

**Organic Chemistry II Syllabus**  
**Winter 2026 – CHEM 12B**  
**Dr. Alexander Chang**

## **I. Course Overview**

This class is the second quarter of the three-quarter organic chemistry sequence, CHEM 12. This course is in-person and includes both a lecture and lab component. One grade is assigned for the two parts combined. The lecture and lab cannot be taken separately.

### **Important Information**

**Lecture Time/Location:** MW 11:30 – 12:45 PM in MLC103

**Lab Times:** MW 7:30 – 10:20 AM (Section 01) / MW 2:30 – 5:20 PM (Section 02)

**Lab Location:** SC2210 (both sections)

**Final Exam:** **Monday, March 23, 11:30 AM – 1:30 PM**

**Instructor:** Dr. Alexander Chang (**Email:** [changalex@fhda.edu](mailto:changalex@fhda.edu))\*

**Office Hours\*\*:**

- M 1 – 1:50 PM in S55 (in-person only)
- T 1 – 1:50 PM on Zoom
- W 10:30 – 11:20 AM in S55 (in-person only)
- Th 4 – 4:50 PM on Zoom

**Required Items:**

1. [Chemical safety goggles](#) (*n.b.* safety goggles must seal all the way around your eyes and be specifically designed for chemical lab work)
2. Gilbert and Martin, *Experimental Organic Chemistry: A Miniscale and Microscale Approach*, 6th Ed., ISBN #9781305080461
3. Access to Canvas
4. [Combination lock](#) for lab.

**Recommended Items:**

1. Chemical Resistant Lab Coat
2. Organic Chemistry, 10th edition by John McMurry (either [electronic via OpenStax](#) or physical textbook ISBN #9781711471853 via bookstore is fine)\*\*\*
3. *Organic Chemistry: A Tenth Edition Student Solutions Manual* by Susan McMurry\*\*\* (electronic version [here](#))
4. *Organic Chemistry (4<sup>th</sup> edition)* by David Klein (hard-copy or electronic)\*\*\*\* ISBN #9781119745105
5. *Organic Chemistry, Student Study Guide and Solutions Manual* by David Klein\*\*\*\*
6. [Physical lab notebook](#)
7. Molecular Model Kit (many options, cheap one listed [here](#))

\*Email me for all official correspondence. Assume that I do not remember spoken conversations – realize I have many students. Additionally, I prefer email over Canvas correspondence (Canvas messaging has some flaws)

\*\*Individual meetings can be requested for concerns such as improving poor grades, debating drop decisions, or discussing circumstances that may be affecting your course experience.

\*\*\*The McMurry textbook is the official textbook the department uses. An electronic version of this textbook, along with its associated solutions manual, is free for students via *OpenStax* [here](#). The solutions manual is found [here](#).

\*\*\*\*Klein's Organic Chemistry textbook is a good (but not necessary) resource. For those of you who want additional practice, Klein's solutions manual has highly in-depth answers. However, both of these resources are rather pricy. Any of the 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> editions are probably fine, but make sure the textbook and solutions manual editions match.

## II. Grades and Graded Assignments

There will be **1000 points total** for the class.

Lab Prelabs (Drop lowest):	75 points*
Lab Participation/Safety:	100 points
Lab Exam (Drop lowest):	75 points (out of 100 possible)**
Quiz (can be replaced by MT1 score)	50 points
3 Midterms (150 points each):	450 points
Final Exam (can replace 1 midterm):	250 points***

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1000 points

\*At the end of the quarter, all prelab assignments together will be scaled to be worth 75 points.

\*\*Example: If you earn 90/100 on the lab exam, 75 points go to the Lab Exam category, and the extra 15 points may be used to increase your Lab Prelab score (up to its 75-point maximum).

\*\*\*For flexibility, your final exam score can replace your lowest midterm grade. In that case your midterm score would be  $final\ exam\ score \times \frac{150}{250}$

The grading scale below shows how final grades correspond to points. It is possible the grade ranges shift at the end of the quarter when grades are determined. However, any shift in a grade range will only serve to help you. That is, these ranges will only ever move downward.

Grade	%	Grade	%	Grade	%	Grade	%
A+	92+	B+	80 – 82	C+	68 – 70	D	50 – 60
A	84 – 92	B	72 – 80	C	60 – 68	F	< 50
A-	82 – 84	B-	70 – 72	No C-			

## III. Lab

All students are required to have some form of lab notebook, physical or electronic. This is where you will store all lab-related content. I will not formally check the notebook, but you are expected to have all lab work organized in one location (if electronic, a word document would suffice).

Signing the safety contract, watching the safety videos, and completing the safety quiz provided on Canvas is required for attending any lab experiment. Failure to do so by the first experiment may result in loss of registration in the class.

You are also required to have a combination lock for your assigned locker. You must provide me the lock combination. These locks can be purchased at the bookstore.

### A. Lab Assignments:

Each lab experiment will have an associated prelab report. All prelabs must be your own writing. This applies regardless of whether you had a lab partner for an experiment or not. Plagiarism or other violations of academic integrity will result in a zero on all points related to that lab.

Egregious or multiple violations will automatically result in a 0/100 for lab participation points. No portion of a prelab should be shared from one person to another – that would be plagiarism.

Late assignments will receive a 25% deduction for every day the assignment is not submitted. However, late assignments will always be worth a minimum of 25% of the points – incentivizing you to turn them in, even when late.

#### i. Prelabs

**Pre-labs** will be submitted electronically (you may submit a photo of your lab notebook page if need be) on Canvas at the **start time** of the first lab for each new experiment.

Submission of a **completed** pre-lab is required to participate in the lab experiment. Failure to do so will result in an unexcused absence. Pre-labs are essential for class safety – coming into lab class without an understanding of the hazards or procedures is inherently unsafe.

You may be asked to answer some pre-lab questions, depending on the experiment. An example prelab will be posted on Canvas. Each prelab will have at least two parts:

1. **Information for each compound:** For each compound present in the experiment, provide the molecular structure, molecular weight, boiling point (for a liquid)/melting point (for a solid), density (if liquid), and potential safety hazards. This will involve looking up each compound's **Safety Data Sheet**.
2. **Procedure/Clean up Instructions.** The procedure for the lab must be rewritten in a numbered/bullet point form, where each step is on a separate line (i.e. not in a paragraph). This should include chemical disposal instructions for clean up.

It is incredibly easy to misread/lose steps when reading procedures from a block of text – this is to help you during the experiment. (Do not use AI to do this – not just for academic integrity, but because AI sometimes drops a step or changes the wording of instructions, which can ruin your experiment or cause safety hazards).

#### ii. Built-in Flexibility

There is **built-in flexibility** with the Lab Prelabs. This flexibility provides a buffer intended to ease your stress and reduces the need to request official exceptions for one-off issues (e.g. illness, technical issues). Your **lowest percentage prelab** will be dropped **if all lab assignments are submitted and adequately completed** (i.e. missing or partially completed prelabs are not dropped). Similarly, for the **lab exam** – you have two attempts at the exam (i.e. **one of the two lab exams is dropped**).

Therefore, for one-off issues, extensions or exceptions will not be granted. This flexibility is meant to account for those issues. For more extreme circumstances, please do email me so we can discuss options.

## B. Lab Participation/Safety

This section covers attendance, participation, safety, and cleanliness in lab. It is intended that everyone should easily receive all 100 points in this category. These points cannot be made up with the Lab Exam.

### i. Absences/Tardiness

Attendance is required in all lab classes. Absences may be **excused** at Dr. Chang's discretion. However, you must email me to request an excused absence **before the start of lab**. Evidence (such as a doctor's note for illness) should be provided via email. If you are granted an excused absence for a lab, you should email me to ask how to make up the lab (it is **your responsibility** to follow up on this). For safety reasons, attending another lab section to make up lab is not possible.

