

**COURSE DATA****Data Subject**

Code	33201
Name	Introduction to experimentation and information and communication technology
Cycle	Grade
ECTS Credits	6.0
Academic year	2020 - 2021

Study (s)

Degree	Center	Acad. year	Period
1102 - Degree in Biotechnology	Faculty of Biological Sciences	1	First term

Subject-matter

Degree	Subject-matter	Character
1102 - Degree in Biotechnology	111 - Incorporation to experimentation and information and communication technologies	Basic Training

Coordination

Name	Department
JIMENEZ PEYDRO, RICARDO	355 - Zoology

SUMMARY

"Incorporation to Experimentation and Information, Communication and Learning Technologies", is a compulsory subject, basic sciences track, which is included in the Subject "Biology", within the Module "General Scientific Basis". There are a total of 6 ECTS credits to be taught throughout the first semester of the first year of the Degree.

The course, first, is intended to facilitate the adjustment of students to academic, administrative, social and cultural life of the University of Valencia, given their impact on academic performance. The aim is then to introduce students to research activities, through the acquisition of a series of basic skills and knowledge that allow function in the field of experimental sciences. Thus, over the course should be familiar with the different sources of scientific information and new technologies, learn to function in a research laboratory and the standards of use of basic scientific equipment, management and legislation on animal experimentation, etc. In short, it is acquiring the basic knowledge that will be used throughout the other courses that make up the degree, both from the perspective of search and processing of information, its presentation in different formats or use of English scientist to know use different devices commonly used in the laboratory, experimental animals manage properly or know how to eliminate waste by hazard.



It also aims to provide students with knowledge of the professional skills of biotechnologists and Biotechnology as a profession.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

OUTCOMES

1102 - Degree in Biotechnology

- Capacidad de análisis, síntesis y razonamiento crítico.
- Capacidad de divulgación del conocimiento científico.
- Habilidad para el trabajo en equipo.
- Manejo de material para la experimentación en el laboratorio y en el campo.
- Conocer las normas de seguridad e higiene en el laboratorio.
- Manejo de recursos informáticos de utilidad en Biotecnología.
- Capacidad de análisis crítico de textos científicos.
- Manejo del inglés científico.
- Develop the capacity for organisation and planning.
- Presentación escrita y oral de datos científicos.
- Compromiso ético en el manejo de animales para experimentación.

LEARNING OUTCOMES

- Develop capacity for critical thinking, fostering communication and discussion of content in order to stimulate the creative individual.
- Ability to work in groups when dealing with problematic situations collectively.
- Ability to argue from rational criteria, clearly differentiating what is debatable as they are made or accepted scientific evidence.
- Ability to interact with both the teacher and with peers.
- Interest in social and economic application of science.
- Interest in popular science and the impact of science on culture and consciousness of society.
- Ability to interact seamlessly with the various services and human resources for the benefit and use UVEG individual performance.
- Professional training. Acquisition of scientific and technical knowledge related to Biotechnology and professions that allow civic responsibilities in an ever-increasing technological society.



DESCRIPTION OF CONTENTS

1. INCORPORATION TO THE GRADES, TO THE UNIVERSITY AND TO THE STUDY METHODOLOGIES

Structure of the University of Valencia.
Structure of the degree. Postgraduate studies.
Study techniques and personal work planning.

2. SAFETY IN THE LABORATORY

Safety in the laboratory.
Waste management.

3. MANAGEMENT OF EXPERIMENTAL ANIMALS

Basics of animal management.
Legislation on animal experimentation.

4. EXPERIMENTAL LABORATORY

Practice 1. - Management of biological material.
Practice 2. - The instruments for the observation of biological samples.
Practice 3. - Differentiation of microbial types.
Practice 4. - Management of laboratory animals.
Practice 5. - Processing of model animals.
Practice 6. - Histological processing of biological samples.
Practice 7. - Effect and activity of enzymes

5. INFORMATION AND COMMUNICATION TECHNOLOGIES

Sources of Bibliographic Information.
Publication of Scientific Results.

