

**Instructor:** Dr. Ananda Amarasekara  
**Section # and CRN:** **Advance Organic Chemistry -12234, CHEM 5240 - P01**

**Office Location:** 230F **Science Building**  
**Office Phone:** 936-261-3107  
**Email Address:** asamarasekara@pvamu.edu  
**Office Hours:**  
**Mode of Instruction:** Face to Face

**Course Location:** **Science Building, 216** ( or a room available in 1st floor)  
**Class Days & Times:** **T 5:00 PM – 6:50 PM, Aug 21 to Dec 07, Fall 2023**  
**Catalog Description:** **Advance Organic Chemistry** . For chemistry graduate students  
 Advanced organic synthesis course in synthetic methods used in the preparation of complex organic molecules.

**Prerequisites:** none  
**Co-requisites:** none

**Required Texts:** Advanced Organic Chemistry: Part B: Reactions and Synthesis *by Francis A. Carey, Richard J. Sundberg* Publisher: Springer-Verlag New York, Edition 5 or 4

**Recommended  
Texts:**

**Student Learning Outcomes:**

	Upon successful completion of this course, students will be able to:	Program Learning Outcome # Alignment	Core Curriculum Outcome Alignment
1	understand the c-c bond forming methods	2	Critical thinking
2	learn alkylation of c using acidic hydrogens	2	Critical thinking
3	learn alkylation of enolates, and use of bases to produce enolates	2	Critical thinking
4	Metal catalyzed alkylation of alkenes	2	Critical thinking
5	Cyaloaddition reactions- Diels Alder related reactions	2	Critical thinking
6	Retrosynthesis of complex molecules	2	Critical thinking
7			

## Major Course Requirements

### Method of Determining Final Course Grade

Course Grade Requirement	Value
1) Exam 1	100
2) Exam 2	100
3) Project - Research report on reaction mechanisms of a total synthesis	100
4) Final exam	200
5)	
6)	
7)	
8)	

**Total: 500**

### Grading Criteria and Conversion:

A = > 90

B = 89 – 80

C = 79 – 70

D = 69 – 60

F = < 59

**Detailed Description of Major Assignments:** no assignments or projects

**Assignment Title or**

**Grade Requirement**

**Description**

## Semester Calendar

**Week 1:** Topic  
Chapter (s):  
Assignment (s):  
**Week 2:** Topic  
Chapter (s):  
Assignment (s):  
**Week 3:** Topic  
Chapter (s):  
Assignment (s):  
**Week 4:** Topic  
Chapter (s):

Assignment (s):  
**Week 5:** Topic

Chapter (s):  
Assignment (s):  
**Week 6:** Topic  
Chapter (s):  
Assignment (s):  
**Week 7:** Topic  
Chapter (s):  
Assignment (s):  
**Week 8:** Topic  
Chapter (s):  
Assignment (s):  
**Week 9:** Topic  
Chapter (s):  
Assignment (s):

**Week 10:** Topic  
Chapter (s):

Assignment (s):  
**Week 11:** Topic  
Chapter (s):  
Assignment (s):  
**Week 12:** Topic  
Chapter (s):  
Assignment (s):  
**Week 13:** Topic  
Chapter (s):  
Assignment (s):  
**Week 14:** Topic  
Chapter (s):  
Assignment (s):  
**Week 15:** Topic  
Chapter (s):

Assignment (s):  
**Week Sixteen**  
Final Exam

Alkylation of enolates and other carbon nucleophiles.  
Reactions of carbon nucleophiles with carbonyl compounds.  
Functional group interconversions  
Electrophilic addition to C-C multiple bonds.  
Reduction of C-C multiple bonds and carbonyl compounds  
Cycloaddition reactions, rearrangements and eliminations.  
Mechanisms of these reactions.  
Selected organometallic compounds and their reactions in organic chemistry.  
Reactions of aromatic compounds  
Multistep synthesis  
Alkylation of enolates and other carbon nucleophiles.  
Reactions of carbon nucleophiles with carbonyl compounds.  
Functional group interconversions  
Electrophilic addition to C-C multiple bonds.  
Reduction of C-C multiple bonds and carbonyl compounds  
Cycloaddition reactions, rearrangements and eliminations.  
Mechanisms of these reactions.  
Selected organometallic compounds and their reactions in organic chemistry.  
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Alkylation of enolates and other carbon nucleophiles.  
Reactions of carbon nucleophiles with carbonyl compounds.  
Functional group interconversions  
Electrophilic addition to C-C multiple bonds.  
Reduction of C-C multiple bonds and carbonyl compounds  
Cycloaddition reactions, rearrangements and eliminations.  
Mechanisms of these reactions.

## University Rules and Procedures

### Academic Misconduct

Academic dishonesty is defined as any form of cheating or dishonesty that has the effect or intent of interfering with any academic exercise or fair evaluation of a student's performance. The college faculty can provide additional information, particularly related to a specific course, laboratory, or assignment.