All other absences are **unexcused**. Unexcused absences result in a 10-point penalty, and any work missing due to an unexcused absence cannot be made up.

You are allowed three total absences (excused + unexcused). **Additional absences beyond that may result in automatic failure of the course** (this would be at Dr. Chang's discretion depending on the circumstances of these absences).

For tardiness, being a couple minutes late on occasion happens. However, consistent tardiness (more than 5 minutes late) will result in a 5-point penalty. Students arriving more than 15 minutes late will not be able to listen to the pre-experiment lecture, resulting in an unexcused absence for the day.

### ii. Participation

In general, completion of lab experiments is your participation grade. Buried within this is preparation. You are expected to have read through the procedure before lab, and should pay attention to the mini-lecture at the start of lab. This is a courtesy to your peers and instructor – your instructor has over 20 students to monitor in a given lab section, and cannot dedicate much time to walking an individual student through the basics of the procedure.

That being said – students are in lab to learn and are not expected to fully understand experimental procedures. When you are unsure how to proceed (ESPECIALLY if you think something is unsafe), do ask me questions. Being confused is acceptable; not doing anything about it is not. On rare occasions, a student will stand around and do nothing for the majority of the lab period (essentially letting their lab partner do all the work). If this occurs, the lab will be counted as an unexcused absence.

### iii. Safety

Safety is the most important part of lab. It should be first made clear that accidents and unintentional safety hazards happen in lab, and a student will not be penalized in these circumstances, unless these hazards are repeatedly caused by carelessness and disregard for the lab safety.

**Informing your instructor of any accident/spill/hazard** is a must. Honesty is the best policy, and your instructor understands students are far from perfect. Causing a spill or accidentally breaking glassware or instrumentation happens – not informing your instructor of these situations is an intentional disregard for safety.

Intentional disregard for safety (*e.g.* horseplay) is unacceptable in the lab and may result in a 20-point penalty for a first offense and a 0/100 in this point category for future offenses. See the safety guidelines on the next page for more details.

Unless explicitly given permission by your instructor, you are to have your safety goggles on at all times in lab. You must also wear long pants and closed-toed shoes. Dr. Chang will forbid participation in lab if you do not adhere to these guidelines, resulting in an unexcused absence. See the safety guidelines on the next page for more details.

#### iv. Clean-up

Before leaving lab, **you are expected to clean up your area and all glassware and equipment you used.** Students are expected to check with their instructor if everything is satisfactorily clean. Leaving a mess for others (especially your instructor) to clean up is unacceptable and will result in a 5-point penalty for the first offense, and a 20-point penalty for each additional offense.

### C. Lab Exam

There are 100 points available in the lab exam, but you are capped at 75 points in this category. If you go over 75 points, those points can be used to make up points in the Lab Prelabs section.

The content of the lab exam will be specified before the lab exam, but will concentrate on

- 1) Analysis of data (especially spectra)
- 2) Understanding of lab procedures and why certain steps were included.

This material will be covered through lab lecture and in the assigned textbook readings for each experiment. No notes or electronics are allowed for the lab exam. The lab exam will solely be a written exam, no chemicals or glassware will be used.

In addition, the lab exam will be offered twice (**Monday, March 2**, and **Wednesday, March 18**, both during LECTURE) – that is, you have two attempts at the lab exam. The two exams will be similar in material but different exams. The better of the two scores will be your grade.

Excused absence policy for the lab exam follows the regular exam excused absence guidelines. If you miss one lab exam, it will be dropped and the other lab exam will be your lab score. However, if **both** exams are missed **for excusable reasons**, a makeup exam may be given since the points cannot be moved to the final. The makeup lab exam will be different from the original version, to discourage academic integrity violations.

