

**Science and Gender**

Code: 105802  
ECTS Credits: 6

Degree	Type	Year	Semester
2503878 Sociocultural Gender Studies	OB	3	2

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**

Name: Monica Alcala Lorente  
Email: Monica.Alcala@uab.cat

**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

**Teachers**

Jorge Molero Mesa  
Anyely Marin Cisneros  
Digna Maria Couso Lagaron  
Anna Macaya Andres

**Prerequisites**

None.

**Objectives and Contextualisation**

This subject aims to provide analytic tools from the feminist critique of science, the history and philosophy of science and technology, and education with gender perspective, for the students to actively take part in the current debates, as well as to elaborate programs and take measures to face future challenges in the scientific-technological and environmental fields, with an intersectional gender perspective.

**Competences**

- Express correctly and in a non-sexist or homophobic manner both orally and in writing.
- Formulate, argue and discuss your own and others' ideas in a respectful, critical and reasoned way.
- Identify and question gender representations in the history of ideas, arts and culture, as well as in the construction of scientific knowledge.
- Interpreting and interrelating the conceptual bases of feminist theories.
- Interpret gender inequalities in relation to sexuality, class, ethnicity and territory based on the concepts and approaches of sociocultural analysis.
- Students can apply the knowledge to their own work or vocation in a professional manner and have the powers generally demonstrated by preparing and defending arguments and solving problems within their area of study.

- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.

## Learning Outcomes

1. Critically analyze informative speeches especially in relation to ideology and ethnocentric and sexist biases.
2. Describe the fundamental concepts of gender theory.
3. Make an inclusive use of language.
4. Prepare an organized and correct speech, orally and in writing, in the corresponding language.
5. Prepare basic proposals to promote gender equality in scientific and technological studies.
6. Students can apply the knowledge to their own work or vocation in a professional manner and have the powers generally demonstrated by preparing and defending arguments and solving problems within their area of study.
7. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
8. Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
9. Use the specific technical vocabulary and own interpretation of the required disciplines.

## Content

Block 1. Historical, scientific, and technological accounts of sex/gender

- Lesson 1. Paradigm shift in science. The scientific revolution: objectivity and reason as a premise, man as gender
- Lesson 2. Historiography I
- Lesson 3. Historiography II
- Lesson 4. Critiques to the sex/gender system from the history of science and technology

Block 2: Feminist critique to science and feminist epistemologies

- Lesson 5. The epistemological debate I: knowledge and the subject of science
- Lesson 6. The epistemological debate II: new and old gender perspectives in science. The Postmodernism of Donna Haraway and the intersection as a method
- Lesson 7. Rationality, utilitarianism, and the relation with nature
- Lesson 8. Gender, nature and coloniality

Block 3: Scientific, medical, and technological constructions of the body, sexuality, and gender

- Lesson 9. Posthumanism and Do It Yourself in science
- Lesson 10. Sexual dimorphism and intersexuality: the biological construction of sex
- Lesson 11. Gender as a tool for medicine. Transsexuality in medical discourse
- Lesson 12. Science and the construction of masculinities

Block 4. Scientific education and STEM from a gender and equity perspective

- Lesson 13. Challenges of science education with a gender and equity perspective
- Lesson 14. Science education and STEM/STEAM with gender perspective. What do they do, what can be done, and what can we do?

## Methodology

The methodology is eclectic and interdisciplinary, based on the students' prior knowledge.

The sessions will start by introducing the topic through a case study, reading or audiovisual material to promote the activation of one's own prior knowledge. After that, a lecture related to the proposed topic will add complexity to the analysis. Lastly, a creation, debate and / or argumentation phase will take place to integrate what has been learned during the session.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	33.33	1.33	1, 2, 4, 9
Practical sessions	14.67	0.59	1, 4, 3, 6, 7, 9
Type: Supervised			
Field trip	4	0.16	1, 6, 7
Programmed tutorials	6	0.24	1, 2, 5, 7, 9
Type: Autonomous			
Comprehensive reading of texts	25	1	1, 7
Preparation for debates and discussions	15	0.6	1, 4, 3, 6, 7, 9
Preparation of the assessment activities	40	1.6	1, 2, 5, 4, 3, 8, 6, 7, 9
Search of bibliography	10	0.4	1, 7, 9

## Assessment

The evaluation of the competences and learning outcomes is continuous, through the active participation of the students in relation to the activities proposed. The final grade will consist of the addition of the points obtained in each assessment. For the evaluation to be considered effective, students must pass each of the assessments separately.

Lecturers will report the grades of each assessment through Aula Moodle once each block has been completed. Final grades will be published after the session of general conclusions of the course, also through Aula Moodle.

### Recommendations

It is assumed that students are able to express themselves correctly both orally and in writing. For this reason, any spelling and expression errors that may be made will lead to a decrease in the grade of the assessment. Likewise, it is considered that the students know the general norms of presentation of an academic work. However, specific rules may be applied by indication of the lecturers if they consider it appropriate.

In the event of a student committing any irregularity that may lead to a significant variation in the grade awarded to an assessment activity, the student will be given a zero for this activity, regardless of any disciplinary process that may take place. In the event of several irregularities in assessment activities of the same subject, the student will be given a zero as the final grade for this subject.

### Grade review procedure

At the time of each assessment test, lecturers will inform the students via Aula Moodle of the procedure and date of revision of the grades.

