1.- GENERAL INFORMATION

Learning Unit	**Department**	**Format**
Organic Chemistry Lab II	Chemistry	Lab

Prerequisites(P)	**Corequisites (CO)**	**Ascribed Academy**	**Module**
General Chemistry I	Organic chemistry II Organic Chemistry Theory II	Academy of Organic Chemistry	M2: Synthesis, purification and chemical transformation

Type	**Lecture hours**	**Practice hours**	**Total hours**	**Credits**
Basic Particular Mandatory	0 hours	51 hrs.	51 hrs.	9

2.- GENERIC COMPETENCIES

Students…
…apply security regulations when handling lab material and reagents, as well as treating residues in the organic chemistry lab.
… search and interpret bibliographic information.
… know how to choose and use the appropriate material.
…learn the usual separation methods in organic chemistry.
…perform the basic set ups.
…develop skills such as the ability to write concisely and in an organized way.

3.- SPECIFIC CHARACTERISTICS OF THE COMPETENCY

Knowledge	Students become acquainted with organic chemistry methods carried out with basic lab material to handle different experimental techniques.
Skills	Students develop abilities… to analyze to organize and plan. to search for information in different sources and analyze it. to solve problems. to make decisions to communicate in writing and orally. to work autonomously.
Aptitudes	Critical and self-critical abilities Team work Interpersonal skills

	Ethical commitment Ability to apply knowledge in a practical way. Search skills Learning abilities Ability to adapt themselves to new situations Creativity Leadership Ability to work independently Initiative and entrepreneurship
Values	Leadership Ethics Responsibility Tolerance.

4.- TRANSVERSAL COMPETENCIES

☑	Foreign Language (English)
☑	Critical, analytical and synthetic thinking.
☑	Oral and written expression
☑	Professional ethics
☑	Administration of human and material resources
☐	Leadership and sustainability
☑	Creativity, innovation and entrepreneurship
☐	Other

5.- COURSE CONTENT OF THE LEARNING UNIT

1. Introduction
2. Chemistry of alkenes
3. Chemistry of alkynes
4. Chemistry of alcohols
5. Chemistry of esters and sulphides
6. Chemistry of aromatic compounds

6.- ASSESMENT

☑	Numeric grade
☐	
☐	

7.- GRADING CRITERIA OF THE LEARNING UNIT	
Indicator of evaluation	**Percentage**
Departmental exams	0
Partial exam	0
Homework	10
Research activities	10
Practice reports	40
Class participation	10
Other: Logbook	30

8.- REQUIRED MATERIAL (for students)	
☑	Calculator
☑	Periodic table
☑	Lab coat
☐	Text book
☑	Workbook
☐	

9.-SPECIFIC CONTENT BY LEARNING UNITS					
Content unit	**Generic competency of the content unit**	**Topics**	**Class hours**	**Student activities**	**Bibliography**
1. Introduction	Students -recognize the lab safety measures and the toxicity of organic substances. -Use a notebook or an experimental work logbook and lab material.	1.1 Lab safety rules and toxicity of organic substances. 1.2 Notebook, experimental work logbook. 1.3 Lab material	3h	Students take notes of the experimental procedures in the logbook, carry out the experimental part instructed by the teacher and write a report in teams about their findings.	Drust Dipond,Gokel George, (1985) *Químca Orgánica Experimental*., Reverté, S.A. Brewster Ray Q., Vanderwerf Calvin A., McEwen William E., (1978) *Curso Práctico de Química* Orgánica, Alhambra.
2. Chemistry of alkenes.	Students understand and handle the chemical properties of alkenes.	2.1Obtaining cyclohexene.	6h		
3. Chemistry of alkynes.	Students understand and handle the chemical properties of alkynes.	3.1 Obtaining acetylene.	3h		

4. Chemistry of alcohols.	Students understand and handle the chemical properties of alcohols.	4.1 Identification and reactivity of alcohols. 4.2 Ethanol and butanol oxidation to aldehydes.	15h		
5. Chemistry of ethers, epoxides and sulphides.	Students understand and handle the chemical properties of ethers, epoxides and sulphides.	5.1 Separation, purification, and identification of the components of a mixture of organic products (*Marcha del Éter* in Spanish)	6h		
6. Chemistry of aromatic compounds.	Students understand and handle the chemical properties of aromatic compounds.	6.1 Obtaining acetanilide. 6.2 Synthesis of nitro acetanilide. 6.3 Hydrolysis of nitro acetanilide to nitro aniline.	21h		
COURSE EVIDENCE (Deliverables) Practice reports binder in teams. Procedure logbook Any other evidence proposed by the professor.					

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