**D. Lab Safety Guidelines** (adapted from American Chemical Society Safety in Academic Laboratories Guidelines, 7th edition)

1. Department-approved safety goggles must be worn at all times that chemicals or glassware are in use, including when obtaining items from the stockroom or moving equipment to or from your locker. Goggles may not be removed until all lab work has been completed and all chemicals and glassware have been stored.
2. Shoes that completely enclose the foot are to be worn at all times; no sandals, open-toed or open-topped shoes, or slippers, even with socks on, may be worn in lab.
3. Shorts, cut-offs, skirts, or pants exposing skin above the ankle, and sleeveless tops may not be worn in lab.
4. Hair reaching the top of the shoulders or below must be tied back securely.
5. Loose clothing must be constrained, while form-fitting items should be avoided as chemicals can be held against the skin.
6. Wearing jewelry (rings, bracelets, watches, etc.) is discouraged as chemicals can seep in between jewelry and skin.
7. Eating, drinking, or applying cosmetics in the laboratory room is forbidden at *all* times, including during lab lecture.
8. Headphones are prohibited in lab at all times as you must be able to hear any emergency announcements made.
9. Students are required to know the locations of the eyewash stations, emergency shower(s), and all exits.
10. You may not be in the laboratory, balance, or instrument rooms unless an instructor is present to supervise.
11. Students not enrolled in the course may not remain in the lab even for lecture once the add deadline has passed.
12. If for any reason you feel faint during the lab, notify an instructor before stepping out for air so you can be supervised.
13. Never point a heated system towards any person, including yourself.
14. Glass and needles must only be disposed of in the appropriate containers, never in the regular trash.
15. Except for soapy or clear rinse water from cleaning glassware, **no chemicals may be poured into any sink**; any remaining chemicals from an experiment must be poured into the appropriately labeled waste bottle.
16. Students must follow the Code of Conduct at all times while in the lab. Any behavior that could startle, frighten, or injure anyone in the lab is not allowed.

## IV. Lecture

### A. Attendance and Course Engagement

Attendance is expected at every lecture. However, there is no grade penalty for missing lecture. You are strongly advised to attend every class. **Do not fall behind in this class.** Each lecture builds on the previous lecture. It is easy to skip class and tell yourself that you will look over the notes later, but in practice this does not happen.

**Notecard Days:** On occasion, I will provide notecards at the beginning of class for a warmup problem. You will write an answer on the notecard and turn it in with your name on it for **1 point of extra credit** (regardless of correctness). This serves two purposes:

1. It motivates you to attend class in a timely manner
2. It gives me real-time feedback on what the class understands

You are capped at 5 points of notecard extra credit. More than 5 opportunities will be provided.

Electronics are allowed in the classroom, provided they are on silent mode. How you choose to spend your time in lecture does not concern me. My only ask is that you show courtesy to your peers. Causing noise or disruptions that hinder the learning of those around you is **unacceptable**.

I encourage you to raise your hand to ask questions or volunteer answers. Don't be afraid to ask questions or be wrong in class – lecture is when I *expect* you to be confused or incorrect. Organic chemistry is very conceptually difficult – even the best students often do not immediately understand most topics. That understanding often comes while struggling through practice problems. Do not be discouraged if you are lost in lecture. Use the active learning opportunities to ask me to help catch you up.

There will be active learning opportunities sprinkled in during lecture. This will usually be done through Poll Everywhere (PolleEV). All you need is a phone/laptop/tablet that can access the class poll everywhere link. Your answers will not be graded, so no need to make an account. These questions allow me to quickly assess where the class is at on a certain topic. Thus, putting effort into these active learning questions will only help your own education.

### B. Ungraded Homework

Homework is **ungraded** for the course. This is both a blessing and a curse. Academic freedom is something many undergraduate students (and even graduate students) struggle with. Do the homework assigned daily/weekly, and don't look at the answer key for a problem until you're happy with the effort you've put into that problem. You should be physically writing down answers to homework problems, not just simply staring at problems and imagining what the answer would look like. **If there is one piece of advice Dr. Chang will give you (from personal experience), it is that the best learning occurs when you are struggling through a problem set for hours.** I will guarantee that each **exam** will have at least one problem that is trivially derivative (or even identical) to a homework problem.

