

**Biotechnology and Society**

Code: 100970  
ECTS Credits: 3

| Degree                | Type | Year | Semester |
|-----------------------|------|------|----------|
| 2500253 Biotechnology | OB   | 3    | 1        |

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

**Other comments on languages**

In case of Erasmus students, the first month the classes could be made in Spanish on demand.

**Prerequisites**

There are no prerequisites to follow the course successfully.

**Objectives and Contextualisation**

The main objective of this course is to systematically reflect on some of the main social debates generated by the new biotechnologies and their applications. More specifically, it is intended to learn:

- Basic sociological concepts.
- Theorizing the type of society in which the biotechnologies appear and develop.
- Learning theoretical knowledge to interpret social responses to biotechnology.
- Analyzing the political, economic, social or cultural constraints that influence the development of biotechnologies.
- Reflecting on the relationship between science, technology and society.
- Basics of bioethics.

Other objectives of the course are:

- Sociological reasoning, discussion and exposition of ideas about social reality in a clear and precise way.
- Developing team work skills.

## Competences

- Adopt clear, objective scientific criteria in order to project a positive, transparent image of biotechnology to economic, political and social agents.
- Make an oral, written and visual presentation of ones work to a professional or non-professional audience in English or in one's own language.
- Read specialised texts both in English and ones own language.
- Reason in a critical manner
- Search for and manage information from various sources.
- Think in an integrated manner and approach problems from different perspectives.
- Work individually and in teams

## Learning Outcomes

1. Analyse the social context, the social structure and the principal social actors involved in biotechnology and its application.
2. Explain the debates on the risk society and the social perception of science and technology, and the systems of cultural and ideological values in which these take place.
3. Make an oral, written and visual presentation of ones work to a professional or non-professional audience in English or in one's own language.
4. Read specialised texts both in English and ones own language.
5. Reason in a critical manner
6. Search for and manage information from various sources.
7. Think in an integrated manner and approach problems from different perspectives.
8. Work individually and in teams

## Content

Lesson 1: Basics of sociology: Nature and society. Person and society. Social structure, rules and values. Social and power inequality. The question of the human nature.

Lesson 2: Characterization of contemporary society: From the industrial society to the post-industrial society. The risk society and the information society. Ideological paradigms and political systems. Globalization and emergence of the new biotechnologies.

Lesson 3: Concept of risk: Social risk perception. Risk communication. Risk assessment and the question of the caution principle. Science and politics in risk management.

Lesson 4: Social conflicts around biotechnology: Agribusiness applications and GMOs. Healthcare related applications. Human reproduction associated applications. The question about eugenics and social inequity. Biotechnology applied to other fields (environmental and others).

Lesson 5: Proposals from bioethics: Principles of bioethics. Bioethics institutions. Ideologies and mechanisms of legitimacy. Theoretical currents of bioethics.

## Methodology

The subject will have the following teaching methodology:

### 1- Theoretical classes

During the course, teachers will present the main concepts and theoretical frameworks for each unit of study.

### 2- Seminars

The seminars will consist of the discussion, exposition and debate of a series of selected readings. At the beginning of the course the teacher will provide these readings and the calendar of discussions and debates.

### 3- Exhibitions

Throughout the course each student will have to prepare a public presentation based on the materials of discussion and debate. These presentations will be made in groups, following a calendar that will be established at the beginning of the course.

### 4- Student's self-organization

Reading works: Each student will have to do an individual work based on the discussed texts, complemented with other sources obtained by the students.

### 5- Team work

The students will be organized in groups of 4 participants to carry out discussions of readings, search for information and public presentations throughout the course.

## Activities

| Title                              | Hours | ECTS | Learning Outcomes |
|------------------------------------|-------|------|-------------------|
| Type: Directed                     |       |      |                   |
| Theoretical classes                | 18    | 0.72 | 1, 2              |
| Type: Supervised                   |       |      |                   |
| Public presentations               | 1     | 0.04 | 3                 |
| Seminars                           | 4     | 0.16 | 3, 4, 5           |
| Type: Autonomous                   |       |      |                   |
| Self-organized work of the student | 30    | 1.2  | 6, 5              |
| Team work                          | 21    | 0.84 | 1, 2, 7, 8        |

## Assessment

- a) Individual work of analysis of readings and theoretical reflection (50% of the final grade)
- b) A group presentation (presential or virtual) (30% of the final grade)
- c) Participation in discussions and debates in the classroom or through on-line forums (20% of the final grade)

At the beginning of the course the teacher will give detailed directions on how to do each activity. To participate in the recovery exam, the students must have been previously evaluated in a set of activities whose weight equals to a minimum of two thirds of the total grade of the subject. Therefore, students will obtain the "Non-Valuable" qualification when the assessment activities carried out have a weighting of less than 67% in the final grade.

## Assessment Activities

| Title                                   | Weighting | Hours | ECTS | Learning Outcomes |
|-----------------------------------------|-----------|-------|------|-------------------|
| Discussion and debates in the classroom | 20%       | 0     | 0    | 1, 2, 7, 8        |
| Individual reflection on reading works  | 50%       | 0     | 0    | 1, 6, 4, 5        |
| Team presentation                       | 30%       | 1     | 0.04 | 3, 8              |

## Bibliography

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Mukherjee, S. (2016) *El gen. Una historia personal*. Madrid: Debate.

Muñoz, E. (2001) *Biología y sociedad. Encuentros y desencuentros*. Madrid: Cambridge University Press.

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Complementary:

Adam, B.; Beck, U.; Van Loon, J. (2000) *The Risk Society and Beyond*. London: Sage. [cap. 3, cap. 5, cap. 8]

Alvarez-Uría, F.; Varela, J. (2009) *Sociología de las instituciones. Bases sociales y culturales de la conducta*. Madrid: Morata.

Beck, U. (1998) *¿Qué es la globalización? Falacias del globalismo, respuestas a la globalización*. Barcelona: Paidós.

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