## Recovery procedure

In case of need, a recovery test (exam) will be carried out for those students who do not pass the continuous assessment tests as a whole. To participate in the recovery, the students must have been previously evaluated in a set of activities whose weight equals a minimum of 2/3 of the total grade of the subject, and have obtained a minimum grade of 3,5 out of 10.

## Conditions for "Not evaluable"

Students who do not complete at least 2/3 of the assignments will be considered as "Not evaluable", exhausting the enrolment rights of the subject.

## Information regarding adaptation of evaluations to the hybrid teaching system in the event of an epidemic

In the event that tests or exams cannot be taken onsite, they will be adapted to an online format made available through the UAB's virtual tools (original weighting will be maintained). Homework, activities, and class participation will be carried out through forums, wikis and/or discussion on Teams, etc. Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

## **Assessment Activities**

Title	Weighting	Hours	ECTS	Learning Outcomes
Debate in small groups (Block 2)	25%	1	0.04	4, 3, 8, 6, 9
Individual essay (Block 1)	25%	0	0	1, 2, 4, 3, 8, 7, 9
Individual portfolio (Block 4)	25%	0	0	5, 4, 3, 8, 7, 9
Oral group presentation (Block 3)	25%	1	0.04	1, 5, 4, 8, 6, 7, 9

## **Bibliography**

The following list corresponds to the basic bibliography for each block. Throughout the course, lecturers will offer specific bibliography of interest.

Block 1:

Cowan, Ruth Schwartz (1989). *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. London: Free Association Books

Haraway, Dona J. (2004). *Testigo\_Modesto@Segundo\_Milenio. HombreHembra \_Conoce\_ Oncorotón: feminismo y tecnociencia*. Barcelona: UOC

Harding, Sandra G. (1998). *Is science multicultural?: postcolonialisms, feminisms, and epistemologies*. Bloomington: Indiana University Press

Keller, Evelyn Fox (1991). *Reflexiones sobre género y ciencia*. València: Alfons el Magnànim.

Merchant, Carolyn (1983). *The Death of nature: women, ecology, and the scientific revolution*. San Francisco: Harper & Row

Schiebinger, Londa L. (2004). *¿Tiene sexo la mente?: las mujeres en los orígenes de la ciencia moderna*. Madrid: Cátedra; València: Universitat de València. Instituto de la Mujer

Wajcman, Judy (2006). *El tecnofeminismo*. Madrid: Cátedra; València: Universitat de València Instituto de la Mujer

Block 2:

Adán, Carme (2003). *Feminismo e coñecemento: da experiencia das mulleres ao cíborg*. Coruña: Espiral Maior.

Haraway, Donna J. (1995). *Ciencia, cyborgs y mujeres: la reinención de la naturaleza*. Madrid: Cátedra

Harding, Sandra G. (1996). *Ciencia y feminismo*. Madrid: Morata

Keller, Evelyn Fox & Longino, Helen E. (1996). *Feminism and science*. Oxford: Oxford University Press

Longino, Helen E. (1990). *Science as social knowledge: values and objectivity in scientific inquiry*. New Jersey: Princeton University Press

Merchant, Carolyn (1996). *Earthcare: women and the environment*. New York: Routledge

Plumwood, Val (1993). *Feminism and the mastery of nature*. London, New York: Routledge

Block 3:

Badinter, Elisabeth (1993). *XY La identidad masculina*. Madrid: Alianza

Braidotti, Rosi (2013). *The posthuman*. Cambridge: Polity Press.

Coll-Planas, Gerard & Missé, Miquel (2015). La identidad en disputa. Conflictos alrededor de la construcción de la transexualidad. *Papers*, 100 (1): 35-42. Available at: <<<http://dx.doi.org/10.5565/rev/papers.637>>>

Fausto-Sterling, Anne (2006). *Cuerpos sexuados: la política de género y la construcción de la sexualidad*. Barcelona: Melusina

Laqueur, Thomas (1994). *La construcción del sexo: cuerpo y género desde los griegos hasta Freud*. Madrid: Cátedra

Milam, Erika L.; Nye, Robert A. (2015). An Introduction to Scientific Masculinities. *Osiris*, 30 (1):1

Preciado, Beatriz (2008). *Testo yonqui*. Madrid: Espasa Calpe

Block 4:

Archer, Louise; Dawson, Emily; DeWitt, Jennifer; Godec, Spela; King, Heather; Mau, Ada; Nomikou, Effrosyni; Seakins, Amy (2017). Killing curiosity? An analysis of celebrated identity performances among teachers and students in nine London Secondary Science Classrooms. *Science Education*, 101 (5): 741-764.

Brotman, Jennie S. & Moore, Felicia M. (2008). Girls and Science: A review of four themes in Science Education. *Journal of Research in Science Teaching*, 45 (9): 971-1002

Cantero Riveros, Beatriz (2015). *Inclusión del Género en la Enseñanza de las Ciencias*. Thesis dissertation. UAB. Available at: <<<https://ddd.uab.cat/record/166152>>>

Hughes, Gwyneth (2001). Exploring the Availability of Student Scientist Identities within Curriculum Discourse: An anti-essentialist approach to gender-inclusive science. *Gender and Education*, 13 (3): 275-290.

Hussénius, Anita (2014). Science education for all, some or just a few? Feminist and gender perspectives on science education: a special issue. *Cultural Studies of Science Education* 9: 255-262

OECD (2016). PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris. Available at: <<<https://doi.org/10.1787/9789264266490-en>>>

Solsona i Pairó, Núria (2010). Génesis y desarrollo de los saberes femeninos en la educación. *Aula de Innovación Educativa*, 191: 7-11