

## GRADO EN QUÍMICA

### DATOS DE LA ASIGNATURA

ASIGNATURA	ORGANIC CHEMISTRY	SUBJECT	ORGANIC CHEMISTRY
CÓDIGO	757509206		
MÓDULO	FUNDAMENTAL	MATERIA	Q. ORGÁNICA
CURSO	2º	CUATRIMESTRE	2º
DEPARTAMENTO	QUÍMICA PROFESOR JOSÉ CARLOS VÍLCHEZ MARTÍN	ÁREA DE CONOCIMIENTO	QUÍMICA ORGÁNICA
CARÁCTER	OBLIGATORIA	CAMPUS VIRTUAL	MOODLE

### DISTRIBUCIÓN DE CRÉDITOS

	TOTAL	TEÓRICOS GRUPO GRANDE	TEÓRICOS GRUPO REDUCIDO	PRÁCTICAS DE INFORMÁTICA	PRÁCTICAS DE LABORATORIO	PRÁCTICAS DE CAMPO
ECTS	6	4	0	0	2	0

### DATOS DEL PROFESORADO

#### COORDINADOR

NOMBRE	PATRICIA MARÍA REMÓN RUIZ		
DEPARTAMENTO	QUÍMICA PROFESOR JOSÉ CARLOS VÍLCHEZ MARTÍN		
ÁREA DE CONOCIMIENTO	QUÍMICA ORGÁNICA		
UBICACIÓN	EDIFICIO ROBERT GRUBBS		
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URL WEB		CAMPUS VIRTUAL	MOODLE

#### OTROS DOCENTES

NOMBRE	UWE PISCHEL		
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### DESCRIPCIÓN GENERAL DE LA ASIGNATURA

#### DESCRIPCIÓN GENERAL

In this course we will study the structure, physical properties and reactivity of main organic functional groups.

#### ABSTRACT

In this course we will study the structure, physical properties and reactivity of main organic functional groups.

### OBJETIVOS: RESULTADOS DEL APRENDIZAJE

The subject "Organic Chemistry" is studied from the point of view of the different functional groups in which the organic compounds which are part of organic matter, natural products and living beings are grouped. Following this system, the student acquires advanced theoretical-practical knowledge of the composition of organic matter along with its physical properties and chemical reactivity illustrated by reaction mechanisms.

### REPERCUSIÓN EN EL PERFIL PROFESIONAL

Professional activity of a Graduate in Chemistry involves actions that affect the progress of technology, industry, the quality of society life, and even the environment and living beings that inhabit it. Therefore, it is essential for a correct and efficient professional action of these graduates to know how their actions could affect the environment and organisms' life and how they should react to these possible alterations. This subject training is of special relevance, for example, in the pharmaceutical industry, agrochemical, food and scientific and technical advice on topics such as the discovery of new drugs, new materials, as well as to begin in scientific research and teaching.

### RECOMENDACIONES AL ALUMNADO

It is recommended that the student has the subject "Basic Concepts in Organic Chemistry" completed

### COMPETENCIAS

#### COMPETENCIAS BÁSICAS

#### COMPETENCIAS GENERALES

#### COMPETENCIAS TRANSVERSALES

#### COMPETENCIAS ESPECÍFICAS

### TEMARIO Y DESCRIPCIÓN DE LOS CONTENIDOS

#### TEORÍA

#### **Block I. Study of oxygenated functions**

Unit 1. Structure and synthesis of alcohols. (3 hours)

Unit 2. Alcohol reactions. (4 hours)

Unit 3. Ethers, epoxides and sulfides. (3 hours)

#### **Block II. Study of aromatic compounds**

Unit 4. Aromatic compounds. (4 hours)

Unit 5. Reactions of aromatic compounds. (4 hours)

#### **Block III. Study of compounds with carbonyl group and amines**

Unit 6. Ketones and aldehydes. (3 hours)

Unit 7. Amines (3 hours)

Unit 8. Carboxylic acids. (3 hours)

Unit 9. Derivatives of carboxylic acids. (3 hours)

### PRÁCTICAS DE LABORATORIO

Practice 1. Synthesis of p-nitroaniline from aniline

Practice 2. Cannizzaro's reaction

Practice 3. Reduction of benzophenone with NaBH<sub>4</sub>

Practice 4. Synthesis of aspirin

### METODOLOGÍA DOCENTE

Grupo grande	<ul style="list-style-type: none"> <li>Clases presenciales relativas a los contenidos teóricos y prácticas (problemas) de la asignatura, utilizando recursos didácticos tales como transparencias, presentaciones informatizadas y videos.</li> <li>Utilización del aula de informática para reforzar los conocimientos teóricos y prácticos adquiridos previamente.</li> <li>Resolución de dudas.</li> </ul>
Prácticas de laboratorio	<ul style="list-style-type: none"> <li>Clases presenciales relativas a los contenidos teóricos y prácticas (problemas) de la asignatura, utilizando recursos didácticos tales como transparencias, presentaciones informatizadas y videos.</li> <li>Prácticas de laboratorio con grupos reducidos manejo de técnicas experimentales, discusión de resultados, obtención de conclusiones, presentación de una memoria final.</li> <li>Resolución de dudas.</li> </ul>