You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with the *University Administrative Guidelines on Academic Integrity*, which can be found on the [Academic Integrity webpage](#). Students who engage in academic misconduct are subject to university disciplinary procedures. As listed in the *University Administrative Guidelines on Academic Integrity*, the University Online Catalog, and the Student Code of Conduct, the following are examples of prohibited conduct. This list is not designed to be all-inclusive or exhaustive. In addition to academic sanctions, any student found to have committed academic misconduct that is also a violation of criminal law may also be subject to disciplinary review and action by the Office of Student Conduct (as outlined in the Student Code of Conduct).

### Forms of Academic Dishonesty:

1. Cheating: Deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not learned, giving or receiving aid unauthorized by the instructor on assignments or examinations. Examples: unauthorized use of notes for a test; using a "cheat sheet" on a quiz or exam; any alteration made on a graded test or exam which is then resubmitted to the teacher;
2. Plagiarism: Careless or deliberate use of the work or the ideas of another; representation of another's work, words, ideas, or data as your own without permission or appropriate acknowledgment. Examples: copying another's paper or answers, failure to identify information or essays from the internet and submitting or representing it as your own; submitting an assignment which has been partially or wholly done by another and claiming it as yours; not properly acknowledging a source which has been summarized or paraphrased in your work; failure to acknowledge the use of another's words with quotation marks;
3. Collusion: When more than one student or person contributes to a piece of work that is submitted as the work of an individual;
4. Conspiracy: Agreeing with one or more persons to commit an act of academic/scholastic dishonesty; and
5. Multiple Submission: Submission of work from one course to satisfy a requirement in another course without explicit permission. Example: using a paper prepared and graded for credit in one course to fulfill a requirement and receive credit in a different course.

### PVAMU's General Statement on the Use of Generative Artificial Intelligence Tools in the Classroom

Generative Artificial Intelligence (GAI), specifically foundational models that can create writing, computer code, and/or images using minimal human prompting, are increasingly becoming pervasive. Even though ChatGPT is one of the most well-known GAIs currently available, this statement includes any and all past, current, and future generations of GAI software. Prairie View A&M University expects that all work produced for a grade in any course, be it face-to-face or virtual, will be the sole product of a student's endeavors to meet those academic goals. However, should an instructor permit their students to use artificial intelligence as a resource or tool, students must not substitute the substance of their original work with the results of using such GAI tools. This clearly violates the [University's Administrative Guidelines on Academic Integrity](#) and its underlying academic values.

### Nonacademic Misconduct

The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the ability of other students to profit from the instructional program, or (3)

campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. The Office of Student Conduct will adjudicate such incidents under nonacademic procedures.

### Sexual Misconduct

Sexual harassment of students and employees at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating the university's sexual harassment policy will be subject to disciplinary action. In accordance with the Texas A&M University System guidelines, your instructor is obligated to report to the Office of Title IX Compliance ([titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu)) any instance of sexual misconduct involving a student, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which the instructor becomes aware during this course through writing, discussion, or personal disclosure. The faculty and staff of PVAMU actively strive to provide a learning, working, and living environment that promotes respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like assistance or have questions, they may contact the Title IX Coordinator, Dr. Zakiya Brown, at 936-261-2144 or [titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu). More information can be found at [Title XI Website](#), including confidential resources available on campus.

### Protections and Accommodations for Pregnant and Parenting Students

The U.S. Department of Education's Office for Civil Rights (OCR) enforces, among other statutes, Title IX of the Education Amendments of 1972. Title IX protects people from discrimination based on sex, sexual orientation, and gender identity in education programs or activities that receive federal financial assistance. This protection includes those who may be pregnant and parenting. Title IX states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Students seeking accommodations related to pregnancy or parenting should contact the Office of Title IX for information, resources, and support at [titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu). Additional information and/or support may be provided by the Office of Disability Services or the Office of the Dean of Students.

### Non-Discrimination Statement

Prairie View A&M University does not discriminate on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or gender identity in its programs and activities. The University is committed to supporting students and complying with The Texas A&M University System non-discrimination policy. It seeks to establish an environment that is free of bias, discrimination, and harassment. If you experience an incident of discrimination or harassment, we encourage you to report it. If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are individuals who can meet with you. The Director of Equal Opportunity & Diversity has been designated to handle inquiries regarding the non-discrimination policies and can be reached at Harrington Science Building, Suite 109, or by phone at 936-261-1744 or 1792.

### Class Attendance Policy (See the University Online Catalog for Full Attendance Policy)

Prairie View A&M University requires regular class attendance. Attending all classes supports the full academic development of each learner, whether classes are taught with the instructor physically present or via distance learning technologies such as interactive video and/or the Internet. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in the assignment of a grade of "F." Absences are accumulated beginning with the first day of class during regular semesters and summer terms. Each faculty member will include the University's attendance policy in each course syllabus.

