook for clarification; and,

(iii) complete the online assignments for that lecture.

It is perfectly fine with me if students who do not follow this advice. Some students *do* follow the method but do not reach the goals, usually because they do not study the material intensely enough. Reasons those students do not study intensely enough vary, but often the root cause is that they are unhappy about something else and cannot concentrate. Occasionally there is someone who can reach the OCHEM goals and not use this method above; I respect that when I see it, some very intelligent people find other ways to learn. It is more common that students do not follow the three step strategy (i) – (iii), do not reach the class goals, and that is reflected in their grade.

I want everyone to do well. However, at the end of this course, I need to generate a grade distribution that distinguishes students who have met the class objectives from those who do not, without inflating the class average GPA, and that process is easier if there are students who clearly have not made the grade. However, *everyone can succeed*, by diligently following the three step procedure outlined above.

D. Opportunities For Meeting Me

If students email me (burgess@tamu.edu) with chemical problems, I strip away personal information and send the question and response to the whole class. Students may ask to speak to me on Zoom about things they do not understand.

I have two guidelines about "office Zoom calls": (i) I like to talk about *science not grades*; and, (ii) I will try never to solve the exact problems set in *Sophomore Organic Chemistry By Inquisition*. Guideline (i) is because it is pointless to second-guess how effectively students will study to get the grade they want. Guideline (ii) is because I set exams and quizzes based on the class handouts, and it would not be fair to go through those specific examples with select students. I can go through similar problems, and students should figure out the problems in the book with people you study with. In any event, all the answers for *Sophomore Organic Chemistry By Inquisition* are online (www.byinquisition.org).

Students who can identify concepts they do not grasp tend to use appointments with me well. We quickly figure out exactly what it is about it they do not understand, I check they do understand once I have explained, and we move on; the process generally does not take much time but it can be valuable. In general, superior scholars collect problems where they disagree with, ordo not understand, the supposedly correct answer. *To master any subject it is important to first identify what you do not understand.* Conversely, sometimes students say, "I don't get it", meaning organic chemistry as a whole. I ask them to tell me specifically what you have tried to understand and failed, because only then can I help.

E. Honor Code for "In-Class" Quizzes, Exams and Final

In-class quizzes, Exams (and the Final) will be open book, but you are bound by the honor code to do them alone, without help from anyone else. There will be a start time, and just before this the files will be distributed, and an end time. To be considered for grading the answers must be emailed to Andrea (ascott@chem.tamu.edu) *and* Larry (lyu.chemistry@tamu.edu) *before the end time with the appropriate subject line "228 in-class quiz", "228 in-class exam"*, or *"228 Final"*. Andrea and Larry will be setting up smart mailboxes. Emails without those titles may be missed. Late emails will be disregarded.

F. In-class Quizzes

In class quizzes will be given almost every lecture. I will email out the quiz, allow some time, then ask for the answers emailed back.

At least 17 of these, selected at random, will be graded (1 pt each), and *the best 15 scores* will be used. Almost invariably my quizzes will be one question, with a straightforward answer, worth one point. Answers that are totally right earn a point, ones that are mostly wrong, do not, and others that are mostly right get one point.

Students who miss no more than two of the graded quizzes will have fifteen others that may score. This is an "advance make-up system" wherein students "bank" good attendance in case they run into difficulties. There will be no other make-ups on quizzes. The fact that only *seventeen grades are recorded at random, and only fifteen of those can count, creates a cushion for missing a quizzes with excused absences*. Exceptions will be made when a student has a long illness that keeps them out of class for more than about three weeks, (*eg* "mono" and COVID-19).

FAQ About Missing Quizzes And Exams

Q. I had to miss this class, can I take a quiz make-up.

A. No. Seven quizzes are graded and only the best five are counted, therefore students can miss two graded ones (and many that do not happen to be graded) without consequence. If a student misses more than that, I will not help them make-up.

Q. I am going to miss this class because I am on the Uni Band where I play the digeridoo, do you want to see my excuse letter?

A. No, thanks.

Q. I missed a class where a quiz was given because of Ebola, do you want to see my doctor excuse letter?

A. No, but I hope you are better now.

Q. I missed the exam, do you want to see my excuse letter?

A. Yes, email it to Andrea Scott, and cc me, immediately because if you have not done this within two working days of the absence then no points will be awarded. If the excuse is not an approved one, no points will be awarded anyway.

Q. I am going to miss / have missed, the final. Do you want to see my excuse letter?

A. Hell yes. Email it to Andrea Scott, and cc me, now. If you have not done this within two working days of the absence then no points will be awarded. No points will be awarded if the excuse is not approved. I have been teaching for over three decades, and in that time I can only recall one instance of a student missing my final.

G. Homework Assignments

The format of the class has changed since I last taught it, because we are now online. Many classes will involve an assignment, we will grade 12 of these randomly (4 pts each) and take the best 10. These are important because they account for 40 % of the grade this year. Unless otherwise directed, to be considered for grading the answers must be emailed to Andrea (ascott@chem.tamu.edu) and Larry (lyu.chemistry@tamu.edu) *before the next lecture with the subject line "228 assignment"*. I will describe the assignments in class. If you miss class, please ask someone else in class about the assignment. These will typically involve Word and ChemDraw.
The grading metric will vary with the content, but this general strategy will often be applied.

- diagrams drawn with ChemDraw in ACS Template ……. 1pt
- where applicable, structures draw with reasonable bond angles, usually (though not always) without using the symbols *C* or *H* and with the longest chain horizontal, and all curly arrows accurate and reasonable ……. 1pt
- content mostly correct and complete, or ……. 1pt
- content completely correct and complete ……. 2pt

4 pts max

H. Bonus Points for Spotting Errors in the Book or Answers Online

Students who point out significant mistakes in the *Inquisition* books or the answers may email me directly stating the page number, giving a screenshot of the question or answer part online that is wrong, and explaining the issue. There are mistakes in the books that I have already spotted (and which may be indicated in the errata online), or another student may have come forward with the same issue before I have had a chance to update the errata. However, *completely at my discretion*, I may award a bonus point for pointing out a significant correction I had not spotted before.

To calibrate, some students have picked up almost 5 pts (5 % of the total) this way, and most submit nothing and get none.

I. Grading Structure

	Pts (each)	%
15 graded in-class quizzes	1	15
10 homework assignments	4	40
3 x 70 min exams	10	30
Final	15	15
Total	**100**	**100**

Bonus points may be added, hence it is conceivable to get over 100 pts, 100 %.

There are no "cut-offs" for specific grades. Instead, I look for breaks in the point distribution to differentiate A from B from C *etc.* Thus an A-grade, for instance, might be anywhere between about 70 and 90 %. Sometimes it is tricky to draw a line between A and B, but C grades usually distinguish themselves.

To remain impartial and objective, I decide grade cut-offs at the end of class by looking at the curve alone and never at who made what score.

My course is straightforward. One point is one percent. Nothing matters more than learning how to solve problems like those in *Sophomore Organic Chemistry By Inquisition*.

J. Make-up Exams

If a student has to miss an exam because of an excused absence as designated in the official *Texas A&M University Regulations* he/she should follow the following procedure:

(i) Before the exam, contact Ms Scott, (ascott@mail.chem.tamu.edu, 845-9165 am, 845-1847 pm, or leave a message) with the reason. Ms Scott will document such emails/calls. Students who can anticipate an excusable absence should provide notification before the day of the exam. Notifications should be received no later than two working days after the exam, and then only in cases of extreme hardship.

(ii) Written explanations must then be submitted to Ms Scott at the earliest possible time, with supporting documentation. *Written requests not received within two working days of the absence will usually be denied* (see University Rules).

