Teaching guide

IDENTIFICATION DETAILS

Degree:	Biomedicine
Scope	Biology and Genetics
Faculty/School:	Experimental Sciences
Course:	WORK PLACEMENTS IN CLINICAL RESEARCH INSTITUTIONS
Type:	Optional
ECTS credits:	9
Year:	4
Code:	2182
Teaching period:	Eighth semester
Subject:	External Practices
Module:	Practices
Teaching type:	Classroom-based
Language:	Spanish
Total number of student study hours:	225

SUBJECT DESCRIPTION

The student, once he has acquired the necessary training through the different subjects of the Degree at the University, moves to one of the affiliated institutions with which there is an agreement to develop a work project in an internship format and previously agreed between both entities that will last at least 3 months.
The course of Internships in Biomedical Research Institutions is one of the last steps that students of the Degree in Biomedicine will take to complete their training. To do this, you will go to one of the institutions with which the University has an agreement to integrate into a real professional environment (either in a context of experimental work or management and development). Thus, the subject plays a fundamental role in the training of the undergraduate student as the point at which the knowledge acquired and the competencies worked during the first seven semesters of the program come together.

GOAL

The final objective of the Internship in Institutions course is to ensure that the student is successfully integrated into a real professional environment, either in a specific research or experimental work group or in a development or management team in the chosen area of Biomedicine. The specific purposes of the course are:
• Be able to join a team related to the field of Biomedicine and composed of several professionals to contribute effectively to the work carried out in it.
• Critically understand each of the elements and actions, whether in a context of experimental work or management and development in which the student is involved.
• Be able to present in a coherent and effective manner the information related to the work carried out by the student during their internship stay.

PRIOR KNOWLEDGE

Subjects corresponding to the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th semesters of the Degree in Biomedicine.

COURSE SYLLABUS

Given the peculiarities of the subject and the variety of institutions with which there are established agreements/agreements and the dynamics of the lines of research, it is not possible to provide a program as is understood for other subjects, but a list of the institutions in which students can carry out their external internships cannot be provided.

Institutions in the United States
1. Albert Einstein College of Medicine
2. Boston University
3. Children's Hospital of Philadelphia
4. Drexel University College of Medicine
5. Fox Chase Cancer Center (Temple Health)
6. Harvard Medical School
7. Icahn School of Medicine at Mount Sinai
8. John Hopkins University
9. New York University Medical Center
10. Perelman School of Medicine, University of Pennsylvania
11. Rochester University
12. Sanford Burhan Preby Medical Discovery Institute
13. Temple University
14. The Center for Bioethics and Culture
15. The Medical College of Wisconsin
16. The New York Stem Cell Foundation
17. The Scripps Research Institute
18. TUFTS University

19. University of California (Davis, Riverside & San Diego)
20. University of Massachusetts Medical School
21. University of Miami, Miller School of Medicine
22. University of Michigan, Ann Arbor
23. Yale School of Medicine

Institutions in Europe
1. National Center for Scientific Research (CNRS)
2. German Cancer Research Center
3. Goethe University
4. Hanover Medical School
5. Imperial College London
6. Institut de Recherche sur le Cancer et le Vieillissement (IRCAN)
7. Pasteur Institute
8. Julius-Maximilians-Universität Wüzburg
9. Lund University
10. Masaryk University
11. Newcastle University
12. Neotron
13. Paul-Ehrlich-Institut
14. Pockit Diagnostics LTD
15. Queen Mary University of London Medical School
16. Society of Spanish Scientists in the United Kingdom (SRUK/CERU)
17. The International Iberian Nanotechnology Laboratory
18. UCL (London's Global University)
19. University of Modena and Reggio Emilia
20. Universität Bern
21. Côte d'Azur University (Nice, Sophia Antipolis)
22. University Hospital Giessen
23. University of Bradford
24. University of Surrey
25. University of Twente
26. Westfälische Wilhelms-University Münster

Institutions in Spain
1. 3P Biopharmaceuticals
2. Agarose Bead Technologies
3. Andalusian Agricultural and Fisheries Management Agency (AGAPA)
4. AGROVET
5. Alodia Pharmaceutical
6. Alternative Gene Expression (ALGENEX)
7. AMPLICEL
8. Arquimea Agrotech, S.L
9. Ascendo Consulting
10. INVEGEN Association
11. Association of the VOT of San Francisco de Asís
12. Spanish Association of Biosimilar Drugs (BIOSIM)
13. Astellas Pharma
14. Azierta
15. BeOnChip

