



FLORIDA
ATLANTIC
UNIVERSITY

COURSE CHANGE REQUEST Undergraduate Programs

Department Chemistry and Biochemistry

College Science

UUPC Approval 11-4-24

UFS Approval _____

SCNS Submittal _____

Confirmed _____

Banner Posted _____

Catalog _____

Current Course
Prefix and Number CHM 4230C

Current Course Title
Organic Spectroscopy

Syllabus must be attached for ANY changes to current course details. See [Template](#). Please consult and list departments that may be affected by the changes; attach documentation.

Change title to:

Change prefix

From: _____ **To:** _____

Change course number

From: _____ **To:** _____

Change credits*

From: _____ **To:** _____

Change grading

From: _____ **To:** _____

Change WAC/Gordon Rule status**

Add ☐ Remove ☐

Change General Education Requirements***

Add ☐ Remove ☐

*See [Definition of a Credit Hour](#).

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See [WAC Guidelines](#).

***GE criteria must be indicated in syllabus and approval attached to this form. See [Intellectual Foundations Guidelines](#).

Change description to:

This course provides an introduction to the techniques used to characterize mono- and di-functional organic molecules. UV-VIS, IR, NMR and MS are the four main spectrometric methods covered in this class. Problems will also be presented in class or as take-home, and solutions will be discussed in class.

Change prerequisites/minimum grades to:

Change corequisites to:

Change registration controls to:

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).

Effective Term/Year
for Changes: Fall 2024

Terminate course? Effective Term/Year
for Termination:

Faculty Contact/Email/Phone Tito Sempertegui / tsempert@fau.edu / 561-297-2508

Approved by

Department Chair Andrew Tepent's

College Curriculum Chair Korey Sorge

College Dean ERJm

UUPC Chair Korey Sorge

Undergraduate Studies Dean Dan Meeroff

UFS President _____

Provost _____

Date

9-27-24

10/25/24

10-24-24

11-4-24

11-4-24

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

Florida Atlantic University
Department of Chemistry and Biochemistry
CHM 4230C - Organic Spectroscopy

Instructor: Dr. Lyndon West; PS 311; 561-297-0939

Class Times: TBA.

Credit Hours: 3

Office Hours: TBA 1hr. (other times by appointment only)

Prerequisites: Organic Chemistry I and II, working understanding of UV-vis, MS, IR spectroscopy and NMR. Revise relevant chapters in your introduction organic chemistry text.

Course description/Outline:

This course provides an introduction to the techniques used to characterize mono- and di-functional organic molecules. UV-VIS, IR, NMR and MS are the four main spectrometric methods covered in this class. Problems will also be presented in class or as take-home, and solutions will be discussed in class.

Text Books:

Organic Structure Analysis, Crews, Rodriguez, Jaspers, Oxford, 1998
Pretsch, Buhlmann, Affolter, Structure Determination of Organic Compounds: Tables of Spectral Data, (3rd ed.), Springer-Verlag, 2004.
"Spectroscopic Determination of Organic Compounds: Tables of Spectral Data", 7th ed. Silverstein, Webster, Kiemle, Academic, 2005

Course Outcomes:

- Interpretation of the organic spectral data commonly used in research laboratory: UV-Vis, infrared spectroscopy (IR), mass spectroscopy (MS), and nuclear magnetic resonance (NMR)
- Learn to use spectral data to elucidate structures of mono and di-functional organic compounds.
- Learn how to solve elucidate structures in a systematic manner

Course Grade: The course grade is based on the total points actually earned from the following assessment exercises:

Class Attendance 5%

Class Participation 5%

Exam 1 10%

Exam 2 10%

Problem Sets (part 1, 2 and 3) 20%

Term Project Group Presentation 20%

Term Project Report 10%

Final Exam 20%

The tentative grading scale for the course will be:

A = 85-100%

B = 70-84%

C = 50-69%

Class Participation: Class Participation will be evaluated by the willingness of the student to participate in the in class discussions and problem set solution solving.

Problem Sets: In class problems will be assigned weekly and will be handed in at the end of class.

Term Project: Determination of an Unknown: Working in groups the students will be provided with a unknown compound and will be expected to obtain a variety of spectroscopic data and determine the structure, including the relative configuration of the compound.

Presentation: The student groups will give a 15 min. presentation to the class describing how the structure of the compound was determined. (5 slide maximum)

Write-up: The student will write-up the spectroscopic data in ACS/thesis style format. Included in this report will be copies of the spectra that were necessary to assign the structure of the compound. Write on them the peak assignments and any other relevant information. They should be publication quality (as supporting information and/or in your thesis).

Canvas: You must monitor your progress using gradebook in the online Canvas Learning System (<http://canvas.fau.edu/>). Your user name is the same as your FAUNet ID and your password is your PIN. (go to <http://accounts.fau.edu/> if you do not have an ID). Announcements and useful documents (e.g., some class notes and handouts) will be posted in CANVAS throughout the semester. It is your responsibility to check this site at least three times a week for important messages from your Instructor.

Incomplete Grade: Please refer to the current FAU Undergraduate Catalog for the policy on "I" grades.

Attendance Policy Statement: Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such

as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Disability Policy Statement: In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Counseling and Psychological Services (CAPS) Center: Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Class Room Etiquette: Cell phones off please!

Note: Last day to drop without a W is TBA (Friday); last day to drop without an F is TBA (Friday)

Official holidays: TBA

Code of Academic Integrity policy statement: Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is founded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001. https://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf