

CHM-491: Capstone Experience I and II
Fall 2014
Course Syllabus

Instructor: Dr. Rosalynn Quiñones
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Meeting Times: Science Building 496 M to F by agreement

Prerequisite: Permission of the department and recommendation of a faculty sponsor.

Credit Hours: Capstone may be taken for between two to four credit hours.

Office Hours: MWF 9:00 am–10:00 am or by appointment. I welcome drop-in visits, but cannot guarantee that I will be available to help you during non-office hours. Simple questions can be answered via email.

Course Overview:

Welcome to the Chemistry Capstone Experience. The Chemistry Department Capstone Experience places a high value on inquiry-based learning and on the excitement of cutting edge research. The differences between research and classes (not only lectures and conventional labs but also inquiry based instruction) are profound. Research, hands-on and inquiry driven, replete with challenges and frustrations, full of demands for persistence and understanding, frequently requiring synthesis and generalization of ideas and concepts, is one of the most effective and engaging forms of education. Students engaged in research discover that nature is not to be found in textbooks. The Capstone Experience provides the environment for you to learn the difference between foundations and discovery, models and data, ideal and practical experiments, and mastery of the known versus understanding of the previously unknown. You will learn to document your work, to discuss and debate your data, and to assess and defend your analysis and conclusions.

Course Student Learning Outcomes and Assessment Measures

Upon completion of this course, students will be able to	Each student learning outcome will be assessed in the following manner:
Design and perform experiments	Presentation to small group and evaluation by faculty member
Interpret experimental data	Presentation to small group and evaluation by faculty member
Communicate experimental results and their interpretation	Presentation to small group and evaluation by faculty member
Summarize a research project	Presentation to the full faculty of a capstone presentation and a capstone paper.

Materials

Literature as required by the research project. A Laboratory Notebook is required.

Attendance

A minimum of 90 hours of laboratory effort is expected per semester for a 3 credit capstone project.

Course Policy

Course Requirements and Grading

Course Percentage Allocation	
Research summaries	50%
Experimental design	25 %
Experimental results	25 %
Interpretation	25 %
Total	100 %

Grade Scale

Grade Chart	
100-90	A
89-80	B
79-70	C
69-60	D
59-0	F

Miscellaneous policies

I have an Open Communication Policy: If you are having trouble with a problem, concept, or anything class related please do not hesitate to email me or come by my office. Please silence cell phone ringers while working in the lab.

Safety Issues: This course is experimental chemistry class that requires laboratory bench top work with both solid and liquid chemicals and their solutions. These include crystalline and powdery materials, some of which represent toxic substances, as well as strong acids and bases. All laboratory chemicals are considered to be hazardous materials. Therefore, constant and extreme caution as well as common sense should be exercised all the time during lab sessions. Application of general lab safety rules is a must in this class. All generated wastes should be appropriately segregated in specialized containers and then disposed accordingly.

Safety goggles, shoes which are closed at the toes (preferably waterproof) and appropriate clothing (lab coats are suggested) must be worn during the lab sessions at all times. Some vapors pose hazards for contact lens wearers. If you wear contacts, consider removing them before lab or using extreme precautions when using solvents/reagents which irritate eyes or interact with contact lens materials.

Academic Honesty

The university policy will be enforced. See page 70 of the 2014-15 undergraduate catalog. Some examples of academic dishonesty include (but are not limited to) copying another student's assignment, lying about being ill on the day of a test, using a cell phone or other communication device during a test, quoting an author's writing (including material found on the internet) without giving due credit.

http://www.marshall.edu/ucomm/files/web/UG_14-15_published.pdf

Incomplete Coursework

The university policy will be enforced. See page 93 of the 2014-15 undergraduate catalog.

http://www.marshall.edu/ucomm/files/web/UG_14-15_published.pdf

D/F Repeat Rule

See page 88 of the 2014-15 undergraduate catalog.

http://www.marshall.edu/ucomm/files/web/UG_14-15_published.pdf

Accommodations for Disabilities

Students with disabilities must contact the Office of Disabled Student Services in Prichard Hall 117, phone 696-2271 to provide documentation of their disability to ensure proper accommodation. Please visit <http://www.marshall.edu/disabled> for additional information.