

CHEMISTRY 2990 – Spring 2019

Introduction to Chemical Research

Lecture: Monday, 3:00 pm, MP 1008, (1 credit hour)

Please note: this is the inaugural course offering for CHEM 2990. Some items in this syllabus may change if necessary.

Instructor: Dr. Nicole M. Karn

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Office: MP 2029

Office Hours: Fridays 10-11 am

Textbook: **Write Like a Chemist: A Guide and Resource** by Marin Robinson, Fredricka Stoller, Molly Costanza-Robinson. **Available free from the library as an eBook!**

Materials: Additional materials can be found on the course Carmen page.

Prerequisites: CHEM 1220/1620/1920H (General Chemistry 2) and ENGL 1110

Description: A seminar course targeting chemistry majors focusing on the development of professional skills, conducting literature searches, writing research papers, and exploring careers and research options.

Course Goals and Learning Objectives:

Course Goals	Learning Objectives
Students will better understand how a research paper is constructed.	Author a research paper with proper structure, grammar, publication-quality figures, and citations.
Students will improve their skills in conducting literature searches and organizing their references.	Execute a literature search on a research topic. Utilize a reference manager for organizing and building a list of references.
Students will better understand plagiarism and writing ethics.	Discuss the importance of ethical conduct in publications and discuss examples of unethical conduct.
Students will discover the exciting chemical research being conducted at The Ohio State University.	Attend research presentations given by faculty conducting chemical research and explain aspects of their projects.
Students will investigate chemistry career options.	Attend and participate in career discussions.

Disability Services (SLDS): Students with disabilities (including mental health, chronic or temporary medical conditions) that have been certified by the Office of Student Life Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office of Student Life Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 614-292-3307, slds@osu.edu; slds.osu.edu.

Commitment to Diversity: The Department of Chemistry and Biochemistry promotes a welcoming and inclusive environment for all students and staff, regardless of race, gender, ethnicity, national origin, disability or sexual orientation. There is no tolerance for hateful speech or actions. All violations of this policy should be reported to the OSU Bias Assessment and Response Team (BART, studentaffairs.osu.edu/bias). The Department encourages diversity at all levels, particularly among the next generation of scientists. Students are encouraged to participate in organizations that provide support specifically for science and engineering students who are African-American, Asian, disabled, Hispanic, LGBTQ or women. These organizations are listed on the Colleges of Arts and Sciences (artsandsciences.osu.edu/stem-organizations) and Engineering (engineering.osu.edu/studentorgs) websites.

Student Responsibility: Each student receives this syllabus in the first week of the term. It is your responsibility to read this material and be familiar with the course content, procedures, and grading. You are also responsible for any announcements made in class and on Carmen concerning course procedures. (If you are absent, you are expected to get notes, announcements, etc. from another student in the class.)

Carmen | carmen.osu.edu: Carmen is the Learning Management System (LMS) used in this course. It utilizes an LMS engine called Canvas. Log in to Carmen on your device to access the course materials, turn in select assignments, view your grades, and track your progress throughout the semester. A Canvas app is also free to download for both [Android](#) and [iOS](#), making it easy to log in to your course from anywhere.

Grading: Your performance in the course will be evaluated based on the items listed below. Any concerns about your grades or performance should be addressed with your instructor promptly. No assignment will be “regraded” more than two weeks after the student has received a grade or feedback.

<u>Item</u>	<u>Percent</u>
Rough Draft of Methods	5
Rough Draft of Discussion/Conclusion	5
Rough Draft of Introduction	5
Rough Draft of abstract	5
Peer Review of Methods	5
Peer Review of Discussion/Conclusion	5
Peer Review of Introduction	5
Peer Review of Abstract	5
Syllabus and Academic Misconduct Quiz	5
Manuscript Topic and Reference Assignment	5
Reference Manager Citation and Ref List	5
Faculty Research Summary	5
Research Paper Final Draft	30
Participation	10



Grade Scale (%):

93 - 100 A	73 - 76.9 C
90 - 92.9 A-	70 - 72.9 C-
87 - 89.9 B+	67 - 69.9 D+
83 - 86.9 B	60 - 66.9 D
80 - 82.9 B-	Below 60 E
77 - 79.9 C+	

Participation: Participation is worth 10% of the final grade. Unexcused absences will result in a loss of participation points per class session. University sanctioned activities and medical emergencies (with a doctor's note) will be excused. In case of illness, Dr. Karn must be notified as soon as possible that a class session will be missed due to illness. Missing a class session due to work, schedule conflicts, or vacations cannot be made up and will result in a loss of participation points.

Late Assignments: Late assignments are penalized 5% per day (35% per week).

STANDARDS OF ACADEMIC CONDUCT

Violations of academic standards in Quantitative Chemical Analysis will be referred to the University Committee of Academic Misconduct (COAM) as required by Faculty Rules. It is the responsibility of COAM to investigate all reported cases of student academic misconduct; illustrated by, but not limited to, cases of plagiarism and any dishonest practices in connection with examinations, quizzes, and graded assignments. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information see the Code of Student Conduct: http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf and the COAM page on the course Carmen site.

Student Responsibilities: *Any graded material submitted in this course must represent your own work.* This includes papers, outlines, reviews and assignments which are to be an individual effort. Resources must be properly cited in all submitted work. Unauthorized group efforts by students, use of another student's course materials, or assistance from individuals who already have taken the course, could place you in jeopardy of violation of the standards for this course. In some courses, group work is acceptable on certain activities (as explicitly stated by your instructor). In these cases, it is important that you know and understand where authorized collaboration (working in a group) ends and collusion (working together in an unauthorized manner) begins. Identical answers indicate copying or unacceptable group efforts - always answer questions in your own unique words. It is important that you consult with your instructor for clarification on whether or not collaboration is appropriate on an activity.

You should not assist others in violating academic standards. Students supplying materials for others to "look at" may be charged with academic misconduct. Never allow another student access to your assignments – even after completion of the course. "I didn't know they were going to copy my work" is not an acceptable excuse.

Course Schedule:

Date	In-Class Activity	Assignment
January 8	Syllabus and Course Overview and Plagiarism Discussion	Read: Academic (Mis)Conduct, Citations, and References Quiz: Syllabus and Academic Misconduct Quiz
January 22	Conducting Literature Searches: overview of search engines	Choose your manuscript topic (experiment). Conduct a literature search using SciFinder. Post a pdf of one reference to the discussion board.
January 29	Reference managers (Endnote)	Summarize (paraphrase) the findings of the reference posted previously in a few sentences. Upload the summary with ACS style in-text citations and a reference list (one reference) in a Word document. Use Endnote for in-text citations and generating the reference list.
February 5	Parts of a Research Paper: Methods	Write a Draft of the Methods Section
February 12	Parts of a Research Paper: Results and Discussion/Conclusion	Peer review of methods section
February 19	Parts of a Research Paper: Introduction, Abstract, Title	Write draft of Discussion/Conclusion
February 26	Faculty Research Presentations	Peer review of Discussion/Conclusion
March 5	Jessica D. Flynn- National Institute of Health, OSU alumnus	Write Draft of Introduction
March 19	Faculty Research Presentations	Peer review of introduction
March 26	Faculty Research Presentations	Write draft of abstract
April 2	Faculty Research Presentations	Peer review of abstract
April 9	Faculty Research Presentations	
April 16	Faculty Research Presentations	
April 23		Final paper due