

Courses 2024-2025

| | |
|----------------|---|
| Course 1..... | 1 |
| Course 2..... | 1 |
| Course 3..... | 2 |
| Course 4..... | 2 |
| Course 5..... | 3 |
| Course 6..... | 3 |
| Course 7..... | 3 |
| Course 8..... | 4 |
| Course 9..... | 5 |
| Course 10..... | 5 |

Course 1

Course Title Biostatistics Analysis

Lecturer / Professor: Prof. A. Cau and L. Frigau

Number of Hours/FC: 16/4

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory

Course Description:

The course is designed to provide students with basic knowledge of descriptive statistics and the fundamental concepts of probability calculus to support logical-inductive reasoning in statistical inference. By the end of the course, students will be able to use statistical methods and apply basic statistical tools to biomedical research and scientific fields.

Course 2

Course Title Safety Course

Lecturer / Professor: Aifos, SPP Unica, and Dr. Roberta Silvagni

Number of Hours/FC: 12/3

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory (1st year)

Course Description:

This course consists of three modules: (1) General safety training covering key concepts such as hazard, risk, prevention, and protection; (2) Specific risks in university work environments; (3) Laboratory-specific training addressing chemical, biological, and pharmacological risks, as well as safety procedures and best practices in scientific laboratories.

Course 3

Course Title Horizon Europe- how to get funds for your research and innovation projects

Lecturer / Professor: Prof. L. Raffo, D. Loi, M.S. Pinna, E. Porru, M. Marini, S. Scalas

Number of Hours/FC: 20/5

Final Exam / Evaluation: Yes

Language: English

Mandatory/Optional: Mandatory

Course Description:

The course aims to introduce PhD students to the European Union's framework programmes, with a focus on Horizon Europe—its structure, work programmes, and calls for proposals.

Participants will learn how to frame their research activities within this context, understand evaluation criteria, and engage with practical examples and exercises.

The course will cover in detail how to write a successful proposal, focusing on the three main sections: Excellence, Impact, and Implementation. Each session will include both a theoretical component and a practical exercise, during which PhD students will work independently on drafting project proposals.

Researchers from the University of Cagliari who have successfully obtained funding will be invited to share best practices and provide guidance.

The course is not only intended for those planning to submit a Horizon Europe proposal, but also for those interested in taking advantage of the many professional development opportunities offered by the European Union.

Course 4

Course Title Innovation and Valorization: From Intellectual Property to Tech Transfer

Lecturer / Professor: Dr. Andreas Lundquist

Number of Hours/FC: 6/1.5

Final Exam / Evaluation: Yes

Language: English/online

Mandatory/Optional: Mandatory

Course Description:

Intellectual property rights are the legal rights that protect the results of intellectual work. The right to patent is one of the most well-known rights; it protects inventions that are novel, non-obvious, and have an industrial use. The focus of the course is to discuss various aspects of intellectual property rights that are essential to know for a future career both within and outside

academia. During the course, the participants will be able to learn from various stakeholders within the intellectual property rights industry.

Topics include:

- your right to intellectual assets as a researcher
- how you can manage intellectual property rights in research collaborations
- how publishing your research results can affect your legal possibilities to protect your results
- how you can identify research groups to collaborate with using patent information
- ethical considerations of patenting in relation to open science / access / innovation.

Course 5

Course Title: Public Speaking for Research

Lecturer / Professor: Prof. Elisabetta Gola and Patrizia Mottola

Number of Hours/FC: 10/2.5

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory

Course Description:

The course includes a 4-hour introductory module covering the principles of effective communication, how to plan and structure a presentation, and how to prepare supporting materials. It also focuses on presenting a research topic using effective communication techniques. The theoretical concepts will be complemented by practical exercises, during which PhD students will have the opportunity to practice presenting aspects of their ongoing research.

Course 6

Course Title: Scientific Results Elaboration and Communication

Lecturer / Professor: E. Tramontano, R. Cannas, A. Pusceddu

Number of Hours/FC: 6/1.5

Final Exam / Evaluation: Yes

Language: Italian or English

Mandatory/Optional: Mandatory (1st year)

Course Description:

The course aims to provide students with essential knowledge for the dissemination and enhancement of research results. It is structured into three modules:

Writing a scientific manuscript (2 hours)

Preparing a scientific presentation (2 hours)

Tips and tricks for building a successful CV in the era of scientometrics (2 hours).

Course 7

Course Title: Gender Equity in Academia and Research

Lecturer / Professor: Dr. Ester Cois

Number of Hours/FC: 20/5

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory

Course Description:

The course aims to promote a critical analysis among PhD students from all scientific fields of the phenomena of horizontal and vertical segregation that continue to cause significant disparities in disciplinary distribution and career paths between men and women in the context of academia and high-level research.

The course will start from this contextual analysis to highlight the social, cultural, and organizational practices and mechanisms that produce such disparities. It will also explore policy tools and strategies implemented at local, national, and international levels—through a comparative approach—to counter all forms of gender- and gender identity-based discrimination, and to promote equality, inclusion, and the appreciation of diversity, with an intersectional perspective (e.g., Gender Equality Plans, Diversity Plans, Gender Budgeting).

The course will focus on the following key topics:

1. Work-life balance and organizational culture
2. Gender balance in leadership roles and decision-making bodies
3. Promoting gender equality in recruitment and career advancement processes
4. Integrating gender dimensions into scientific research and training
5. Strategies to combat all forms of discrimination and gender-based violence in academia
6. Promoting gender-sensitive language and communication in academic and research environments

Course 8

Course Title: Scientific Research: Sources, Tools, and Evaluation

Lecturer / Professor: N. De Bellis and Librarians

Number of Hours/FC: 15/4

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory

Course Description:

The course aims to introduce key topics such as scientific communication, copyright, Open Access/Open Science, and research evaluation.

The goal is to develop the skills needed to conduct effective bibliographic research, use information responsibly, generate new knowledge, and disseminate research findings in an open-access format. The course also aims to help students understand how the research evaluation system works.

Participants will be introduced to the main tools for conducting effective bibliographic searches within their specific disciplinary areas. They will also learn how to manage research data in an open and responsible way.

By the end of the course, students will have a better understanding of research e-infrastructures, as well as the tools and services available for publishing scientific results, including open-access options, and for assessing researchers' scientific productivity.

Course 9

Course Title: Introduction to Information Literacy

Lecturer / Professor: L. Deledda, G. Fantola, F. Onnis, B. Spina, S. Tronchetti

Number of Hours/FC: 10/2.5

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Optional (recommended in 1st year, to build foundational knowledge for Course 8, especially if not previously completed during the degree program.)

Course Description:

The course aims to provide students with the tools to recognize when and why scientific information is needed, where to find it, how to select the most relevant resources, and how to use and communicate that information in a logical and ethically responsible way.

Course 10

Course Title: Radiation Protection Course

Lecturer / Professor: Health Physics Service and Dr. Alessandra Bernardini

Number of Hours/FC: 8/2

Final Exam / Evaluation: Yes

Language: Italian

Mandatory/Optional: Mandatory (only if radioactive materials are used; optional for others)

Course Description:

- Introduction to radiation
- Sources of ionizing radiation
- The concept of dose
- Damage caused by ionizing radiation
- Radiation protection: goals and principles
- Legislation on ionizing radiation
- Physical and medical monitoring
- How to reduce exposure
- Disposal of radioactive waste
- Workers' obligations.