There will be two types of homework:

**i. Daily assigned textbook problems.**

These will be through the tenth edition of the [McMurry OpenStax textbook](#), as well as the associated [solutions manual](#). I will suggest homework problems to complete before the next lecture. The cumulative nature of organic chemistry often requires mastery of the previous lecture's material to understand the next lecture.

**ii. Weekly(-ish) Problem Sets**

A good majority of the problems in these problem sets were written or adapted by Dr. Chang. These problems often can be more challenging than the textbook problems, with some even being harder than exam problems. I encourage you to struggle through these – do not be discouraged if some answers aren't immediately clear to you. I will post an associated key with the problem sets.

One of the most important skills in life is knowing when to ask for help. If you're still confused after looking at the answer key, take the time to struggle and figure it out. This may involve looking over class notes or the textbook. If that doesn't help, then **feel free to email me** to ask the question, or **come to office hours**. Students in my previous classes usually would compile a list of questions from each HW to email me. Normally I'll get back to you within a day.

**C. Exams/Quiz**

There will be 1 quiz (50 points), 3 midterms (150 points each), and 1 final (250 points). There will also be two lab exam opportunities.

**Quiz:** Wednesday, 1/21 in LECTURE

**Midterm 1:** Wednesday, 1/28 in LAB

**Midterm 2:** Wednesday, 2/18 in LAB

**Lab Exam I:** Monday, 3/2 in LECTURE

**Midterm 3:** Monday, 3/16 in LAB

**Lab Exam II:** Wednesday, 3/18 in LECTURE

**Final Exam:** Monday, 3/23, 11:30 AM – 1:30 PM

**i. Exam/Quiz Rules**

Exams are closed book. No notes, formula sheets, or internet-connected devices are permitted. Backpacks will be placed at the front of the classroom away from the desks. Modeling kits are allowed, but the kit container itself should be put away.

If you need to exit the room for any reason during an exam (*i.e.* using the restroom), you must show me that your phone is inside your backpack. Only one student will be allowed outside the room at a time.

The quiz is 50 points and serves to familiarize you with how I write and grade assessments before you reach the first midterm. If you perform better (percentage-wise) on the first midterm than the quiz, your quiz score percentage will be replaced with your Midterm 1 score percentage.

**ii. Final Exam**

The final exam is cumulative. The final exam time is assigned by the college (Monday, 3/23, 11:30 AM – 1:30 PM) and will not be offered at any other time.

Additionally, your final exam score can replace your lowest midterm grade. For example, if your lowest exam score is a 60/150 (40%) on Midterm 2, and you score 125/250 (50%) on the Final Exam, your Midterm 2 grade becomes a 75/150 (50%).

**iii. Exam Absences**

Since your final exam score can replace a midterm, there is built-in flexibility for missing one exam. Thus, there is no need to ask for an excused exam absence. Similarly, the quiz is replaced by Midterm 1. Because of this flexibility, the quiz, midterms, and final will not be provided outside of the scheduled times.

If a second exam is missed due to unavoidable conflicts or something unexpected (*e.g.* illness), you must email me **before** the exam is administered and request to allocate those points to the final exam. You must provide a doctor's note (if illness) or some other form of verification for the emergency. It is up to my discretion whether this request is granted.

**iv. Regrade Policy**

You may request regrades through Gradescope once I have opened it up for regrades on an exam. Here, you can request regrades for individual questions. Do not abuse this policy – I will regrade the entire exam for students who submit multiple regrade requests. It is possible for the grade to go up or down. Additional work or explanation not already provided on the exam cannot be considered. Warnings aside, if it's an obvious error on my part, do not hesitate to request a regrade.

**v. Academic Integrity**

All violations of academic integrity are inexcusable regardless of circumstance, and will result in a zero on the assessment. All instances of cheating or plagiarism will be reported for further disciplinary action. Any violation of the Exam/Quiz rules in section *C.i* is a violation of academic integrity. In addition, discussing the contents of any quiz or exam with a student who has yet to take the assessment is a violation of academic integrity.

All assessments given in class are protected by US copyright law and may not be posted online or redistributed without the written consent of Dr. Chang.

