Chemistry 6940/8940 Scientific Communication
Fall 2019
The University of Toledo
College of Natural Sciences and Mathematics
Department of Chemistry & Biochemistry
CHEM 6940-001, CHEM 8940-001

Class Location: Bowman-Oddy Laboratories 2059
Class Day/Time: Fri 2:00-3:40 pm
Credit Hours: 1
Prerequisites/Corequisites: None

Instructors: Dr. Joseph Schmidt  
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  419-530-1512
Dr. Xiche Hu  
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419-530-1513

Office Hours: TR 11:00 am – 1:30 pm  
MW 3:00 - 4:00 pm

Catalog Description:
Instruction on different modes of scientific communication: written communication, oral presentation, and research proposals, to enable students to think and converse competently in the language of science.

Student Learning Outcomes:
Upon completion of the course, students will
- Be familiar with methods for searching the chemical and biochemical literature and databases.
- Understand ethical responsibilities associated with scientific communication.
- Understand fundamental principles of clear writing and how to apply those principles to specific formats (research papers and proposals).
- Gain practical experience in literature searching, critical evaluation of published research, writing drafts, peer review, revision and oral presentations.

Teaching Strategies:
The learning outcomes will be accomplished through completion of assigned readings, student participation in discussion of topics from readings and lectures, lectures and presentations by instructors, and practical exercises (writing, reviewing, revising, oral presentation).

Course Materials:
There are no required textbooks or other materials to purchase. Readings for each class will be handed out in class and/or posted or linked to on the course Blackboard page. The resources used in the class will include the following:
If students wish to obtain additional resources to help with improving their skills as a writer or to use as references, there are many excellent books that can help writers improve their craft. Here are a few possibilities:


**COURSE EXPECTATIONS:**

- Students are expected to attend all scheduled class meetings.
- Students should arrive on time for class, and prepared to discuss readings and other assignments.
- Each assignment should be turned in on time at the beginning of class on the day it is due. Late assignments will be accepted only under extenuating circumstances, and credit will be deducted for each day an assignment is late.
- Plagiarism is a serious violation of academic honesty and will not be tolerated. This topic will be discussed exhaustively during the lectures on Ethical Issues in Science.

**GRADING**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage of Grade</th>
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<tbody>
<tr>
<td>Attendance, preparation and class participation</td>
<td>10% of course grade</td>
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<tr>
<td>Writing assignment 1: Short narrative essay</td>
<td>10%</td>
</tr>
<tr>
<td>Literature search assignment</td>
<td>10%</td>
</tr>
<tr>
<td>Writing assignment 2: Summary and analysis of paper from the primary literature</td>
<td>20%</td>
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<tr>
<td>Writing assignment 3: Mock research paper or proposal</td>
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<tr>
<td>Draft</td>
<td>10%</td>
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<tr>
<td>Peer review of another student's draft</td>
<td>5%</td>
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<tr>
<td>Revision</td>
<td>15%</td>
</tr>
<tr>
<td>10-12 minute oral presentation</td>
<td>20%</td>
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It is understood that students will be coming into this course with a wide range of abilities in expressing themselves clearly in oral and written form. It will not be necessary for a student to become an exceptional writer and presenter by the end of the course to do well in the course. Completing the assignments diligently and on time, participating fully in discussions and workshops, and improving one’s communication skills from the beginning to the end of the course will be the primary considerations in determining the final course grade.

**UNIVERSITY POLICIES**

**Policy Statement on Non-Discrimination on the basis of Disability (ADA)**

The University is an equal opportunity educational institution. Please read the University’s Policy Statement on Nondiscrimination on the Basis of Disability/Americans with Disability Act Compliance.

**Academic Accommodations**

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the Student Disability Services Office.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Major Assignment Due Dates</th>
</tr>
</thead>
</table>
| 8/30 | Course overview  
Types of scientific communication |  |
| 9/6  | The philosophy and methods of science (and writing)  
How to distinguish good scientific writing from bad |  |
| 9/13 | The chemical literature and scientific databases  
Guest Lecturer: Wade Lee, Science Librarian, Carlson Library | Writing assignment #1 due |
| 9/20 | The chemical literature and scientific databases  
Guest Lecturer: Wade Lee, Science Librarian, Carlson Library |  |
| 9/27 | Reading and critically analyzing research papers |  |
| 10/4 | Ethical issues in science – Part One | Literature search assignment due |
| 10/11 | No Class – Fall Break |  |
| 10/18 | How to write good well |  |
| 10/25 | Ethical issues in science – Part Two | Writing assignment #2 due |
| 11/1 | Writing up your results – the research paper |  |
| 11/8 | Writing a research proposal |  |
| 11/15 | Communicating science orally and visually – talks and posters |  |
| 11/22 | Writing workshop | Draft of writing assignment #3 due |
| 11/29 | **No Class – Thanksgiving** | Peer review due Tue 11/26 |
| 12/6 | Student oral presentations |  |
| 12/13 | Student oral presentations | Revised writing assignment #3 due |