16. Bioproposit
17. Bioprocess Technology
18. Biosearch Life
19. Biovegen
20. Pascual Quality
21. Severo Ochoa Molecular Biology Center
22. Center for Plant Biology and Genomics (CBGP)
23. Center for Biosanitary Studies
24. Center for Biological Research (CIB-CSIC)
25. Center for Energy, Environmental and Technological Research (CIEMAT)
26. National Center for Biotechnology (CNB)
27. National Center for Oncology Research (CNIO)
28. National Center for Food Technology and Safety (CNTA)
29. CIC Biomagune
30. CEMTRO Clinic
31. Columbus Venture Partners
32. Cáceres Hospital Complex
33. Higher Council for Scientific Research (CSIC)
34. CopenMed
35. Cyndea Pharma
36. Delaviuda Food
37. Department of Material Sciences (UPM)
38. “La Mayora” Experimental Station
39. EpiDisease, S.L
40. 12 de Octubre Foundation
41. Spanish Association Against Cancer Foundation
42. Foundation Center for Agrifood Research and Quality of the Pedroches Valley (CICAP)
43. CIEN Foundation
44. La Princesa University Hospital Biomedical Research Foundation
45. Alcorcón Hospital Foundation
46. Hospital de Madrid Foundation
47. Institute Foundation for Biomedical Research and Technological Development (INBIOMED Foundation)
48. Aragon Health Research Institute Foundation (IISA)
49. Jérôme Lejeune Foundation
50. MEDINA Foundation
51. Foundation for the Management of Biomedical Research of Córdoba (IMIBIC)
52. Foundation for Biomedical Research of the Gregorio Marañón Hospital
53. Foundation for Biomedical Research at La Paz Hospital
54. Foundation for Biomedical Research of the Puerta de Hierro Majadahonda Hospital (FIB)
55. Foundation for Applied Medical Research (FIMA/CIMA)
56. Andalusian Public Foundation for the Management of Health Research in Seville
57. Andalusian Public Foundation Progress and Health
58. Gaiker
59. Gradocell
60. GSK (Aranda de Duero Production Center)
61. Health Diagnostic, S.L
62. Histocell, S.L.
63. Palencia Hospital
64. Hospital Quirón Bizkaia
65. Son Espases Hospital

66. Marqués de Valdecilla University Hospital
67. Vall d'Hebron University Hospital
68. IdForrest
69. IMDEA Water
70. IMDEA Food
71. IMDEA Nanoscience
72. Imegen
73. Imereti
74. InBioTec
75. INCLIVA Health Research Institute
76. Infarco Research and Development, S.L
77. Inmunotek, S.L
78. Aragonese Institute of Health Sciences (IACS)
79. Cajal Institute CSIC
80. Institute of Bioengineering of Catalonia (IBEC)
81. Institute of Molecular Biology and Genetics (University of Valladolid)
82. Institute for Catalysis and Petrochemistry (ICP)
83. Institute of Industrial Fermentations of the CSIC of Madrid
84. Institute of Medical and Molecular Genetics of the Hospital de la Paz (INGEM)
85. BioDonostia Research Institute
86. Bellvitge Biomedical Research Institute (IDIBELL)
87. Santiago de Compostela Research Institute
88. Health Research Institute of the Jiménez Díaz Foundation
89. Alberto Sols Biomedical Research Institute
90. Institute of Neurosciences of Alicante
91. Institute for General Organic Chemistry
92. National Institute for Agricultural and Food Research and Technology (INIA)
93. Ramón y Cajal Institute for Health Research
94. University Institute of Applied Ophthalmology of the University of Valladolid (IOBA)
95. Insud Pharma
96. Interpharma, S.A
97. Invitrotechnics, S.L.
98. Justeda Imagen, S.A
99. Labin Biotech
100. Bioclinical Analytical Laboratory, S.L.U
101. González Santiago Laboratory
102. Cinfa Laboratories, S.A
103. Conda Laboratories, S.A
104. Rovi Pharmaceutical Laboratories, S.A
105. López Salcedo Laboratories
106. Life Length
107. Lyposmol Biotech
108. Manuel Illescas Associates Patents
109. McNeil Iberica, S.L.U
110. Medtronic
111. Merck, Sharp & Dohme from Spain
112. NanoGune
113. Nestle Spain, S.A
114. Neuropharma, S.L
115. Novartis Pharmaceutical, S.A

116. Madrid Science Park
117. Pfizer, S.L.
118. PharmaMar
119. PRA Health Sciences Spain
120. Procter & Gamble
121. Handmade Artisan Cheeses, S.L
122. Quimatryx
123. Saluris Network, S.L
124. Sanofi
125. CRO Sermes
126. Territorial Service of Agriculture and Livestock of Avila
127. SESCAM (Manzanares Integrated Care Management)
128. Star Defence Logistics & Engineering (SDLE)
129. Sylentis
130. Synlab
131. Takeda
132. Tedec-Meiji Farma, S.A.
133. TEPRO Agricultural Consultants, S.L
134. Tiare Consulting
135. Ceta-Ecomedi Clinical Trials Unit
136. Autonomous University of Madrid (UAM)
137. Complutense University of Madrid (UCM)
138. University of Almería
139. University of Extremadura
140. Miguel Hernández University (UMH)
141. University of Santiago de Compostela (USC)
142. YPSILON, Contract Research Organization
143. Valgenetics, S.L.
144. Vidacord
145. Vithas
146. ViveBioTech, S.L

