



# Fundamentals of Organic Chemistry

## Laboratory

Spring, 2022

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Instructor: Mr. Rigel Rilling  
Email: rrilling@angelo.edu  
Phone: 486-6654  
Office: CAV 201B  
Office Hours: W 2:30-5:00, R 11:30-2:00, or by appointment

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## Course Information

### Class Meeting Times

Sec	Days	Time	Instructor	Location
02Z	M	2:00 pm – 4:50 pm	Mr. Rilling	CAV 227/219
03Z	T	2:00 pm – 4:50 pm	Mr. Rilling	CAV 227/219

### Required Texts and Materials

**Equipment:** Safety Goggles, pen or pencil, calculator (phone calculator will work)

### Technology Requirements

**Blackboard:** The Blackboard course management system will be used to distribute procedures for the labs, and to turn in lab reports and assignments.

### Course Description

Required laboratory experiences to supplement Chemistry 2353. Effective fall 2011 credit may not be applied to a major or minor in chemistry.

### Co-requisite

Chemistry 2353 or concurrent enrollment.

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## Laboratory Dress

Beginning on the first day of lab, everyone **MUST** have approved goggles, long sleeves, long pants, and closed-toed shoes (no sandals, etc.). **Anyone not wearing the appropriate attire will not be allowed into lab.**

## Lab Safety Training

All students enrolled in lab courses are required to take a mandatory Chemical Laboratory Safety Training and Quiz on Blackboard. Some of you have already passed this with a 90% or better; **if so, congratulations, you do not need to take it again!**

For those who have not yet completed it, instructions for completing the quiz are given below:

1. Login to Blackboard, and choose the **course** entitled: "Lab Safety and Chemical Hygiene." (This is NOT the same as our organic lab course.)
2. Under the left-hand menu, choose: "Get Started Here".
3. Click on "Get Started Here" in the left-hand column.
4. Follow the instructions under "Welcome to Lab Safety and Chemical Hygiene Training!"
5. You must score 90% or higher on the lab safety quiz.
6. The Lab Safety Training **must** be completed by the evening of Sunday, January 23.

## Course Delivery

Each lab period we will meet in Cavness 219 to discuss the requisite background knowledge and procedure, as well as any special safety guidelines needed. We will then move to Cavness 227, where we will actually complete the lab.

Pre-labs and lab reports will be turned in via Blackboard.

As we will be meeting in person during an active pandemic, we strongly encourage (but do not require) masks and respecting personal space during lab to the greatest extent possible. Fortunately the laboratory is well-ventilated, organic vapors being what they are.

Please refer to this [Health and Safety web page](#)<sup>1</sup> for updated information about campus guidelines as they relate to the COVID-19 pandemic.

## Communication

I will hold regular face-to-face office hours, with mask and social distancing policies applied. I will try to respond to e-mail within 24 hours during working hours Monday through Friday. If you send me a message on the weekend, I may not be able to respond until Monday. If you e-mail me, make sure to include the course number in your subject line.

Check your e-mail and the Blackboard page for this course frequently for announcements and policy changes. I will be sending out regular announcements via Blackboard; I usually send these announcements out via e-mail as well, but you should also be able to view these messages on the "Announcements" section on Blackboard.

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# Grading

## Evaluation and Grades

This is a one-credit class which is *separate* from the lecture course; i.e., the lab grade is not included as a part of the lecture course grade. There will be 13 experiments in this course. Each lab report will be worth 100 pts., including 5 points for lab performance and technique. The final grade will be obtained by averaging the scores from the individual labs. (The lowest score will be dropped.)

## Grading System

The following grading scale is in use for this course:

A = 90.0-100%

B = 80.0-89.9%

C = 70.0-79.9%

D = 60.0-69.99%

F = 00.0-59.9%

## Lab Procedures

The procedures for each experiment will be made available on Blackboard the week before the scheduled date for the lab. It is your responsibility to download and print out the procedure and lab report forms for each lab.

## Attendance / Class Participation / Makeup Policy

Labs which have been missed for valid reasons must be made up *no later than one week following the absence*. (**The lowest lab grade will be dropped**, so if you miss one lab, that will count as the dropped grade.)

## Cleanup Policy

Clean up your bench before leaving; make sure that the gas and water are turned off, and hotplates are unplugged. If the microscale kits are used, these kits must be returned with ALL of the glassware clean and dry. Five points will be deducted from the lab report grade for every piece of glassware which is missing, damaged, or dirty. **If the hoods and balances are left dirty at the end of the period, or reagents are left uncapped, lab performance points will be deducted from the entire class!**

## Withdrawal from the course

Anyone dropping this class on or before **Thursday, April 28, 2022** will receive a grade of W. **No drops are allowed after this date.** If you need to drop the class, it is your responsibility to obtain the instructor's signature on any drop slip prior to that date.

## Student Learning Outcomes

Upon completion of this course, students will be able to:

- Understand how to work with chemicals safely.
- Perform several basic types of chemical purification procedures (distillation, recrystallization, etc).
- Understand the effect that the structure of a compound has on its physical properties.
- Perform several fundamental types of reactions involving organic chemicals.
- Be able to calculate theoretical and percent yields of chemical reactions.

## Course Schedule

	Week of	Experiment
1	1/18	Lab does not meet—read through syllabi, complete BB safety quiz
2	1/24	Lab Orientation and Safety Discussion
3	1/31	Experiment 1: Identification of an Unknown Solid by Melting Range
4	2/7	Experiment 2: Simple Distillation of an Organic Liquid
5	2/14	Experiment 3: Steam Distillation of Limonene
6	2/21	Experiment 4: Recrystallization of Acetanilide
7	2/28	Experiment 5: Isolation of Trimyristin from Nutmeg
8	3/7	Experiment 6: Paper Chromatography of Amino Acids
9	3/14	SPRING BREAK—NO LABS!
10	3/21	Experiment 7: Dehydration of Cyclohexanol
11	3/28	Experiment 8: Nitration of Methyl Benzoate
12	4/4	Experiment 9: Reduction of Camphor to Isoborneol
13	4/11	Experiment 10: Preparation of Aspirin
14	4/18	Experiment 11: Preparation of Soap
15	4/25	Experiment 12: Polymers — Nylon and Slime
16	5/2	Experiment 13: Supercritical CO <sub>2</sub> Extraction & Lab Cleanup
17	5/9	NO EXPERIMENT, good luck on your exams!

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## General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)<sup>2</sup>
- [Angelo State University Catalog](#)<sup>3</sup>

### Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#).<sup>4</sup>

### Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at [ADA@angelo.edu](mailto:ADA@angelo.edu). For more information about the application process and requirements, visit the [Student Disability Services website](#).<sup>5</sup> The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
[dallas.swafford@angelo.edu](mailto:dallas.swafford@angelo.edu)  
Houston Harte University Center, Room 112

### Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would

keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)<sup>6</sup> for more information.

## **Plagiarism**

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)<sup>7</sup> in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](#).<sup>8</sup>

## **Student Absence for Observance of Religious Holy Days**

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](#)<sup>9</sup> for more information.

## **Title IX at Angelo State University**

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Miller, J.D.

Special Assistant to the President and Title IX Coordinator

Mayer Administration Building, Room 210

325-486-6357

[michelle.boone@angelo.edu](mailto:michelle.boone@angelo.edu)

**You may also file a report online 24/7 at [the online incident reporting form](#).<sup>10</sup>**

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345

For more information about Title IX in general you may visit [the Title IX page](#).<sup>11</sup>

## **Use of Masks/Facial Coverings by Students**

Pursuant to a gubernatorial executive order effective 5/21/2021, the university is prohibited on penalty of fines to mandate mask wearing. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, students in this class are encouraged (but not required) to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily wellness screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability.

Please refer to ASU's [Coronavirus \(COVID19\) Updates](#)<sup>12</sup> web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

## **Modifications to the Syllabus**

This syllabus, including grade evaluation and course schedules, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

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<sup>1</sup> <https://www.angelo.edu/covid-19/returning-to-campus/health-and-safety.php>

<sup>2</sup> <https://www.angelo.edu/current-students/student-handbook/>

<sup>3</sup> <https://www.angelo.edu/academics/catalog/>

<sup>4</sup> <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=96>

<sup>5</sup> <https://www.angelo.edu/current-students/disability-services/>

<sup>6</sup> <https://angelo.policystat.com/policy/10659448/latest/>

<sup>7</sup> <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>

<sup>8</sup> [https://www.angelo.edu/current-students/writing-center/academic\\_honesty.php](https://www.angelo.edu/current-students/writing-center/academic_honesty.php)

<sup>9</sup> <https://angelo.policystat.com/policy/10659368/latest/>

<sup>10</sup> <https://www.angelo.edu/incident-form>

<sup>11</sup> <https://www.angelo.edu/current-students/title-ix/>

<sup>12</sup> <https://www.angelo.edu/covid-19/>