

**CHE 410
Spring 2004**

This course will cover primarily the interpretation of one- and two-dimensional NMR spectroscopy, along with (time permitting) some MS, IR, and UV. There will be a mid-term, final, and several take home problem sets.

Text: Silverstein and Webster "Spectrometric Identification of Organic Compounds", 6th Ed., Wiley, 1998.

Reference texts: (* in Steely Library)

1. Nakanishi, K. (Ed.) "One-dimensional and Two-dimensional NMR Spectra", University Science Books, 1990.
2. Kemp W. "Organic Spectroscopy", Third Ed., W. H. Freeman, 1991.
- *3. Sanders, J. K. M. and Hunter, B. K., "Modern NMR Spectroscopy", 2nd Ed., Oxford, 1993.
- *4. Sanders, J. K. M., Constable, E. C., Hunter, B. K., and Pearce, C. M. "Modern NMR Spectroscopy" (workbook), 2nd Ed., Oxford, 1993.
- *5. Breitmaier, E., "Structure Elucidation by NMR in Organic Chemistry", Wiley, 1993.
6. Macomber, R. S., "NMR Spectroscopy" Harcourt Brace Jovanovich, 1988.
- *7. Macomber, R. S., "A Complete Introduction to Modern NMR Spectroscopy", Wiley, 1998.
- *8. McLafferty, F. W., "Interpretation of Mass Spectroscopy" Third Ed., University Science Books, 1980.
- *9. Nakanishi, K. and Solomon, P. H., "Infrared Absorption Spectroscopy", Second Ed., Holden Day, 1977.
- *10. Harwood, L. M., "Introduction to Organic Spectroscopy", Oxford Univ. Press, 1997.
- *11. Atta-ur-Rahman and Choudhary, M. I., "Solving Problems with NMR Spectroscopy", Academic Press 1996.
12. Gunther, H., "NMR Spectroscopy, 2nd Ed., Wiley 1995.
- *13. Pretsch *et al.*, "Tables of Spectral Data for Structure Determination of Organic Compounds", 2nd Ed., Springer-Verlag 1989.
- *14. Crews, P. *et al.*, "Organic Structure Analysis", Oxford 1998.
- *15. Lambert, J. B. *et al.*, "Organic Structural Spectroscopy", Prentice Hall 1998.
- *16. Dudgeon, H. *et al.*, "Structure Elucidation by Modern NMR, a Workbook", 3rd Ed., Springer 1998.
- *17. Friebolin, H., "Basis One- and Two-Dimensional NMR Spectroscopy", 3rd Ed., Wiley-VCH, 1998.
- *18. Field, L. D. *et al.* "Organic Structures from Spectra", 3rd Ed, Wiley, 2002.

This syllabus subject to change