# Undergraduate Research III

**The University of Toledo**

**Department of Chemistry and Biochemistry**

**College of Natural Sciences and Mathematics**

**CHEM 4910-001, 091 (CRN: 11221, 11222)**

**Instructor**: Jon R. Kirchhoff

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**Office Hours**: M, W 9:30-11 am; T 2-3 pm and by appointment

**Office Location**: BO 2024

**Instructor Phone**: (419) 530-1592

**Offered**: Spring 2021

**Course Website**: n/a

**Class Location**: BO/WO Laboratories **Class Day/Time**: schedule with research advisor

**Lab Location**: n/a

**Lab Day/Time**: schedule with research advisor

**Credit Hours**: 1-3

**SPECIAL UNIVERSITY COURSE EXPECTATIONS DURING COVID-19**

**ATTENDANCE**

Students must perform a daily health assessment, based on based on [**CDC guidelines**](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)**,** before coming to campus each day, which includes taking their temperature. Students who are symptomatic/sick should not come to class and should contact the Main Campus Health Center at 419-530-3451.  Absences due to COVID-19 quarantine or isolation requirements are considered excused absences. Students should notify me as soon as possible. These absences may not require written notice. **Each laboratory researcher must complete a Commitment to Public Health Form and understand the Research Operation Plan for the laboratory prior to beginning work (see below).**

**FACE COVERINGS**

All students must wear face coverings while on campus, except while eating, alone in an enclosed space, or outdoors practicing social distancing. No students will be permitted in class without a face covering. If you have a medical reason that prevents you from wearing a face covering due to a health condition deemed high-risk for COVID-19 by the Centers for Disease Control and Prevention (CDC), you should submit a request for an accommodation through the Student Disability Services Office (SDS) by completing the [online application](https://teton.accessiblelearning.com/Toledo/). Students will need to provide documentation that verifies their health condition or disability and supports the need for accommodations. If a student is already affiliated with SDS and would like to request additional accommodations due to the impact of COVID-19, they should contact their accessibility specialist to discuss their specific needs.  

**SOCIAL DISTANCING**

Students should practice social distancing inside and outside the classroom. Please follow signage and pay attention to the seating arrangements. Do not remove stickers or tape from seats and/or tables; these items are there to provide guidance on the appropriate classroom capacity based on the recommended six (6) feet of social distancing between individuals. Please be conscious of your personal space and respectful of others. Also be cognizant of how you enter and exit the room; always try to maintain at least six (6) feet of distance between yourself and others.

**DESKS AND WORK SPACES**

Each laboratory has a specific Research Operation Plan that each researcher must read, understand andfollow. Each Research group leader is required to explain the plan and specific lab guidelines and cleaning/disinfecting protocols. Each lab will have slightly different guidelines depending on the nature of the research being conducted. Any questions should be directed to the Research Group Leader.The UToledo Research and Sponsored Programs website also has valuable COVID-19 related information related to research activities. (<https://www.utoledo.edu/research/rsp/coronavirus/>)

**SPECIAL NOTES**

It is important to note that based on the unpredictability of the COVID-19 virus things can change at any time so please be patient and understanding as we move through the semester. Please keep me informed of concerns you may have about class, completing course work/assignments timely and/or health concerns related to COVID.

**COURSE SPECIFIC INFORMATION**

**CATALOG/COURSE DESCRIPTION**

Thesis level research under the guidance of a faculty member. May be repeated. A minimum of three hours and an acceptable thesis required for credit toward the B.S. major. A maximum accumulated credit of 10 hours in CHEM 2910, 3910 and 4910 may be applied toward a degree. A written report is required. May be taken only as P/NC.

**COURSE OVERVIEW**

Students will conduct research in an area of chemistry in the laboratory of a faculty advisor from the Department of Chemistry and Biochemistry. Students should view the department web page and identify faculty whose research interests match their interest. They should then contact the faculty member(s) and make an appointment to discuss research opportunities in their lab. Once a faculty advisor is selected, the student and faculty advisor will formalize a schedule and specific learning outcomes for the assigned project. Typically, 3 hours of research time in the laboratory per credit hour is required per week.

## **STUDENT LEARNING OUTCOMES**

## Students will learn specific laboratory techniques, the operation of scientific instrumentation, and the chemistry knowledge specific to the assigned project, including safe laboratory practices and chemical safety. For detailed safety information, see https://www.utoledo.edu/depts/safety/.

**TEACHING STRATEGIES**

## Students will conduct hands on research in a laboratory setting under the direction of a faculty member and graduate students.

Students will communicate directly with their research advisor on research specific questions. The course coordinator is available for all general questions.

**PREREQUISITES AND COREQUISITES**

Prerequisite: GPA (overall and in chemistry courses) above 2.5 and permission of department Corequisite: CHEM 3740 or 4570

**TEXTS AND ANCILLARY MATERIALS**

Approved chemical safety goggles meeting the American National Standard Z87.1-1968 are required. Research Group Leaders will provide information specific to the research project.

**TECHNOLOGY REQUIREMENTS**

Computer access to the internet will be necessary for literature research, data analysis and report writing.

**ACADEMIC POLICIES**

All students at the University of Toledo are expected to read, understand, and follow the academic policies that govern their attendance at the University. These policies include, but are not limited to, academic dishonesty, academic forgiveness, adding and dropping a course, grades and grading, and the missed class policy. Please use the following URL to read a comprehensive list of academic policies that pertain to you in this class and throughout your academic journey. If you have any questions after reading through the policies, please let me know.

