

**COURSE DATA****DATA SUBJECT****Code:** 33103**Name:** Introduction to environmental sciences studies**Cycle:** Undergraduate Studies**ECTS Credits:** 6**Academic year:** 2025-26**STUDY (S)**

Degree	Center	Acad. year	Period
1104 - Degree in Environmental Sciences	Facultat de Ciències Biològiques	1	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1104 - Degree in Environmental Sciences	Incorporation to studies in environmental sciences	COMPULSORY

COORDINATION

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SUMMARY

The subject is aimed to development and achievement of certain transversal skills, such as the use of information and communication technologies, and the preparation, publication and presentation of scientific documents. In parallel with the development of these competences, English will be used as a fundamental language in science. It is also intended to provide students with basic knowledge in animal handling, legislation in experimentation, handling of instruments and safety in the laboratory. Finally, this basic training will be completed with notions of field research.

PREVIOUS KNOWLEDGE**RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE**

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

OTHER REQUIREMENTS



COMPETENCES / LEARNING OUTCOMES

1104 - Degree in Environmental Sciences

Capacidad de análisis crítico y síntesis.

Capacidad de comunicación oral en las exposiciones públicas y de argumentación de opiniones personales.

Capacidad de diseñar el propio currículum formativo con vistas a la inserción profesional.

Capacidad de manejar el inglés para la lectura de documentos y elaboración de informes.

Capacidad de manejo de las fuentes expertas en contenidos científicos.

Capacidad de organizar y planificar el trabajo individual, grupal y el estudio.

Compromiso ético en el ejercicio de la profesión de ambientólogo.

Compromiso ético en el manejo de animales para experimentación.

Conocimiento de las normas básicas de seguridad en los laboratorios y en el campo.

Conocimiento detallado del plan de estudios, su justificación, sus diferentes opciones, y la relación entre la formación que se va a recibir y las necesidades y exigencias del mercado laboral.

Habilidad para identificar y localizar los distintos servicios y recursos humanos, administrativos e informáticos de la UVEG y utilizarlos en beneficio del rendimiento personal.

DESCRIPTION OF CONTENTS

1. INFORMATION AND COMMUNICATION THEORIES (theory class)

1. THE JOURNAL ARTICLE.

1.1. Structure of the article: IMRAD/IMRAD/IMRYD format.

1.2. Before you begin: choosing the journal.

1.3. Instructions to authors (authors guidelines).

1.3.1. First page or title page.

1.3.2. The introduction.

1.3.3. Materials and methods.

1.3.4. Results.

1.3.5. Discussion.



1.3.6. Acknowledgements.

1.3.7. Bibliography.

2. QUALITY AND RELIABILITY OF INFORMATION.

2.1. Sources of information in the classroom. Notes.

2.2. Basic bibliography as a source of information in the classroom.

2.3. Sources of information consulted on the Internet.

2.4. The impact of information on the training of students: the use of scientific language.

3. SCIENTIFIC COMMUNICATION.

3.1. Publishers and Scientific Societies as journal managers.

3.2. Scientific knowledge requires publicity, dissemination and contrast.

3.3. Many formal aspects determine the acceptance or rejection of the work.

3.4. Types of documents in scientific communication.

3.4.1. Primary documents.

3.4.2. Secondary documents.

3.4.3. Reference literature.

4. OTHER DOCUMENTS

4.1. Panels or posters.

4.2. Written and oral presentation of seminars.

4.3. Reports and projects in biology.

4.4. The doctoral thesis.

5. EDITORIAL PROCESS FOR THE REVISION OF THE ARTICLE.

5.1. Evaluation of the quality of the journal: Impact Factor.

6. RELIABILITY OF INFORMATION AND SCIENTIFIC FRAUD.



6.1. The use we make of information on the Internet. Respect for authorship.

6.2. Reliability and fraud.

6.3. Predatory journals.

2. PRACTICAL SESSIONS IN COMPUTER ROOM

Search strategies. Management of bibliographic databases: MEDLINE and WEB of SCIENCE. Bibliographic Managers. Introduction to handling REFWORKS and MENDELEY. Preparation of scientific posters.

3. WORKOUT CLASSROOM

Reading, viewing, discussion and summary of spreading works.
Oral presentation from spreading works.
Practical exercises about scientific publications.

4. SECURITY AND FIELD RESEARCH (DATA COLLECTION AND ANALYSIS).

Lesson 1.- Behaviour and safety in the field. The field: particularities of the area of study and the objectives of the work. Legislation and regulations. Personal safety in the field. Behaviour. Basic equipment.
Lesson 2.- Use cartography and geographic positioning systems (GPS). Types of maps. Scales. Basic instruments. Orientation. Positioning. Determination of points of interest.
Lesson3.- Recording and recording data and samples. Work before going out into the field. The field notebook. Basic concepts of data collection. Recording physical-chemical and biological parameters. Collection, labelling and conservation of biological samples.

