Course title: Organic Spectroscopy

Corresponding with 3rd year of Chemistry Degree

Department: Inorganic and Organic Department

UJA credits: 6	**ECTS credits: 4,8**	**1ST SEMESTER**

Lecturer: Prof. Dr. Justo Cobo Domingo

Teaching methods:

Lecture:	3	Hours per Week	Homework:	5	Hours per Week
Exercise:	1	Hours per Week			
Seminars:	1	Hours per Week			

Description of Content:

The course deals with the four major instrumental methods used routinely by organic chemists: ultra-violet/visible, infra-red, nuclear magnetic resonance spectroscopy, and mass spectroscopy. It provides a concise introduction to the physical background of each, describing how molecules interact with electromagnetic radiation or how they fragment when excited sufficiently, and how this information may be applied to the determination of chemical structures. It also includes simple descriptions of instrumentation and emphasizes modern methodology throughout, such as the Fourier-transform approach to data analysis. Each chapter is related with a set of problems to be solved in the seminar lectures to test the understanding of organic spectroscopy.

Assessment Method:

Exam paper combined with a solution of problem set for each chapter.

Teaching language:

For exchange students: teaching support, materials, seminar papers and exams in English. For regular Spanish students the default teaching language will be Spanish. Exchange international students can electively join regular courses in Spanish whenever they wish.

Main references (literature) to be used in the course

L. M. Harwood & T. D. W. Claridge, "Introduction to Organic Spectroscopy", 1st Edition (Oxford Chemistry Primers nº 43), Oxford University Press, Oxford, 2000.

D. L. Pavia, G. M. Lampman and G. S. Kriz. “Introduction to Spectroscopy: a guide for students of organic Chemistry”. 3ª Edición. Harcourt College Publishing, Orlando, 2001.

J. B. Lambert, H. F. Shurvell, D. A. Lightner, R. G. Cooks, “Organic Structural Spectroscopy”, 1st Edition, Prentice Hall, 1998.

L.D. Field, S. Sternhell, J. R. Kalman, "Organic Structures from Spectra", 3ª Edición. Wiley, New York, 2002.

P. Young, “Practical Spectroscopy: The Rapid Interpretation of Spectra Data”, 1st Edition, Brooks/Cole, 2000.