Course Title: Chemistry Tech II to Lab II Transition

Instructors: Susan Graul

Course Number: 09-216    Cross Listing: NA

Prerequisites/Corequisites: 09-208 Techniques in Organic Synthesis and Analysis and co-requisite of 09-321, Laboratory III: Molecular Design and Synthesis

Semesters Offered:
- [X] Fall
- [☐] Spring
- [☐] Summer-All
- [☐] Summer 1
- [☐] Summer 2

Semester Length:
- [X] Mini 1
- [☐] Mini 2
- [☐] Mini 3
- [☐] Mini 4
- [☐] Full Semester

Course Offering Frequency: as needed

Suggested Days and Times: course will be mainly independent study with weekly or semi-weekly meetings between the instructor and the student

Course Evaluation type:    [X] Letter Grade
- [☐] Pass/Fail

Course Unit Justification:    Total Units 3

- [In Class Hours: Click here to enter text.]
- [Lab Hours: Click here to enter text.]
- [Recitation Hours: Click here to enter text.]
- [Out of Class Hours: 45 hours over seven weeks]

Target Population: Students who completed 09-208, Techniques in Organic Synthesis and Analysis, instead of 09-222, Laboratory II: Organic Synthesis and Analysis and wish to declare a primary or additional major in chemistry (09-208 will be accepted for the minor in chemistry).

Anticipated Enrollment: 0-2 students per semester.

Rationale for Course (Background): The course 09-222 is required for the chemistry primary or additional major. In the past, it was taken by students majoring in chemistry, biological sciences and students from other majors who were planning to pursue medical and health professions. Starting in the spring semester of 2017, only students majoring in chemistry will take 09-222. Non-major students will take 09-208, a 9 unit lab class approved by college council in the spring.
of 2015. 09-216 is being proposed in order to accommodate students who take 09-208 but who later wish to declare a chemistry major. This 3-unit course is intended to address deficits in knowledge and experience that these students might have in not having taken 09-222, before or while they move on to more advanced organic chemistry lab courses.

**Special Facilities Needed:** none

**Textbooks and/or Other Materials:** The textbook used for 09-222 is currently the same as that used for 09-208 (Laboratory Techniques in Organic Chemistry, 4th edition, by Mohrig, Alberg, Hofmeister, Schatz, and Hammond). If needed, students may also be provided access to a pdf copy of the lab manual (written in-house) used for 09-222.

**Assessment:** Assessment will be by written assignments and problems, as well as critiques of writing. These will address aspects of 09-222 that are not included in 09-208 or are not as thoroughly developed. As 09-222 evolves to include individual or team projects that were not formerly included, 09-216 will also have to evolve to provide some experience with planning such projects.

**Topics Covered:** This will be determined by the specific content of 09-222 in the semester before the transition, but will include writing and critical appraisal of writing, practice with interpretation of infrared and nuclear magnetic spectroscopy, theory of chromatography, theory of distillations, development of lab procedures and trouble-shooting, phase separations, calculations, balancing chemical reactions, and other topics as determined by the instructor.

**Course Catalog Description:** 09-216 is a 3-unit course intended for students who have taken 09-208, Techniques in Organic Synthesis and Analysis, who decide later in their academic experience that they wish to pursue a degree or an additional major in chemistry. The chemistry major requires a 12-unit lab class, 09-222 Laboratory II: Organic Synthesis and Analysis. This course will utilize self-study and problem solving to introduce or reinforce key concepts covered in 09-222 that are not introduced or are de-emphasized in 09-208.

**Learning Objectives:** Students will: gain a more robust understanding of the principles that underpin the wet chemical and instrumental methods of organic chemistry; develop a better understanding of the process of developing procedures; improve their ability to communicate in written form; and become better prepared to proceed to more advanced laboratory work and research.

**Departmental Approval Date:** approved by faculty with Core Education Changes

**CUA Recommendation Date:** Click here to enter text.
College Council Approval Date: Click here to enter text.

Date Sent to Enrollment Services: Click here to enter text.

Comments: Click here to enter text.

* Please attach a copy of the proposed syllabus