



EURAXESS Japan



6th September 2023
16:00-18:00JST/9:00-11:00CEST

in collaboration with
Japan Science and Technology Agency

**EMPOWERMENT of FEMALE RESEARCHERS:
DIVERSITY in EU and JAPAN Perspectives**

Gender Perspective in STEM Disciplines in Spain Universities



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

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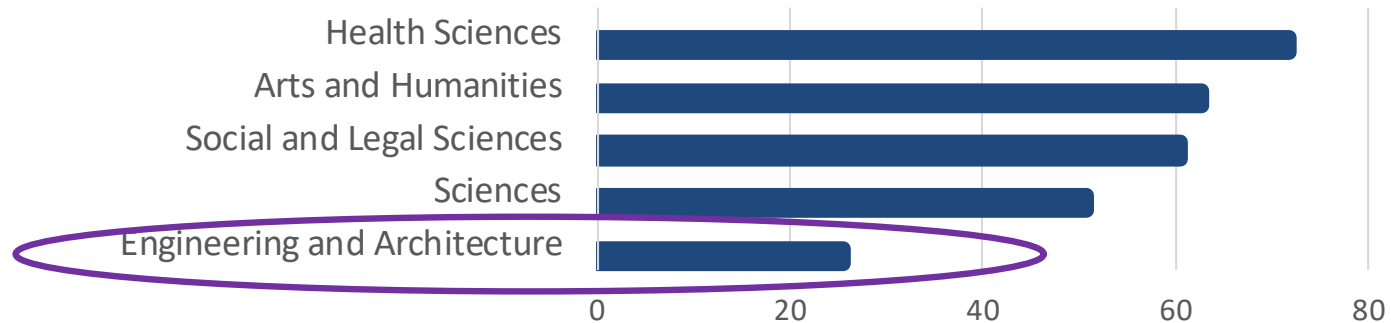


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Current status at universities in Spain

❑ [Científicas en Cifras 2023](#):

Percentage of female students (Spain, 2021-2022)



❑ General observations:

- Female STEM students show a **lower self-confidence** and a perception of a **lesser ability** in maths and ICT.
- There are still **gendered stereotypes** in our society and, specifically, concerning STEM occupations.
- The **lack of female outstanding personalities** in STEM field prevents female students to be engaged.



❑ There is a **gender gap** about the time spent on:

1. Quality of teaching (not considered a merit in the academic career!)
2. Caring tasks (gap of 30h/week during the range from 35 to 40 years!)



Gender mainstreaming



The governance bodies, key actors and decision-makers



Recruitment, career progression and retention



Work and personal life integration



Researchers and research: gender equality and sex and gender perspective



Integration of sex and gender dimension in teaching curricula

Spanish regulatory framework

- ❑ Several laws on education and, specially University education, include:
 - ✓ Equality principles
 - ✓ Gender perspective in teaching and research
 - ✓ Transversal gender competence

❑ But....the **real level of inclusion** of the gender perspective is **low**

❑ Pioneering initiative in 2020:

General framework for incorporating the gender perspective in higher education teaching



Catalan University
Quality Assurance
Agency

- To be applied in all degree programmes at Catalan universities
- In assessment, monitoring, modification and accreditation

Guides of the Vives University Network for university teaching

- ❑ First guides published in 2018
- ❑ At present: 29 guides (**11 in STEM fields**)
- ❑ Recognized by the European Institute for Gender Equality (EIGE) as an example of good practice in its [GEAR Toolkit](#)



This study

Lecture Notes in Educational Technology

Francisco José García-Peñalvo
Alicia García-Holgado
Angeles Dominguez
Jimena Pascual *Editors*

Women in STEM in Higher Education

Good Practices of Attraction, Access and
Retainment in Higher Education

OPEN ACCESS

 Springer

9th chapter



Gender perspective in STEM disciplines in Spain universities

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Critical stereotypes

	Physics	Engineering
The aim	understanding the material world using formalism and abstraction	designing objects and/or tools to solve problems
Social perception	high level of difficulty, intellectual status, community (maintained by jokes and memes)	rich labor market, social recognition and success
The professional	geeks, few social skills, intelligent	aggressive leadership, high self-concept, business oriented
The student	geeks, few social skills, intelligent	Individualist, preference on object-oriented work