There will be no formal make-up exams. Students who miss an exam, *but only for an excused absence with appropriate notification*,[†] will be graded using the following system:

	pts	**%**
15 graded in-class quizzes	1 ea (15)	15
10 graded homework assignments	4 (40)	40
2 x 70 min exams	10 (20)	20
final exam	25	25
total	**100**	**100**

In the rare case that a student misses the final exam, *for an excused absence with appropriate notification*, then:

	pts	**%**
15 graded in-class quizzes	1 ea (15)	15
10 graded homework assignments	4 (40)	40
3 x 70 min exams	15 (45)	45

† Absences of less than three days due to injury or illness will require that you provide either a physician's note affirming the date and time of visit related to the absence or the TAMU Explanatory Statement for Absence from Class form available at: http://shs.tamu.edu/forms.htm. You may use this form to document excused absences of less than three days. However, if you do not have a physician's note, please keep in mind that the information will be verified. Any misinformation included on the form or an inability to verify the information will lead to sanctions under the Aggie Code of Honor. Absences of three or more days due to illness or injury will definitely require a physician's note or other acceptable documentation. Appropriate documentation will be required for other excused absences. The University's policy has an absolute deadline (by the end of the second working day after the absence) by which you must notify the professor of any excused absence. Delays in notification usually raise some doubts about the validity of the excuse. Do not take this admonition lightly since some people receive zeros on exams each semester for failure to follow this University regulation. It is your responsibility of a student requesting an excused absence to contact the Prof, not his/hers to contact them, so e-mailing asking me to contact you is unacceptable. You must keep trying to contact me or Andrea to talk with me either in person or on the phone until you are successful. Please see http://student-rules.tamu.edu/rule07 for more information on University policies for absences. Aggies who lie about an excused absence are disrespectful this academic institution. When a student tells me of a serious problem (*eg* death in family) I need to be able to believe without hesitation. If even a few students present sham excuses then I risk becoming unsympathetic to someone who has a real issue.

total	**100**	**100**

Regrades

Students who have cause for a regrade, please see Dr Burgess as soon as your exam is returned in class; I usually take care of them there and then. After class, submit regrade requests to Ms Scott by email. *Do not submit regrade requests to me*. Regrades are complete: scores may increase or decrease. Verbal information tends to be forgotten or lost therefore *requests must be made in writing* to Ms Scott within two University class days of the exam return date. Failure to collect an exam is an unacceptable excuse for having it regraded later. Regrade requests must be signed and contain the following statement, "*No changes have been made to this material since the exam.*" They should describe the suspected error, and given to Ms Scott. Altering graded exams for regrade is a serious breach of the TAMU honor code.[=]

K. Material To Be Covered In Exams And Final, and Tentative Dates

Exams 1 – 3 are currently scheduled for *February 16, March 9, and April 22* (*dates may change).*

The Final will be on Wednesday, May 5, 8:00 – 10:30 am.

date	By Inquisition Chapter	exam content
Jan 19	1 Nucleophilic Addition of Hard Anions to Aldehydes and Ketones	
21	2 Addition of Grignard Reagents to Aldehydes and Ketones	
	(January 25, add/drop deadline)	
25	3 Addition of Water and Alcohols to Aldehydes and Ketones	
28	4 Formation of Cyanohydrins, Imines, Enamines	
Feb 2	5 Stereochemistry Illustrated by Carbohydrates	
4	6 Heterocycles in Biological Chemistry	
9	7 Nucleosides and Nucleotides	
11	8 DNA Synthesis and Sequencing	
16	Exam 1 POSTPONED DUE TO SNOW STORM	lectures 1 - 6
18	NO CLASS DUE TO SNOW STORM	
23	9 Ester Hydrolysis and Transesterification	
25	10 Hydrolysis and Dehydration of Amides	
	(11 Reactivities of Acylating Agents is an assignment)	
March 2	(Texas Independence Day – No Classes)	
4	12 Acylations Via Acid Chlorides and Anhydrides	
9	Exam 1	lectures 7 – 12
	March 8, Midterms due	
11	13 Activation of Carboxylic Acids	
16	Exam 2	
18	**Redefined day – Attend Friday Classes**	
	(**Assignment** 14 Introducing, The Amino Acids!)	
23	15 Peptide Syntheses	

