

**1. General information****Course:** CLINICAL PALYNOLOGY**Type:** ELECTIVE**Degree:** 341 - UNDERGRADUATE DEGREE PROGRAMME IN BIOCHEMISTRY**Center:** 501 - FACULTY OF ENVIRONMENTAL SCIENCES AND BIOCHEMISTRY**Year:** 4**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 13336**ECTS credits:** 4.5**Academic year:** 2023-24**Group(s):** 40**Duration:** C2**Second language:** English**English Friendly:** Y**Bilingual:** N**Lecturer:** BEATRIZ LARA ESPINAR - Group(s): 40

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2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

The WHO considers allergy as one of the most important diseases in the world. Respiratory allergies are one of the health problems where almost 20% of the population suffers allergy caused by the allergenic proteins of aeroallergens. Pollen allergies are currently the main immunological disorder and represent an important public health problem in terms of quality of life, treatment costs, job losses, etc. In this subject, allergic diseases in general and pollinosis in particular will be studied, with special attention to the systems of prevention. The subject has a biomedical and clinical orientation and is related to others subjects of the curriculum such as immunology.

4. Degree competences achieved in this course**Course competences**

Code	Description
E01	Express themselves correctly in basic biological, physical, chemical, mathematical and computer terms.
E13	Correct handling of different computer tools
E26	Design, execute and interpret the results of basic immunochemical techniques.
E32	Know how to design and carry out a study and/or project in the area of Biochemistry and Molecular Biology, be able to critically analyse the results obtained and write a report containing these results.
G01	To possess and understand the knowledge in the area of Biochemistry and Molecular Biology at a level that, based on advanced textbooks, also includes cutting-edge aspects of relevance in the discipline
G02	To know how to apply the knowledge of Biochemistry and Molecular Biology to professional practice and to possess the necessary intellectual skills and abilities for this practice, including the capacity for: information management, analysis and synthesis, problem solving, organization and planning and generation of new ideas.
G03	Be able to collect and interpret relevant data, information and results, draw conclusions and issue reasoned reports on relevant social, scientific or ethical issues in connection with advances in Biochemistry and Molecular Biology.
G04	To know how to transmit information, ideas, problems and solutions in the field of Biochemistry and Molecular Biology to a specialized and non-specialized public.
G05	Develop those strategies and learning skills necessary to undertake further studies in the area of Biochemistry and Molecular Biology and other related areas with a high degree of autonomy.
G06	Acquire skills in the handling of computer programs including access to bibliographic, structural or any other type of databases useful in Biochemistry and Molecular Biology.
T02	User-level knowledge of Information and Communication Technologies (ICT).
T03	A correct oral and written communication
T04	Ethical commitment and professional deontology
T10	Ability to self-learn and to obtain and manage bibliographic information, including Internet resources

5. Objectives or Learning Outcomes**Course learning outcomes****Description**

The professional profile "molecular biomedicine" includes the application of biochemistry in the health sector, so that the student receives a strong biomedical and clinical orientation and also acquires the skills to carry out a professional activity in the field of teaching and research.

6. Units / Contents

Unit 1: Allergic diseases
 Unit 2: Particles of biological origin and allergenic interest present in the atmosphere
 Unit 3: Types of aeroallergens: Indoor aeroallergens
 Unit 4: Fungi spores as indoor and outdoor aeroallergens
 Unit 5: Outdoor aeroallergens
 Unit 6: Aerobiological processes
 Unit 7: Study of aerobiological particles
 Unit 8: Aerobiological surveillance and control networks and systems
 Unit 9: Distribution of the prevalences of allergies according to geographical areas
 Unit 10: The immune system and allergy
 Unit 11: Diagnosis of allergic diseases