**vi. DSPS Extended Time**

Accommodations for a range of disabilities are available through Disability Support Programs & Services (DSPS). To receive an academic accommodation on assessments – such as additional time, a reduced-distraction environment, or the use of alternative media or assistive technology – you must first be evaluated by Disability Support Services (DSS) and obtain a Test Accommodation Verification (TAV) form. ***Absolutely no accommodations can be provided on assessments without a completed TAV form.***

## V. Approximate Schedule

This is an approximate schedule for the course, which may change depending on course pace.

The midterm and final exam dates will not change.

M2 = Chapter 2 in McMurry; K2 = Chapter 2 in Klein. Lab Exp. Pages = Gilbert lab textbook.

Week	Class #	Dates	Chapter	Lecture topic	Lab topic	Lab Exp. Pages	
1	1	1/5	M9/K9	Alkynes I	Syllabus & Check-in		
	2	1/7	M9/K9	Alkynes II	NMR Spectroscopy		
2	3	1/12	M17/K12	Alcohols I	Alkynes III, Ethers & Epoxides I		
	4	1/14	M17/K12	Alcohols II	Oxidation of an alcohol	585-595	
3		1/19	<b>Martin Luther King Jr. Day – NO CLASS</b>				
	5	1/21	M18/K13	Quiz/Ethers & Epoxides II	Oxidation of an alcohol		
4	6	1/26	K11	Synthesis Practice	Oxidation of an alcohol		
	7	1/28	M19/K19	Carbonyls I	Midterm I		
5	8	2/2	M19/K19	Carbonyls II	Reduction of 9-fluorenone	621-624, 651-653	
	9	2/4	M19/K19	Carbonyls III	Reduction of 9-fluorenone		
6	10	2/9	M19/K19	Carbonyls IV	Grignard Reaction	715-721, 725-729	
	11	2/11	M14/K16	Conjugated Dienes	Grignard Reaction		
7		2/16	<b>President's Day – NO CLASS</b>				
	12	2/18	M14/K16	Pericyclic I	Midterm II		
8	13	2/23	M14/K16	Pericyclic II	Wittig Reaction	673-679	
	14	2/25	M14/K16	Pericyclic III	Wittig Reaction		
9	15	3/2		Lab Exam I	Kinetic vs Thermodynamic	443-451	
	16	3/4	M15/K17	Aromaticity	Kinetic vs Thermodynamic		
10	17	3/9	M16/K18	Aromatic Subst. I	Diels-Alder Part A	421-428	
	18	3/11	M16/K18	Aromatic Subst. II	Diels-Alder Part A		
11	19	3/16	M16/K18	Aromatic Subst. III	Midterm III		
	20	3/18		Lab Exam II	Checkout/Review		
<b>Monday, 3/23</b> <b>11:30 AM – 1:30 PM</b>			<b>Final Exam</b>				

### Important Dates:

1/5 and 1/7: Must attend lecture/lab to maintain your registration.

Sunday, January 18: Drop **without** a W deadline

Friday, February 27: Drop **with** a W deadline

## VI. Other Policies

### A. Use of Artificial Intelligence (AI)

Popularity of AI tools (such as ChatGPT) has sharply risen in the last couple years. **I encourage** you to learn how to use these tools **correctly**, as long as you **do not use them on quizzes, or exams**; additionally, all content in prelabs **must be your own writing**. Be mindful of the drawbacks of these AI tools. Do not assume AI-generated answers are correct. Treat it as a Google or Wikipedia-like resource. Verify information by asking the AI to provide the source(s) and examine the source yourself. When in doubt, ask me to help you verify information. Keep in mind – the chemistry in real life is more complex than that in an undergraduate course. AI does not know the simplifications or rules we set in place to help achieve our learning goals.