Other destinations
1. La Trobe University
2. McGill University
3. QIMR Berghofer Medical Research Institute
4. TECnia, Technology and Innovation Park (Universidad Anahuac Mayab)
5. The Hebrew University of Jerusalem (Erasmus)

EDUCATION ACTIVITIES

Each student will spend three months at an institution outside the University developing a research, business or management project in the field of Biomedicine depending on the nature of the host institution.
The student must adapt to the particular case of the institution to which they attend in terms of language, work topic, schedule and approach to the development of the stay and will participate in the activities of the group in

which they are integrated, such as seminars, discussion of scientific publications, planning meetings, etc., as requested by their tutor at each institution (AF1).
At the end of the internship period, the student must submit an abstract and a scientific poster, in which they must include the objectives of the project, the methods used to obtain results with the relevant justification, the interpretation with scientific rigor and the conclusions of their work (AF2).
The regulations for the presentation of these abstracts and posters will be published in the virtual classroom corresponding to the subject. The evaluation criteria will also be available in the virtual classroom.
The teachers of the subject do not authorize the publication by the student of the material provided by the teachers of the subject in the virtual classroom, or by any other means.

DISTRIBUTION OF WORK TIME

TEACHER-LED TRAINING ACTIVITIES	INDIVIDUAL WORK
200 Horas	25 Horas

LEARNING RESULTS

Critically evaluate and use sources of clinical and biomedical information to obtain, organize, interpret and communicate information from the various areas that constitute biomedicine.

Develop attitudes of social responsibility in personal performance that contribute to the formation of a better professional in the field of biomedicine.

Know the different laboratory instruments and materials (biological and non-biological) and their obtaining and handling for different purposes, observing the necessary safety principles.

Understand the design of experiments based on statistical criteria and the various tools available for data processing in the area of life and health sciences.

SPECIFIC LEARNING RESULTS

He is successfully integrated into a research group in the biomedical area.

Correctly apply the knowledge acquired during the Degree to particular cases of experimental development.

Understand a working hypothesis and correctly apply the scientific method in experimental work.

He fluently applies the instrumental techniques studied to different experimental proposals.

Analyze the results and obtain scientifically rigorous conclusions from the work carried out.

Work as a team, taking into account the interest of the group. It brings value to the work through prior, active and

creative preparation.

It uses oral and written communication in an appropriate way, manages to express effectively, correctly and clearly and concisely the results obtained.

Correctly identifies the biological systems under study.

LEARNING APPRAISAL SYSTEM

REGULAR EVALUATION SYSTEM
The evaluation of the subject will be carried out both by the tutor of the host institution, the internal tutor of the UFV and the coordinator of the course. Evaluation by the University of the work carried out in external internships (40%): the evaluation by the coordinator of the UFV subject of the abstract and poster submitted by the student at the end of the internship will represent 35% of the final grade. The evaluation carried out by the internal tutor of the UFV will represent 5% of the final grade. A minimum grade of 5 is required in the abstract and poster grades to pass the course. Evaluation of the tutor of the external internship institution: the assessment of the tutor of the host institution of the work done by the student during their stay there will represent 60% of the final grade.

ALTERNATIVE EVALUATION SYSTEM
Students in second and subsequent enrollment will follow the same learning evaluation as described in the ordinary evaluation system.
Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with those established in the Evaluation Regulations and the University's Coexistence Regulations.

ETHICAL AND RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE

1.- The use of any Artificial Intelligence (AI) system or service shall be determined by the lecturer, and may only be used in the manner and under the conditions indicated by them. In all cases, its use must comply with the following principles:
a) The use of AI systems or services must be accompanied by critical reflection on the part of the student regarding their impact and/or limitations in the development of the assigned task or project.
b) The selection of AI systems or services must be justified, explaining their advantages over other tools or methods of obtaining information. The chosen model and the version of AI used must be described in as much detail as possible.
c) The student must appropriately cite the use of AI systems or services, specifying the parts of the work where they were used and describing the creative process followed. The use of citation formats and usage examples may be consulted on the Library website(https://www.ufv.es/gestion-de-la-informacion_biblioteca/).
d) The results obtained through AI systems or services must always be verified. As the author, the student is responsible for their work and for the legitimacy of the sources used.
2.- In all cases, the use of AI systems or services must always respect the principles of responsible and ethical use upheld by the university, as outlined in the Guide for the Responsible Use of Artificial Intelligence in Studies at UFV. Additionally, the lecturer may request other types of individual commitments from the student when deemed necessary.
3.- Without prejudice to the above, in cases of doubt regarding the ethical and responsible use of any AI system or service, the lecturer may require an oral presentation of any assignment or partial submission. This oral evaluation shall take precedence over any other form of assessment outlined in the Teaching Guide. In this oral defense, the student must demonstrate knowledge of the subject, justify their decisions, and explain the development of their work.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

To be specified according to the project of the assigned center. To be specified according to the project of the assigned center.
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