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	1.12	28	N	-	The objectives and contents of each unit will be discussed. All the material will be available on the virtual platform
Class Attendance (practical) [ON-SITE]	Practical or hands-on activities	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	0.6	15	Y	Y	Attendance at practices is considered a compulsory and non-reschedulable activity in order to pass the subject. His assessment will be recoverable, either in the extraordinary call (convocatoria) or in the special call (convocatoria) for ending the studies.
Writing of reports or projects [OFF-SITE]	Guided or supervised work	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	0.8	20	Y	Y	Student dedication to a report according to a previous script based on the main aspects of the subject. This activity is recoverable by submitting the report in the extraordinary call (convocatoria).
Practicum and practical activities report writing or preparation [OFF-SITE]	Guided or supervised work	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	0.72	18	Y	Y	Student dedication to a report summarizing all the activities carried out in the practical classes
Final test [ON-SITE]	Assessment tests	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	0.08	2	Y	Y	Written exam of short questions and test to assess the knowledge of theoretical contents of the course.
Study and Exam Preparation [OFF-SITE]	Self-study	E01 E13 E26 E32 G01 G02 G03 G04 G05 G06 T02 T03 T04 T10	1.18	29.5	Y	N	Study of the theoretical and practical contents that they must acquire in activities developed in the course.
Total:			4.5	112.5			
Total credits of in-class work: 1.8			Total class time hours: 45				
Total credits of out of class work: 2.7			Total hours of out of class work: 67.5				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	60.00%	65.00%	Written exam of short questions and test to assess the knowledge of theoretical contents of the course.
Laboratory sessions	20.00%	20.00%	Evaluation of practices by conducting a report and an allergenic flora recognition test (visu)
Theoretical papers assessment	15.00%	15.00%	Evaluation of the reports according of the content, structure and references
Other methods of assessment	5.00%	0.00%	Evaluation of the questionnaires of the class attendance. They will be evaluated solely based on the percentage of questionnaires carried out.
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

The course will be evaluated with the written tests (60%), the practical reports-visual exam (20%), the theoretical report (15%) and the questionnaires (5%).

In order to pass the course, a minimum mark of 4 out of 10 must be obtained in the written test, in the report of practices, in the allergenic species recognition test (visu) and in the theoretical report. In any case, the course will only be considered passed if the set of all assessable activities results in a average mark of 5 or higher (out of 10).

Non-continuous evaluation:

The modality assigned by default to the student will be the continuous evaluation. Any student may request the change to the non-continuous evaluation modality (before the end of the class period) by sending an email to the teacher, as long as the 50% of evaluable activities have not been carried out.

In the non continuous evaluation students will be examined with the written tests (65%), the practical reports-visual exam (20%) and the theoretical report (15%). In order to pass the course, a minimum mark of 4 out of 10 must be obtained in the written test, in the report of practices, in the allergenic species recognition test (visu) and in the theoretical report. In any case, the course will only be considered passed if the set of all assessable activities results in a average mark of 5 or higher (out of 10).

Specifications for the resit/retake exam:

The evaluation criteria coincide with those of the ordinary call.

Students will take again the tests not passed in the ordinary call.

Specifications for the second resit / retake exam:

The evaluation criteria coincide with those of the ordinary call.

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Pelaez H.	Tratado de alergología (2 vol.)	Ergon		9788484735755	2007	
Moral A., Senent C, García E. & Pérez Badia R.	Manual de Alergopatología. Plantas, pólenes y proteínas	Milkpost		9788460859697	2016	
Sofiev et al.	Allergenic pollen	Springer		9789400748804	2013	
Trigo M et al.	ATLAS AEROPALINOLÓGICO DE ESPAÑA	Serv Pub. Universidad de León			2008	
VVAA.	Alergológica (2005). Factores epidemiológicos, clínicos y socioeconómicos de las enfermedades alérgicas en España.	Luzan			2005	
Valero A. & Cadahia A. (ed.)	Polinosis II. Polen y alergia	Menarini		84-88865-98-8	2005	
Valero A. & Cadahia A. (ed.)	Polinosis III. Polen y alergia	Menarini		9788488865977	2008	
Zubeldia et al.	Libro de las enfermedades alérgicas	Fundacion BBVA		9788492937158	2012	
	http://www.allergome.org/ http://www.polleninfo.org/en/ www.aerocam.es www.polenes.com www.uco.es/rea					