6. BIOTECHNOLOGY AND DIVERSITY

Animal development.
Diversity: crisis and conservation.
Interaction between populations.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	31,00	100
Laboratory practices	12,00	100
Classroom practices	9,00	100
Computer classroom practice	8,00	100
Study and independent work	90,00	0
TOTAL	150,00	

TEACHING METHODOLOGY**USE OF VIRTUAL CLASSROOM (<http://aulavirtual.uv.es>).**

For all activities will use the platform of e-learnig VIRTUAL CLASSROOM of the University of Valencia. The basic tools to use are:

- *E-mail*. Virtual Classroom from the mail module will allow fluid communication student-teacher. Professor continuously used this medium to inform the student of any aspect related to the development of matter.

IMPORTANT: Only accept e-mails from the e-mail account of the University of Valencia (alumni.uv.es). "Hotmails" or other mail account will be automatically deleted.

- *News*. The news module was used as an information standard. The student Virtual Classroom to enter immediately see any news related to the subject.

- *Resources*. The resource kit will be the place to be deposited material of the subject: reference sources, images, animations, tutorials, practice outlines, course schedules ...

- *Activities*. This module will be the starting point for various tasks: concept maps, classroom practices, seminars The exchange of materials teacher-student to be carried out through this module.

- *Questionnaires*. The questionnaire module Virtual Classroom will be used to answer the questionnaires to be proposed along the course. The student / to have a week to answer questionnaires to each block. Each individual questionnaire will have a limited time to answer. After the period in which the student can check your qualification questionnaire and to analyze their responses.

EVALUATION

Next 100 mark distribution is proposed (a minimum of 50 marks is necessary to pass the subject).



- **Questionnaire of evaluation (up to 60 points)**

It will perform a questionnaire, present in classroom, where questions from all parts of the course will be selected. It is a condition approving the questionnaire to pass the subject. In order to compensate the note to that obtained in the activities, students can do from 25 points.

- **Evaluation of activities (up to 40 points)**

This section assessed the activities to be performed by the student, both present and not-present ones. It is a condition to evaluate this part of that student do and overcome each one of them. Failure to pass the course in the first call will save all the activities surpassed until the second call.

All these activities should be conducted during the first semester of the academic year. If they are not done in this period may not pass the course.

Development of Popular Articles	7,5 points
Literature search	5 points
Summary of popular article readings	5 points
Virtual Panel	7,5 points
Exercises and practical problems	5 points
Progress and participation in Blocks I & II	10 points
TOTAL	40 points

REFERENCES

Basic

- Amat Noguera, N. (1994). La documentación y sus tecnologías. Madrid, Pirámide.
- Barrass, R. (2002). Scientists must write. Routledge Falmer.
- Berry, R. (1986). How to write a research paper. Oxford, Pergamon Press
- Campanario, J.M., <http://www2.uah.es/jmc/webpub/INDEX.html>. Cómo escribir y publicar un artículo científico. Universidad Alcalá
- Camprubí i García, P. (1997.) La profesión de biólogo. Colegio Oficial de Biólogos. Madrid
- Carreras, A. (1994). Guía Práctica para la elaboración de un trabajo científico. Bilbao, CITA.
- Day, R. A. (2006). How to write and publish a scientific paper. 6th Edition. Greenwood Press



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Lannon, J. M. (1996). Technical writing. 7th Edition. Scott Foresman & Co.

Madigan M.T., Martinko J.M., Parker J.(1997). Biología de los Microorganismos. Prentice Hall.

Ministerio de Trabajo, Inst Nac de Seguridad e Higiene en el Trabajo. Normativa NTP 276: Eliminación de residuos en el laboratorio: procedimientos generales.

Colegio Oficial de Biólogos de la Comunidad Valenciana <http://www.cobcv.org>

Servei Seguretat, Salut i Qualitat Ambiental. <http://www.uv.es/DSSQA/general/documentacio.htm>

Zúñiga, J.M., Orellana, J.M., Tur, J.A., 2008. Ciencia y tecnología del animal de laboratorio. Ed Univ. Alcalá y S.E.C.A.L.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

The teaching plan distribution and the relationship between in-class and non presential activities may be modified throughout the course period if it is required because of the health emergency conditions by Covid-19.

Teaching Methodology:

If it is required by the emergency situation, the three sessions of the face-to-face activities in the Informatics room will be offered in online mode at Virtual Classroom. The original assessment is maintained in final evaluation.

The activity -Visit to a research center-, in Problems part, will only be carried out in person using a mask or if the appropriate interpersonal distance is ensured in the visited facilities. Otherwise, virtual alternatives with a subject similar to the original objectives will be chosen, or the visit will be replaced by bibliographical works.