



TEXAS A&M UNIVERSITY  
**COMMERCE**

**CHEM 490 Honors Thesis  
Spring 2022**

**Instructor:** Dr. Stephen D. Starnes

**Time & Location:** To be arranged with the student

**Office & Phone:** Science 339 903-886-5389

**Office Hours:** MWF: 12:00 - 1:00 pm or by appointment, R: 2:00 - 3:30 pm

**E-mail Address:** [stephen.starnes@tamuc.edu](mailto:stephen.starnes@tamuc.edu)

**COURSE INFORMATION AND REQUIREMENTS**

**Course Description:** The purpose of this class is to train you to conduct research in a chemistry laboratory and produce an honors thesis. This includes all aspects of the research process: development of a research question and the methods and/or experimental procedures to study that question, how to conduct scientific experiments, data analysis and interpretation, and scientific technical writing. The class is conducted through informal meetings with Professor Starnes. The goal of the class is to successfully propose, conduct, and defend your honors thesis project. Beyond meeting to discuss research, you will be asked to conduct library research, conduct research, maintain a quality laboratory notebook, and write research reports. Data analysis and report writing skills are important aspects for interpreting the laboratory research and producing technically written, scientific reports. Over the duration of the thesis work you will be expected to apply a range of instrumental and data analysis techniques and you will refine report writing skills all of which are needed to interpret laboratory research and produce technical scientific reports. You will become familiar with NMR, UV/Vis, Computational Chemistry experimental techniques and the use of SciFinder, Web of Knowledge and Endnote for searching and collecting scientific literature related to your project and developing a bibliography. You will also be required to develop your critical reading skills of research papers, which will further help you develop your technical writing skills.

All class members must complete Responsible Conduct in Research & Scholarship training and provide a copy of the certificate of completion to Professor Starnes. The training is online and takes about 10 hours to complete. The training can be found at the below website: <http://www.tamuc.edu/research/responsibleConduct.aspx>

**Texts and Other Necessities:** No texts required; student and professor will use sources as needed for thesis.

**University Catalog Description:** No description; a thesis readings course work load and assignments are determined by the student's topic and advisor's guidance.

**Student Learning Outcomes:** Upon completing selected readings, the student will produce and defend an honors thesis proposal. If the student does not complete and defend the thesis during the Spring 2015 semester, the instructor will assign a grade of "I" and the student will defend the proposal in a subsequent semester.

Through the process of developing a thesis proposal and subsequently conducting the work to produce the thesis, the student will gain the necessary skills involved in conducting organic chemistry-related research and computational scientific research. The skills will include organic synthesis techniques, computational chemistry, oral presentations,

report writing, critical reading of literature, chemical database searching and review of the literature. During the thesis work, the student will develop the skills and material needed for writing a technical research report. The database searching portion of the thesis work will familiarize the student with the software tools of Web of Science, SciFinder, and Endnote. The instrumental analysis portion of the thesis work will cover nuclear magnetic resonance spectroscopy (NMR), infrared spectroscopy (IR), ultra-violet and visible (UV-VIS) spectroscopy, polarimetry, and may include fluorescence spectroscopy and circular dichroism spectroscopy. The computational portion of the thesis work will use the Spartan software package on the computer cluster for exploring a range of chemical properties.

## **TECHNOLOGY REQUIREMENTS**

### **LMS – myLeo Online – D2L Brightspace**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## **ACCESS AND NAVIGATION**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## **COMMUNICATION AND SUPPORT**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### **Interaction with Instructor Statement**

The best way to communicate with the instructor is via e-mail: [stephen.starnes@tamuc.edu](mailto:stephen.starnes@tamuc.edu) or stop by the instructor's office (Science 339) for clarification of course material and expectations.

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### **University Specific Procedures**

#### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

### **TAMU-C Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).  
<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>  
<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:  
[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)  
<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)