

**CHEM 546 Introduction to Organic Spectroscopy  
Fall 2017**

**Instructor:**

Dr. Rob Ronald, Fulmer 415A (Enter through lab 417), 509-335-3364, [rcr@wsu.edu](mailto:rcr@wsu.edu)

**Class Meeting:** MWF 11:10-12:00 PM, Fulmer 432

**Recommended Textbook:**

Pavia, Lampman, Kris, and Vyvyan, *Introduction to Spectroscopy*, 4th Edition. This is the recommended textbook; it is available in paperback and also online. The 3<sup>rd</sup> edition would be acceptable.

**Other Texts:**

Silverstein, *et al*, *Spectroscopic Identification of Organic Compounds 6<sup>th</sup> to 8<sup>th</sup> editions*; or Lambert, Gronert, Shurvell, and Lightner, *Organic Structural Spectroscopy*, 2<sup>nd</sup> Ed.

**Course Description:** This is an introductory course in organic spectroscopy intended for incoming graduate students. It is intended to teach you how to interpret the spectra that you will be obtaining in your research activities. It is assumed that you have little or no experience in this area; although some students do have some useful experience in spectral interpretation.

**Course Objective:**

To provide advanced undergraduates and first-year graduate students with a working knowledge of graduate level organic chemistry. By the end of this course students should be able to correctly deduce the structure of an unknown organic molecule from a set of spectra.

**Learning Outcomes**

1. Interpretation of the types of organic spectra commonly used in the research setting: Mass Spectra, Infrared Spectra, 1D and 2D Nuclear Magnetic Resonance Spectra.
2. Learn how to use spectra to elucidate structures of organic compounds.
3. Learn how to solve chemical and structural problems in a systematic manner.

**Grading Scheme:** The course will consist of lectures about spectral methods; in-class problem solving; some graded homework (0-10%); a midterm examination 35-40%; and a final examination (55-60%). The midterm exam will be given after we have completed the unit on 1D NMR spectroscopy. Students must take the final exam to receive a passing grade in the course. The scores on the quizzes and exams will be used to assign letter grades based on the following scale:  $\geq 90\%$ , A;  $<90\% - \geq 75\%$ , B;  $<75\% - \geq 60\%$ , C;  $<60\% - \geq 50\%$ , D.

**Students with Disabilities:**

Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

**Academic Integrity:**

Academic integrity will be strongly enforced in this course. Any student caught cheating on any assignment will be given an F grade for the course and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions: <http://conduct.wsu.edu/default.asp?PageID=338>

***Safety Statement:***

The following websites detail the WSU Safety policy and plan. The content of these sites will be discussed on the first day of the term

- <http://safetyplan.wsu.edu>
- <http://alert.wsu.edu>
- <http://oem.wsu.edu>