5. INTERDISCIPLINARY SEMINARS

"Interdisciplinary Seminars" will be realized in groups (3 / 4 students), with the subject Biology. Teachers of the Biology Subject will tutor and evaluate the contents, while teachers of the "incorporacion" subject will handle the format of the presentations. Each student will elaborate and present a single work for both subjects and the obtained mark will be considered in the two subjects. The instructions for this activity and the delivery of documents by students will be made through Aula Virtual.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
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Tutorials	2,00
Theory	24,00
Laboratory	10,00
Computer classroom practice	18,00
Classroom practices	6,00
Total hours	60,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	3,00
Individual or group project	22,00
Independent study and work	0,00
Preparation of lessons	44,00
Preparation for assessment activities	21,00
Resolution of case studies	0,00
Total hours	90,00

TEACHING METHODOLOGY

PART 1.- INFORMATION AND COMMUNICATION TECHNOLOGIES (TICs)

This part is structured in classroom activities (theoretical classroom sessions, computer classroom practices and problem sessions) and in non-classroom activities of students' autonomous work.

- *Theoretical sessions in the classroom.* They will be taught sequentially, in such a way that they are integrated with the rest of the proposed activities.

- *Practical sessions in a computer classroom.*

- Practice 1 and 2.- Introduction of basic concepts necessary to elaborate research strategies. Afterwards, and in a completely practical way, students will be trained in the basic handling of two important databases: MEDLINE and Web of Science. As a result of the practical, students will obtain certificates that they will keep for subsequent processing.
- Practical 3 and 4. Bibliographic managers: MENDELEY and REFWORKS. This program allows for the online storage of bibliographic references and their subsequent processing for use in publications. The basic handling of the different options offered will be introduced, with the main emphasis on importing results from databases such as those used in the first session.
- Practical 5 and 6. These sessions will be devoted to the elaboration of a scientific poster. Students will be able to use both open-access tools and programmes such as Power Point.

- *Exercises in classroom sessions.* The aim of these sessions is the approach of various activities, working on different aspects needed to present scientific results in various formats.

- Session 1 and 2.- Reading, viewing, discussion and summary of disclosure documents. In this activity groups will be made and they will be provided with specific documentation on a topic.



Students must read, understand and interpret these records and use teamwork in order to get to a script or outline of what was read. Then each student individually will prepare with their own words an abstract (maximum one page).

- Session 3 and 4 .- Discussion and oral presentation. Documentation of the first 2 sessions will be used, obtained from sources of varying quality and reliability, to prepare an oral group of presentation. A representative of each group will hold a presentation for about 10 minutes, defending their points of view. This activity will be used to show in practice the different aspects that may influence the effectiveness of an oral presentation.
- Session 5 and 6 .- Practical exercises publications. Exercises will arise in which, from a document and / or experimental data, students will elaborate different parts of a job. These exercises can also be used for students to deepen their knowledge of English.

PART 2: LABORATORY SAFETY AND INTRODUCTION TO ANIMAL EXPERIMENTATION

Safety in the laboratory session. This session will introduce students to basic concepts of good practice in a research laboratory

Introduction to animal experimentation. The aim is to introduce students to the basic theoretical notions of both the handling of laboratory animals and national and international legislation on animal experimentation.

PART 3 .- BEHAVIOR AND SAFETY IN THE LABORATORY AND FIELD.

- Theoretical sessions in the classroom.

- Sessions of data collection and analysis.

DATA COLLECTION:

Field trips:

Basic material of orientation and registration of environmental data. Taking and preservation of samples.

The field trip will be made to an area with terrestrial and aquatic environments, preferably an area or environment with unique species of special interest.

DATA ANALYSIS:

Laboratory practice:

Associated with the field trip, two lab practices will be carried out with the following objectives:



- Knowledge and use of the basic work material in the laboratory.
- Processing of biological samples.

Practice in Computer Room.

Design of data collection. Knowledge and use of various computer applications to organize data obtained in the field.

EVALUATION

We propose the following distribution of a maximum of 100 points (50 POINTS WILL HAVE TO BE REACHED TO PASS THE COURSE):

¿ ASSESSMENT QUESTIONNAIRES IN VIRTUAL CLASSROOM (50 points)

Questionnaires will be carried out in the computer room through the Virtual Classroom where test questions will be collected from all parts of the course. It is a necessary condition to make the test properly in order to pass the subject. It will be possible to compensate the marks obtained in the activities ifrom 20 points. The score in this block will be kept for a full academic year.

¿ EVALUATION OF THE ACTIVITIES (up to 50 points)

This section will assess the activities undertaken by students either in attendance or no attendance. In case of failing the subject in the first round, the activities of this section (as a whole, not separately) will be maintained for a full academic year.

All these activities should be realized during the academic year, between September and May/June. If they are not done in this period it will not be possible to pass the course.

* Development work	15 points
* Literature search	5 points
* Interdisciplinary Seminars	10 points
* Attendance and use the data collection and analysis	10 points
* Attendance and activities, papers, presentations¿	10 points
TOTAL	50 points



The evaluation of the field and laboratory practices will be carried out through the field notebook that must be done personally by the student, then scanned and delivered in PDF format through the virtual classroom in a task.

To apply for the advancement of the exam of this subject, students should be aware that the mandatory activities outlined in this guide have to be accomplished.

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