[**Undergraduate Policies**](http://www.utoledo.edu/policies/academic/undergraduate/)**:** <http://www.utoledo.edu/policies/academic/undergraduate/>

**COURSE EXPECTATIONS**

In consultation with their faculty advisor, it is expected that students create a regular schedule for continuous research activity throughout the semester to ensure timely completion of their project goals. Regular communication with the research supervisor is essential to maintain progress.

**Academic Honesty:** Ethical practices for conducting research will be strictly enforced.

**OVERVIEW OF COURSE GRADE ASSIGNMENT**

The faculty research advisor will provide the department’s coordinator of undergraduate research (course coordinator listed on front) a recommendation for a grade in the class. The class is graded as Pass or No Credit. A grade of Pass indicates the student has met the expectations for regular or Honors research as set forth by the faculty member.

**Midterm Grading**

Midterm grades are assigned the 8th week of class and are used to assist students with determining their academic standing. Attendance is also recorded during the 8th week to meet state and federal laws regarding financial aid disbursement. Please note, if you are not attending class it could affect your financial aid (scholarships, grants, loans or Federal Work Study). If you decide you are not going to attend this class (or any other class you have registered for), you must formally withdraw (drop) from the course. You can do this by logging on to the myUTportal, clicking on the “Student” tab, and then under “MyToolkit” clickon Register/Drop/Withdraw.

**Drop, Withdrawal, and Incomplete Grades:** Course drop and withdrawal procedures have been set by the University faculty. Pay attention to the add/drop dates as they pass very quickly during the semester. Dates can be found at <https://www.utoledo.edu/offices/registrar/registration_dates_fall.html>

**The last day to withdraw from a course is Friday March 26, 2021.** Please note that course registration changes might change your financial aid.

A course grade of incomplete is given only to those who have completed all but a small percentage of course requirements for an unexpected and acceptable reason.

**UNIVERSITY POLICIES**

Students can find a summary of university policies listed by audience on the [University Policy webpage](http://www.utoledo.edu/policies/audience.html/#students) (<http://www.utoledo.edu/policies/audience.html/#students>) and (<https://www.utoledo.edu/title-ix/policies.html>).

**Policy Statement on Non‐Discrimination.** The University is an equal opportunity educational institution. Please read the relevant policies related to non-discrimination.

* Nondiscrimination 3364-50-02
* Nondiscrimination on the basis of disability - Americans with Disability Act (ADA) 3354-50-03

**Policies for Student Safety.** Your safety and well-being as a University of Toledo student is important to the faculty, staff, and administration. Please review the following policies:

* Student Code of Conduct 3364-30-04
* The University of Toledo's Title IX (Sexual Misconduct) Policy - 3364-50-01
* Consensual romantic and/or sexual relationships - Policy 3364-25-65

**Academic Accommodations.** The University of Toledo embraces the inclusion of students with disabilities. We are committed to ensuring equal opportunity and seamless access for full participation in all courses. For students who have an accommodations memo from Student Disability Services, I invite you to correspond with me as soon as possible so that we can communicate confidentially about implementing accommodations in this course. For students who have not established affiliation with Student Disability Services and are experiencing disability access barriers or are interested in a referral to healthcare resources for a potential disability or would like information regarding eligibility for academic accommodations, please contact the [Student Disability Services Office](http://www.utoledo.edu/offices/student-disability-services/index.html)

(http://www.utoledo.edu/offices/student-disability-services/) by phone: 419.530.4981 or email at [StudentDisability@utoledo.edu](mailto:StudentDisability@utoledo.edu).

## **ACADEMIC AND SUPPORT SERVICES**

## Please follow this link to view a comprehensive list of [Student Academic and Support Services](http://www.utoledo.edu/studentaffairs/departments.html) (http://www.utoledo.edu/studentaffairs/departments.html) available to you as a student.

The university provides a variety of academic and support services on campus to help you succeed and reach your fullest potential. Whether you need to ask a question, get help with an assignment, seek advice from a counselor, find a job or join a club, UToledo is there for you! Examples of some of the resources for academic support or service are:

Tutoring: <http://www.utoledo.edu/success/lec/>

Library: <http://www.utoledo.edu/library/>

Success Coaching: <https://www.utoledo.edu/successcoach/>

Student Affairs: <http://www.utoledo.edu/studentaffairs/>

Career Services: <http://www.utoledo.edu/success/career/>

**SAFETY AND HEALTH SERVICES FOR UTOLEDO STUDENTS**

Please use the following link to view a comprehensive list Campus Health and Safety Services available to you as a student. <https://www.utoledo.edu/offices/provost/utc/docs/CampusHealthSafetyContacts.pdf>. One example is the food pantry.

**Food Pantry:** <http://www.utoledo.edu/studentaffairs/food-pantry/>

**INCLUSIVE CLASSROOM STATEMENT**

In this class, we will work together to develop a learning community that is inclusive and respectful. Our diversity may be reflected by differences in race, culture, age, religion, sexual orientation, gender identity/expression, socioeconomic background, and a myriad of other social identities and life experiences. We will encourage and appreciate expressions of different ideas, opinions, and beliefs so that conversations and interactions that could potentially be divisive turn, instead, into opportunities for intellectual and personal development.

**COURSE SCHEDULE**

To be determined in consultation with the faculty research advisor.