Universidad de Navarra

Discovering the world with science (BQ)

Teaching guide 2026-27

PRESENTATION

Course description:

Nature, in which human beings are integrated, presents itself as a wonder to an open gaze. When we pay attention, it awakens our admiration and the desire to understand it with increasing depth. At the origin of the experimental scientific impulse lies a deep and uncontainable desire to know, an endless search that has given rise to multiple forms of empirical knowledge. This course aims to illuminate the wonder of the natural world through the discoveries contributed by some of the experimental sciences that investigate it (from the physics of the universe to the ecology of the most specific environments). Through this approach drawing from the various sciences that will speak, the goal is to nurture an understanding—both diverse and unified at the same time—of the world we inhabit and our place in it.

- **Degree**: Biochemistry
- **Module/Subject**: Module VI – Humanistic Training, Scientific Culture, and Professional Aspects; Subject 6.2 – Scientific Culture and Professional Aspects.
- **ECTS**: 3
- **Year, semester**: 1st, 1st.
- **Type**: compulsory.
- **Responsible professor**: Ana Villarroya.
- **Language**: English
- **Room, schedule**: room 14, Wednesdays 8.00 to 10.00

LEARNING OUTCOMES

- RA10 - Identify the main topics of debate and future challenges in biomedical research, their social and economic dimensions, as well as their practical applications.
- RA20 - Critically analyze the problems under study, discussing, writing, and presenting scientific arguments.
- RA22 - Make well-founded judgments on social, scientific, or ethical issues, based on relevant data and the critical identification of reliable information sources.
- RA23 - Critically and reflectively interpret the assumptions, methodologies, and problems of one's own discipline in its connection with other fields of knowledge.
- RA24 - Approach problems in an integrated manner from different perspectives, with creativity, critical reasoning, and a service-oriented attitude, proposing positive, practical, and feasible solutions from the perspective of scientific knowledge.
- RA25 - In-depth analysis of the anthropological and ethical foundations of one's own discipline, applying them to professional reality.

SYLLABUS

- **Introduction** to the course (1 session)
- Scientific rationality and multidisciplinarity (1 session)
- Discovering the world from **Physics** (1 session)
- Discovering the world from **Geology** (1 session)
- Discovering the world from **Chemistry** (1 session)
- Discovering the world from **Genetics** (1 session)
- Discovering the world from **Microbiology** (1 session)
- Discovering the world from **Evolutionary Biology** (1 session)
- Discovering the world from **Botany** (1 session)
- Discovering the world from **Zoology** (1 session)
- Discovering the world from **Physiology** (1 session)
- Discovering the world from **Ecology** (1 session)

- Discovering the world from **Nature in human beings** (1 session)

**Sessions consist of 2-hour blocks.*

TRAINING ACTIVITIES

In-person activities (26 hours)

- Lectures given by professors who are experts in the topics mentioned in the syllabus: **6.5 hours**.
- Workshops regarding the content of the lectures: **13 hours**.
- Graded in-class exercises: **6.5 hours**.

Independent study activities (45 hours)

- **Reading and text comprehension:** Before each session, students must work on (read, underline, understand) the materials provided by each speaker. (**40 hours**)
- Preparation for the final exam. (**5 hours**)

ASSESSMENT

Note: Plagiarism results in failing the course, if detected.

ORDINARY CALL

The evaluation is carried out based on **three sources**:

1. **Short quizzes** on the content of the texts to be worked on at home. These will take place during class sessions and account for **15%** of the overall grade.
2. **3 personal assignments** selected at random from the 13 in-class exercises to be completed (one per session), the average of which will account for **45%** of the overall grade.
3. A **final exam**, which will account for **40%** of the overall grade.

The personal assignments and the final exam will consist of personally writing letters corresponding to the contents of the course sessions. The assessment of each submission (0 to 10) will depend on its adherence to the following criteria:

- **Epistolar genre:** They will be written as if each one were a carefully prepared personal gift addressed by each student to an older person of their choice who matters a lot to them.
- They will reflect the content and development of the sessions.
- Beyond what was said by the speakers, value will be placed on integrating personal reflections with the depth and expressive clarity that each student is capable of.
- They must be **handwritten** with calligraphic quality.

If any student wishes, they can request the professors to review any of the submitted assignments and discuss it during tutoring sessions during the teaching period.

Grades can be improved by:

- Good class participation, or
- Any other method proposed by each student and agreed upon with the professors.

EXTRAORDINARY CALL

Submissions that have already been handed in and passed in the ordinary call do not need to be resent.

The exam in the extraordinary call will have two parts:

1. Writing a letter about one of the texts that the students have worked at home during the semester.
2. Final exam resembling the one of the ordinary call.

General Evaluation Conditions

Students who passed the course in December can ask for improving their grade in the extraordinary call.

The final grade is obtained in the same way as in the ordinary call.

Students with special educational needs

Students with special educational needs must contact the Academic Coordination Office of the school in advance to obtain the corresponding authorization for any adaptations (for example, extra time in exams). This authorization must then be sent by the student to the professor. It is recommended that this procedure be completed at the beginning of the semester.

OFFICE HOURS

By appointment: avillarroya@unav.es

BIBLIOGRAFÍA Y RECURSOS