ICT



Mathematics



Gender-specific subjects in STEM

- ❑ **Elective subject:** *Gender Relations, Science, Technology and Society*

Degrees: Science, Engineering and Architecture, and Pharmacy

Since 2015



- ❑ **Mandatory subject:** Gender and Science

Degrees: Science, Technology and Humanities

Since 2022



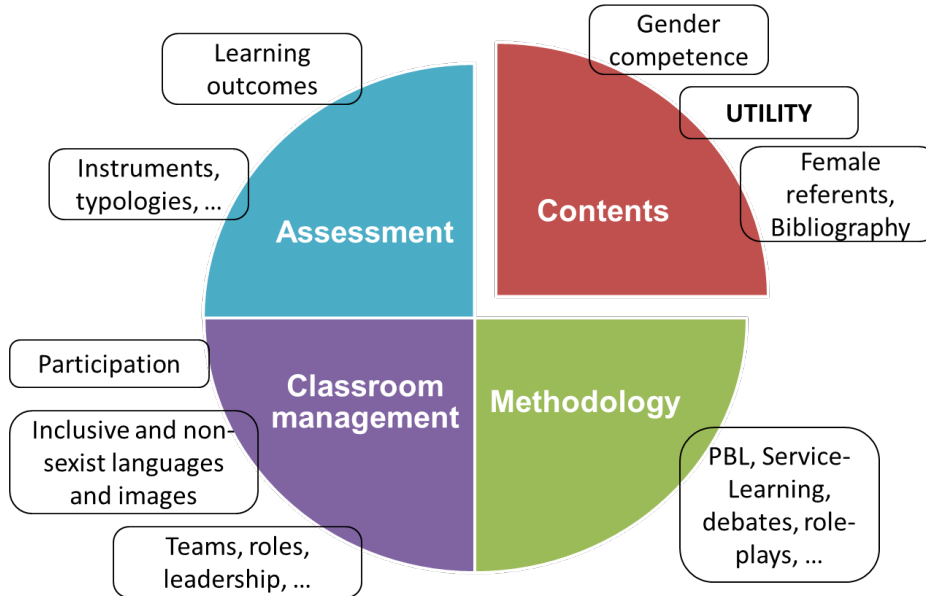
- ❑ ...and many other examples

Gender-in-teaching trainings and teaching innovation projects

Taught by UPC since 2019:



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Engineering:



Examples of gender-oriented activities in a Physics subject

- Teaching Physics in the framework of the SDGs

SDG5 “Achieve gender equality and empower all women and girls”. Activity to create biographical profiles in Wikipedia in Galician language of pioneering women



Wikipedia:Proxectos pedagóxicos/Física Santiago 2022

🔗 Adicionar linguas ▾

Wikipedia [Conversa](#)

[Ler](#) [Editar a fonte](#) [Ver o historial](#)

Na Galipedia, a Wikipedia en galego.



SDG 5 and SDG 7 ("Affordable and clean energy“).

To raise students’ awareness about the energy poverty and which particularly affects women, we used a TED talk by scientist Rose Mutiso



More examples in <https://investigacion.usc.es/investigadores/58511/publicaciones>

Aims:

- Get an overview of the research in Physics within Catalunya
- Visit some of the relevant research institutions
- Share debates with female Physics
- Get tools to become member of the networks in Physics research



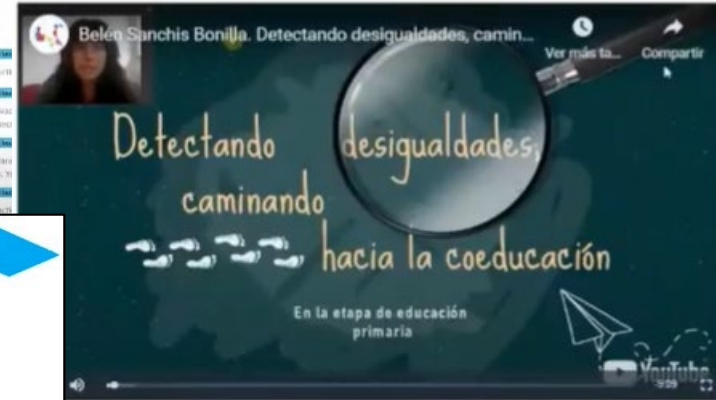
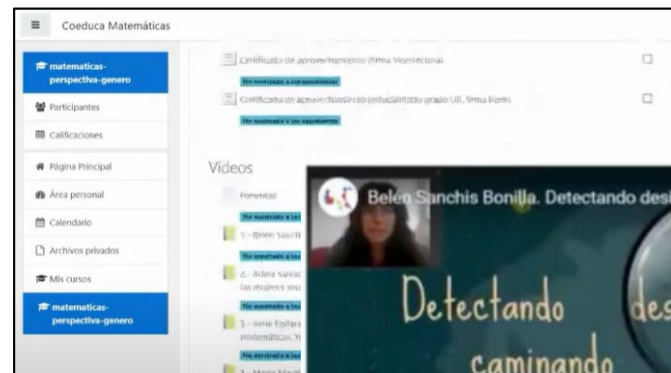
Escola d'estiu Dones en Física



A virtual asynchronous math coeducation course, since 2020

<http://www.coeducamates.uji.es>

- Short videos (8h) + written material + forums + debates
- First edition in November 2020; > 600 Spanish participants
- Since then is open and free of charge
- Official recognition



Concluding remarks



- ❑ Some Spanish universities are **actively** promoting equality in STEM ([RUIGEU, 2022](#)).
- ❑ **Guides and tools** are widely available
- ❑ It exists a strong commitment from individual female professors- But we need **more male allies**
- ❑ But....**more incentives** are needed to rise faculty awareness (i.e. merits and a revision of the concept of academic excellence)
- ❑ A **unified political action** is needed (similarly as the AQU framework)



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