

Department of Chemistry (Revised April 2014)
PLAN FOR WRITING ACROSS THE CURRICULUM
(For: Chemistry B.A. , Chemistry B.S. , and Biochemistry B.S.)

- I. **Goals:** At the completion of degree requirements in chemistry, a graduate will be able to:
1. understand the vocabulary of chemistry and use that vocabulary appropriately in all aspects of their degree program.
 2. take accurate and sufficient laboratory notes on observations of experiments
 3. write a laboratory report in publication-ready form that includes an abstract, an introduction, an experimental procedures section, a results section and a final conclusions section that is based on experiments actually performed in the laboratory.
 4. present data in graphical form (tables, graphs, charts, diagrams) and write a clear and concise explanation of these data.
 5. document sources of information appropriately as well as how to find sources (electronically or otherwise).
- II. **Objectives:** All Chemistry majors will write frequently in their coursework and will receive constructive criticism of their writing with some opportunity for rewriting earlier drafts.
- A. Specific Writing Experiences**
Each student will engage in a variety of writing experiences that include but are not limited to, writing brief reports that address specific questions related to laboratory experiments, taking experimental observation notes, writing reports based on experiments or research they have conducted, and writing detailed papers that demonstrate a broader understanding of underlying scientific principles.
- B. Conditions**
Students will be provided with examples of the kind of writing expected of them or specific instructions for each kind of writing assignment.
- C. Criteria for Writing Experiences**
Each student must take five courses that have a substantive writing component. Each of the five courses must be from one of the following three categories (introductory, writing to learn and advanced). One course must be from category one and one must be from category three. The remaining courses may be from category two or three. At least four courses must be chosen from the list of approved writing courses taught in the Department of Chemistry. The remaining course may be chosen from the lists of approved writing courses taught in other science departments.
1. **Introductory Writing Course:** The introductory course in the Department of Chemistry (Chemistry 111) currently addresses critical thinking skills in lecture and students are required to hand in weekly laboratory reports which introduce and train students in those types of writing listed in Goals 1, 2, & 4 above.

2. **Courses Emphasizing Writing to Learn:** These are courses in the major in which students are required to write laboratory reports in which 25% or more of their mastery of course content is evaluated in terms of their ability to present their knowledge of the material learned in their own written words.
3. **Advanced level Courses:** In this course, students are required to engage in one of the following writing activities: (a) write between 5 and 8 publication quality manuscripts pertaining to experiments they have performed, (b) write a term paper including an extensive review of the recent literature on a topic chosen by the student and/or instructor (with appropriate citation) or (c) write a research paper based on the student's own research, in which the literature is critically reviewed, an hypothesis is generated, a description of materials and methods is given, results are described (including graphical representation and statistical analysis of findings when appropriate), discussion of results are given and conclusions are drawn from those results. Students will be required to write at least one draft of the paper(s) that is critiqued by the instructor and returned with appropriate feedback and an opportunity to receive a higher grade.

III. **Courses:** Specific courses that would fulfill the writing requirement for the Department of Chemistry fall under the following three categories:

- A. **Introductory:** A Critical Thinking Course with a strong writing component [one required (or evidence of similar experience at a previous college for transfer students, or at another college with off-campus approval)].

Chemistry 111- General Chemistry I

- B. **Writing to Learn:** Courses in which writing to learn is emphasized as described in II.C.2 above. [Intermediate level writing courses may also be satisfied by courses with a substantial writing component from other science departments for any student or from a previous college for transfer students].

Chemistry 434L- Advanced Chemistry Laboratory

Chemistry 322-Analytical Chemistry

Chemistry 425-Instrumental Analysis

Chemistry 451L-Inorganic Chemistry Lab

Chemistry 461L/462L-Biochemistry laboratory

- C. **Intensive Writing:** At least one course in which students are required to write a paper based on (a) experiments they have performed, (b) a review of the current scientific literature and/or (c) a research project of their own design.

Chemistry 399-Independent Study

Chemistry 497- Research in Chemistry

Chemistry 499-Independent Study

Chemistry 494-Capstone Research