[†] ***"An Aggie does not lie, cheat, or steal or tolerate those who do."*** All TAMU students commit to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. http://aggiehonor.tamu.edu/

	(16 Peptides and Proteins is an assignment)	
25	17 Hydridic Reductions	
30	18 Reductions Via Electrons And Radicals	
April 1	19 Oxidations	
6	20 Characteristics of Enols and Enolates	
8	21 Halogenation of Enolizable Aldehydes and Ketones	
13	22 Reactions of Enolizable Compounds with *C*-Electrophiles	
15	23 Reactions of Ester Enolates with Carbonyl Compounds	
	Q drop deadline	
20	24 Aldol and Aldol Condensation Reactions	
22	Exam 3	lectures 13 - 18
27	25 Conjugate Additions	
29	**LAST DAY OF CLASS**	
May 5	Final Exam. 8 – 10:30 am	mostly on lectures 19 - 25

Points indicated on the exam and final questions will be totaled, halved then rounded up.

There will be 10 questions on each exam, and each question will be nominally worth 2 pts each (but see above). Usually, answers to exam questions that are completely or mostly right, about half right, and mostly or completely wrong; these correspond to 2, 1, and 0 points, respectively. A similar format will be followed in the final, but the questions are nominally for 3 points each.

Books and models are permitted in the final, exams or quizzes.

L. SI Leaders

We will probably have help from an SI leader. Even if we do not have one specifically for our class, you can find a good SI leader meeting at a convenient time for you, and attend when you can. Schedules will be posted on: http://successcenter.tamu.edu/Supplemental-Instruction/SI-Leaders. It is allowed to ask him/her about answers to the problems in my text/handouts (but cannot be 100% sure the answer is right!).

M. TAMU Required Notices

COVID-19 Campus Safety Measures

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University has adopted policies and practices for the Spring 2021 academic term to limit virus transmission. Students must observe the following practices while participating in face-to-face courses and course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.):

- Self-monitoring—Students should follow CDC recommendations for self-monitoring. **Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely if that option is available, and should not participate in face-to-face instruction.**
- Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Description of face coverings and additional guidance are provided in the Face Covering policy and Frequently Asked Questions (FAQ) available on the Provost website.
- Physical Distancing—Physical distancing must be maintained between students, instructors, and others in course and course-related activities.
- Classroom Ingress/Egress—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.
- To attend a face-to-face class, students must properly wear an approved face covering If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the Student Conduct office for sanctions. Additionally, the faculty member may choose to teach that day's class remotely for all students, or dismiss the class in the case of a traditional face to face lecture.

Personal Illness and Quarantine

Students required to quarantine must participate in courses and course-related activities remotely, if that option is available, and **must not attend face-to-face course activities**. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities.

Students experiencing personal injury or Illness that is too severe for the student to attend class qualify for an excused absence (See Student Rule 7, Section 7.2.2.) To receive an excused absence, students must comply with the documentation and notification guidelines outlined in Student Rule 7.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with Counseling and Psychological Services (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's Title IX webpage.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24- hour emergency help is also available through the National Suicide Prevention Hotline (800- 273-8255) or at https://suicidepreventionlifeline.org.

Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" (Section 20.1.2.3, Student Rule 20).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at https://aggiehonor.tamu.edu.

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to Student Rule 7 in its entirety for information about excused absences, including definitions, and related documentation and timelines.