### CRONOGRAMA ORIENTATIVO I

SEMANAS (S):	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15
GRUPO GRANDE	T1	T2	T2/T3	T3/T4	T4/T5	T5	T6	T7	T8	T9					
GRUPO REDUCIDO					QUESTIONARY 1		QUESTIONARY 2			QUESTIONARY 3					
PRÁCTICAS DE LABORATORIO						G1									
PRÁCTICAS DE INFORMÁTICA															
PRÁCTICAS DE CAMPO															

### EVALUACIÓN DE LA ASIGNATURA

PRIMERA EVALUACIÓN ORDINARIA (FEBRERO/JUNIO)

EVALUACIÓN CONTINUA

Continuous evaluation will be as follow:

- Resolution of several questionnaires corresponding to each of the thematic blocks. These tests will be a 15% of the global mark of the subject.
- Presentation of a laboratory report and the performance during the course of them will be a 15% of the global mark of the subject. It is mandatory to carry out laboratory practices to pass the subject.
- Realization of a final exam that will correspond to a 70% of the global mark of the subject.

Therefore, the skills acquired in each block will be evaluated jointly through the different activities of the subject: the qualification of the final exam (EX), the qualification of the questionnaires and the qualification of the report of laboratory practices. The qualification obtained in the final exam (EX) will represent a 70% of the total score. The other 30% of the global mark is obtained through continuous assessment such as the control of attendance at theoretical and practical classes, attendance at scheduled tutoring and periodic presentation of the questionnaires and reports of practices.

To pass the subject it is mandatory to obtain 5.0 in the final exam (EX) as a minimum mark and to obtain a minimum sum (global mark) of 5.0.

In the case of getting a mark <4.5 in the final exam, the average score of the continuous assessment is not taken into account and the final mark corresponds simply to the exam grade.

In the case of EX mark equal or more than 5:  $\text{Global mark} = 0.7 \times \text{EX note} + 0.3 \times \text{average mark of the continuous evaluation}$ .

For the global mark of the subject will be taken into account the breach by the student of the basic behavior rules that must respect the university community of the Faculty of Experimental Sciences and that has been approved in the Center Board.

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### EVALUACIÓN FINAL

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If the student chooses to have a final single evaluation, this will be carried out through the realization of two exams that will represent 100% of the mark. On the one hand, an exam related to laboratory practices that will mean 15% of the qualification and on the other one an exam which will contain the contents developed in the theoretical and problem classes, which will represent an 85% of the global mark.

In order to pass the subject, it will be necessary to carry out the laboratory practices.

To have this type of evaluation, final single evaluation, in the first two weeks of the subject or in the two weeks following to the enrollment ( if this has occurred after the beginning of the subject), the student will have to communicate this decision to the professor of the subject by email. According to the evaluation regulation approved by the Governing Council of March 13, 2019, this will imply the express resign of the continuous evaluation, without the possibility of changing the system.

In the final qualification the student's fulfillment of the basic norms of behavior and functioning, which should be respected by the university community of the Faculty of Experimental Sciences, will be considered. These norms were approved in the Faculty Council.

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¿Contempla una evaluación parcial?

NO

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### SEGUNDA EVALUACIÓN ORDINARIA

This evaluation will be realized in one exam that counts for 100% of the final mark. This exam consists of theoretical questions, theoretical/practical problems and questions about laboratory practices related to the content of the whole course. For approval of the whole course a minimum mark of 5.0 (over 10) on the final exam is required.

In the final qualification the student's fulfillment of the basic norms of behavior and functioning, which should be respected by the university community of the Faculty of Experimental Sciences, will be considered. These norms were approved in the Faculty Council

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### TERCERA EVALUACIÓN ORDINARIA Y OTRAS EVALUACIONES

This evaluation will be realized in one exam that counts for 100% of the final mark. This exam consists of theoretical questions, theoretical/practical problems and questions about laboratory practices related to the content of the whole course. For approval of the whole course a minimum mark of 5.0 (over 10) on the final exam is required.

In the final qualification the student's fulfillment of the basic norms of behavior and functioning, which should be respected by the university community of the Faculty of Experimental Sciences, will be considered. These norms were approved in the Faculty Council

### OTROS CRITERIOS DE EVALUACIÓN

¿Contempla la posibilidad de subir nota una vez realizadas las pruebas? NO

#### Requisitos para la concesión de matrícula de honor

The mention of "Matrícula de Honor" (outstanding) may be granted to students who have obtained a grade equal to or greater than 9.0. The number of student granted with this mention may not exceed the 5 per cent of the students enrolled in a subject in the corresponding academic year, unless the number of students enrolled is less than 20, in which case a single "Matrícula de Honor" may be granted.

### REFERENCIAS

#### BÁSICAS

Wade, L.G. Organic Chemistry, Pearson

Vollhardt, K.; Schore, N. Organic Chemistry: Structure and Function. WH Freeman

#### ESPECÍFICAS

Francisco García Calvo-Flores, José A. Dobado Jiménez. "Problemas resueltos de química orgánica " Madrid: Thomson, 2008

Emilio Quiñóá Cabana, Ricardo Reguera Vega "Cuestiones y ejercicios de química orgánica" MC Graw Hill

#### OTROS RECURSOS

<http://www.organic-chemistry.org/>