### Makeup Work for Legitimate Absences

Prairie View A&M University recognizes that there are a variety of legitimate circumstances in which students will miss coursework and that accommodations for makeup work will be made. If a student's absence is **excused**, the instructor must either provide the student an opportunity to make up any quiz, exam, or other work contributing to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. Students are encouraged to work with instructors to complete makeup work before known scheduled absences (University-sponsored events, administrative proceedings, etc.). Students are responsible for planning their schedules to avoid excessive conflicts with course requirements.

### Absence Verification Process

All non-athletic absences (e.g., Medical, Death/Funeral, Court/Legal-related, etc.) for which a student seeks to obtain a valid excuse must be submitted to the Dean of Students/Office of Student Conduct, with supporting documentation, for review and verification. Please use the [Online Reporting Forms](#) to access/complete/submit the *Request for a University Excused Absence* form for an excuse. Upon receipt, a staff member will verify the documentation and provide an official university excuse, if applicable. The student is responsible for providing the official university excuse issued by the Office for Student Conduct to the professor(s). Questions should be directed to the Dean of Students via email: [deanofstudents@pvamu.edu](mailto:deanofstudents@pvamu.edu) or phone: (936) 261-3550 or Office for Student Conduct via email: [studentconduct@pvamu.edu](mailto:studentconduct@pvamu.edu) or phone: (936) 261-3524.

### Student Academic Appeals Process

Authority and responsibility for assigning grades to students rest with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the University Online Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

### Technical Considerations

#### **Minimum Recommended Hardware and Software:**

- Intel PC or laptop with Windows 10 or later version; Mac with OS Catalina
- Smartphone or iPad/tablet with wi-fi\*
- High-speed internet access
- 8 GB memory
- Hard drive with 320 GB storage space
- 15" monitor, 1024 x 768, color
- Speakers (internal or external)
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, or Firefox

**Note:** Be sure to enable Java & pop-ups in the web browser preferences

\* Some courses may require remote proctoring. At this time only Chromebooks, laptops, and desktops running Windows or Mac work with our proctoring solution, but iPads are not compatible. Most other applications will work with Android or Apple tablets and smartphones.

#### **Participants should have a basic proficiency of the following computer skills:**

- Sending and receiving email
- A working knowledge of the Internet
- Microsoft Word (or a program convertible to Word)
- Acrobat PDF Reader
- Windows or Mac OS
- Video conferencing software (Zoom)

### *Netiquette* (online etiquette)

Students are expected to participate in all discussions and virtual classroom chats as directed. Students are to be respectful and courteous to others on discussion boards. Foul or abusive language will not be tolerated. Do not use ALL CAPS for communicating to others AS IT CAN BE INTERPRETED AS YELLING. Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you." Limit and possibly avoid the use of emoticons. Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post, and the message might be taken seriously or sound offensive.

### Video Conferencing Etiquette

When using Zoom, WebEx, or other video conferencing tools, confirm the visible area is tidy, clear of background clutter, inappropriate or offensive posters, and other distractions. Ensure you dress appropriately and avoid using high traffic or noisy areas. Stay muted when you are not speaking and avoid eating/drinking during the session. Before the class session begins, test audio, video, and lighting to alleviate technology issues.

## Technical Support

Students should go to [Password Reset Tool](#) if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Center for Instructional Innovation and Technology Services at 936-261-3283 or email [ciits@pvamu.edu](mailto:ciits@pvamu.edu).

## Communication Expectations and Standards

Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

## Discussion Requirement

Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can occur in a seminar fashion. The use of the discussion board will accomplish this. The instructor will determine the exact use of discussion boards.

**It is strongly suggested** that students type their discussion postings in a word processing application such as Word and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, copy and paste to the discussion board.

## COVID-19 Campus Safety Measures

In accordance with the latest guidelines from the PVAMU Health Services, the following measures are in effect until further notice.

- Students who are ill will be asked to adhere to best practices in public health, such as masking, handwashing, and social distancing, to help reduce the spread of illness across campus.
- Mandatory self-reporting will no longer be required by students. Students will be responsible for communicating with their professors regarding COVID, similarly to any other illness.
- There will be no mandatory isolation. Students who are too ill to engage in classroom activities will be responsible for securing the appropriate documentation to support the absence.
- Students who self-isolate will be responsible for communicating with their professors and securing an excuse from Student Conduct.
- All students will have access to [TimelyCare](#), a telehealth platform that provides virtual medical care 24/7 and by appointment in the Student Health Clinic. Students are encouraged to enroll with TimelyCare at the beginning of the semester, at [timelycare.com/pvamu](https://timelycare.com/pvamu).
- Students will have access to COVID testing in the Student Health Clinic by appointment. Testing is for students who are symptomatic ONLY.