N. Less Important Material: My Teaching Philosophy

Observations

- students learn organic structures, concepts and mechanisms by drawing them;
- drawing organic structures and mechanisms currently cannot be effectively taught via web based systems, particularly multiple choice formats;
- asking students to draw structures/mechanisms in lectures is more valuable to them than writing words;
- students are, and should be, unsatisfied by lectures they can understand immediately by reading the book;
- PowerPoint presentations in lectures have value for images that cannot be drawn easily (*eg* spectra and proteins), but their excessive use is impersonal, boring, and overwhelming;
- students do *not* come to class to be lectured on material they will not be tested on;
- students should read organic textbooks to help them understand concepts and memorize facts;
- reading the book in advance of each lecture is valuable;
- students should be free to study from *any* good, appropriate textbook;
- do not grade on scales that involve lots of points, or give point fractions, because it is *impossible* to consistently and reliably differentiate between answers that are partly wrong in many different ways;
- publishers charge too much for textbooks and deliberately suppress their re-sale value by introducing new editions;
- it is easy for students to spend too much time on trivia in a textbook (*eg* who did what and when, chemistry in society) and not enough on the key concepts;
- students do *not* read books to learn material they will not be tested on;
- students, like professors, are busy, so it is better for them to have all they have to learn concentrated in one document, and to be graded via a clear and simple system;
- fundamental *chemistries* of amino acids, peptides, proteins, carbohydrates, nucleosides, and nucleotides are at the end of the syllabus and are often not covered due to lack of time;
- it is important that majors in subjects like chemistry, biology, biochemistry, genetics (and aspiring pre-meds, vets, dentists, nurses *etc*) know about fundamental *chemistries* of amino acids, peptides, proteins, carbohydrates, nucleosides, and nucleotides;
- on the other hand, there is no time to teach “biochemistry-light”, the emphasis must be on the *chemistry* of the topics listed above; and,
- ignore negative, non-productive criticism, but consider all constructive suggestions from any student

My Book Is To

- require students to draw structures and mechanisms;
- break down difficult concepts into small deductive steps;
- provide lots of examples to practice these concepts;
- be *extremely* similar to the quizzes and exams that will be set;
- avoid material that is straightforward and clearly described in the book;
- provide nearly all the text necessary; and,
- contain *more* problems than could be solved in class, to give motivated students relevant material to study.

I Try To

- make lectures genuinely worth attending by stressing concepts and drawing structures/mechanisms;
- draw facing the students using minimal ppts;
- encourage thinking and dialog by asking lots of question, calling on students by name, but not humiliating people who cannot answer;
- make it clear what students should learn;
- make it possible for students to use any edition of the recommended text, and other appropriate books;
- include fundamental *chemistries* of amino acids, peptides, proteins, carbohydrates, nucleosides, and nucleotides;
- avoid “clutter and fluff”;
- augment the notes with relevant videos;
- direct students to online resources that may assist their understanding
- grade fairly by using a straightforward, unambiguous system; and, most importantly,
- enable students to enjoy the class.

O. Learning Objectives

At the end of this course (227 and 228) students will be able to understand:

(i) how routine spectroscopic techniques are applied to identify organic compounds;

(ii) electron flow as it relates to the mechanisms of organic reactions, and depict this with accurate curly arrows;

(iii) fundamental chemistry of functional groups including aromatics, amines, and carbonyl compounds; and,

(iv) how these functional groups influence the chemistry of essential biomolecules including carbohydrates, amino acids, peptides, proteins, DNA and RNA.

Permission To Post Grades Form

Please fill in the following data.

name in BLOCK CAPITALS: _____

email address IN BLOCK CAPITALS: _____

Please define a personal, secret "nickname" that will be uses to post grades (physically or via email). Students who do not give permission cannot access their grades until they are officially released at the end of the semester.

By defining a suitable personal secret password you are giving permission to post grades. The personal secret password must *START WITH A LETTER* (not a number, because the grades will be posted alphabetically) and consist of 5 – 10 characters.

__ __ __ __ __ __ __ __ __ __

Are you the person in the class who is going to forget your password? It will cost you time if you do. If you do forget then email: ascott@mail.chem.tamu.edu and try to find out from her what it is, or go to her and fill in another form.

Occasionally, it is helpful to have an email list that the class can use to discuss concepts outside of the classroom. To this end, an email list may be set up.

☐ YES, my email can be shared with the rest of the class

☐ NO, do no share my email with the rest of the class (you will still receive class emails from Dr. Burgess and eCampus about class business)

EMAIL THIS FORM TO ascott@mail.chem.tamu.edu

A PDF OF JUST THIS FORM WILL BE IN ECAMPUS AS "PERMISSION TO POST GRADES"