

**CHM-491: Capstone Experience I and II**  
**Fall 2018**  
**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**

<b>Upon completion of this course, students will be able to</b>	<b>Each student learning outcome will be assessed in the following manner:</b>
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 100 hours of laboratory effort is expected per semester for a 2-credit capstone project.

## Course Policy

### Course Requirements and Grading

Course Percentage Allocation	
Research summaries	50%
Experimental design	25 %
Experimental results	25 %
Interpretation	25 %
<b>Total</b>	<b>100 %</b>

### 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 waste 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.

### **University Policies:**

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on "Marshall University Policies." Or, you can access the policies directly by going to [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802). Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

### **Academic Honesty**

The university policy will be enforced. See page 73-75 of the 2017 – 2018 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/catalog/files/UG\\_17-18\\_published\\_09-15-17.pdf](http://www.marshall.edu/catalog/files/UG_17-18_published_09-15-17.pdf)

### **Incomplete Coursework**

The university policy will be enforced. See page 96 of the 2017 – 2018 undergraduate catalog.

[http://www.marshall.edu/catalog/files/UG\\_17-18\\_published\\_09-15-17.pdf](http://www.marshall.edu/catalog/files/UG_17-18_published_09-15-17.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.

***Sexual Harassment***

This course will follow Marshall University's policy on Sexual Harassment, which can be found on p. 71 of the 2017– 2018 online undergraduate catalog. [http://www.marshall.edu/catalog/files/UG\\_17-18\\_published\\_09-15-17.pdf](http://www.marshall.edu/catalog/files/UG_17-18_published_09-15-17.pdf)