### B. Medical Considerations

Although you are not obligated to divulge any private information to me, if you have a medical condition that may affect your experience in this course (especially in lab!), you are encouraged to discuss with me what alternate arrangements can be made for your own safety. If you are pregnant or may become pregnant, I recommend you consult with your doctor about being enrolled in this course. A list of chemicals used during the quarter is available upon request so that your doctor can advise you about your participation in lab.

### C. Copyright Statement

Materials in this course are protected by the United States copyright laws. I am the copyright holder of the materials I create, including notes, handouts, slides, and videos. You may make copies of course materials for your own use and you may share the materials with other students enrolled in this course. You may not publicly distribute the course materials without my written permission.

### D. Locker Policy

If you are provided a lab locker for the quarter, you are required to officially check out of that locker, whether you complete the course or not. If you drop the course before the official *add* deadline, your locker may be cleared and reassigned to another student without your being present if there are students on the wait list attempting to add into the course. After the official add deadline, you must check out by the assigned checkout date for the lab section. If you drop or withdraw from the course, you may make arrangements to check out of your locker at an earlier time. Failure to check out of your lab locker by the official checkout date may result in your grades being held and/or a block being placed on your future registration.

### E. Respect for Diversity

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diverse identities (e.g., those based on gender, sexuality, disability, age, socioeconomic status, ethnicity, race, religion, and culture). Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups.

## F. Other Resources

I know you will do the best you can in this; however, it should never be at the expense of your own mental and physical health and your overall well-being. **Your performance in my class does not reflect you as a person.**

De Anza has many resources and programs to support you. These resources may be especially helpful:

- i. **Student Success Center:** <https://www.deanza.edu/studentsuccess/>  
In-person and online peer tutoring available in all areas Monday through Thursday, beginning the second week of the quarter.
- ii. **General Counseling:** <https://www.deanza.edu/counseling/>  
Many **academic programs** and **Learning Communities** have their own counselors. To find a counselor, visit [Our Counselors](#) page. Students who aren't in a specific program should visit the [General Counseling Center](#).
- iii. **Disability Support Programs and Services:** <https://www.deanza.edu/dsps/>  
The mission of Disability Support Programs and Services (DSPS) is to ensure access to the college's curriculum, facilities, and programs, and to promote student success in realizing individual educational and vocational goals. DSPS includes on- and off-campus programs and services offering students with disabilities a comprehensive array of accommodations, educational assistance classes and support services.
- iv. **Mental Health and Wellness Center:** <https://www.deanza.edu/mhwc/>  
The Mental Health and Wellness Center provides up to ten one-on-one individual therapy sessions to registered De Anza students each academic year, from Fall through Spring quarter. Session limits reset every Fall and do not carry over to the following year. During the Summer quarter, students are eligible for up to four individual therapy sessions. For those who may need more than the allotted sessions or are seeking longer-term support, they also offer access to an online therapy service called [Uwill](#).
- v. **Pride Center:** <https://www.deanza.edu/pride-center>  
The Pride Center provides a **safe, supportive and welcoming** space for all students across the gender and sexuality spectrum to build community, find resources and connect with the support needed to thrive in their college experience.
- vi. **Higher Education for AB 540 Students (HEFAS):** <https://www.deanza.edu/hefas/>

HEFAS (Higher Education for AB 540 Students) is an institutional and educational program that provides **free services**, reduces financial stress, and creates a **safe space** for all – with an emphasis on students with an undocumented, low income, or AB 540 status.

**Student Learning Outcome(s):**

- Construct logical multi-step syntheses for organic molecules.
- Use Molecular Orbital theory and Resonance to explain reactions of benzene and other molecules with conjugated  $\pi$  systems.
- Increase breadth of knowledge of organic reactions to include functional groups containing oxygen, benzene and more complex  $\pi$  systems.
- Construct molecular structures of increasingly complex molecules from IR,  $^1\text{H}$  NMR, and  $^{13}\text{C}$  NMR data.

**Office Hours:**

M	1:00 PM - 1:50 PM	S55
W	10:30 AM - 11:20 AM	S55
T	1:00 PM - 1:50 PM	Zoom
TH	4:00 PM - 4:50 PM	Zoom