

**Chem 546 Syllabus**  
**Introduction to Organic Spectroscopy for New Graduate Students**

- Professor Rob Ronald, Ph.D.
- Office: 415a Fulmer Hall (Enter through 417 lab)
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- Email: [rcr@wsu.edu](mailto:rcr@wsu.edu)
- Office Hour Policy: I am available to meet with you at any time so you should just stop by the office. If I am occupied at the moment we will make a mutually agreed upon appointment. You may also ask to make an appointment by Email. Email is the best way to contact me if you have a problem.
- 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.
- The course will consist of lectures about spectral methods; in-class problem solving; some homework assignments (10%), a midterm examination (35%); and a final examination (55%).
- Grades:  $\geq 90\%$ , A;  $<90\% - \geq 75\%$ , B;  $<75\% - \geq 60\%$ , C;  $<60\% - \geq 50\%$ , D.
- **Textbook:** Pavia, Lampman, Kris, and Vyvyan, "Introduction to Spectroscopy", 4th Edition.
  - This is the recommended textbook; it is available in paperback. The 3rd edition would be acceptable.
  - It would also be acceptable to use other texts such as Silverstein, et al, "Spectrometric Identification of Organic Compounds"; or Lambert, et al, "Organic Structural Spectroscopy", or Williams and Fleming, "Spectroscopic Methods in Organic Chemistry", as they all contain more or less the same material.
  - You should plan on keeping whatever text you use as a reference to help you in your graduate research.
- **ACCOMODATIONS:** Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the **first week of class** of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through the Access Center in Washington Bldg, Room 217. Stop by or call 509-335-3417 to make an appointment with a disability specialist
- **Radios, Cell Phones.** Please leave your Cell Phones, iPods, Gameplayers, etc. in your bag or at home. If you need to make or receive a call, step out of the room.
- Do not bring or use cell phones or other electronic devices to examinations – Use of these devices during an examination may result in a failing grade. Exception: you may use a calculator during an examination.
- **Goals of the Course.** Interpretation of the types of organic spectra commonly used in the research setting.
  - Learn how to use spectra to elucidate structures of organic compounds.
  - Learn how to solve chemical problems in a systematic manner.

• **Topics to be Covered in the Course.**

• Mass Spectrometry	• Homonuclear COSY Spectroscopy
• Infrared Spectroscopy	• Heteronuclear COSY Spectroscopy
• UV-VIS Spectroscopy	• HETCOR
• ORD-CD Spectroscopy	• HMQC
• $^1\text{H}$ NMR Spectroscopy	• HMBC
• $^{13}\text{C}$ NMR Spectroscopy	• NOESY Spectroscopy
• DEPT Spectroscopy	• TOCSY Spectroscopy