I year (1st semester)	Scientific Field	**SCIENTIFIC WRITING AND RESEARCH COMMUNICATION**	TUTOR	ECTS
	L-LIN/12	Scientific Writing and Research Communication	Donadel Giulia	2
	L-LIN/12	Scientific Writing and Research Communication	Lo Ponte Maria	2
	L-LIN/12	Scientific Writing and Research Communication	Marciani Maria Grazia	1
	L-LIN/12	Scientific Writing and Research Communication	Giannantonio Ginevra	1
		TOT		6

SPECIFIC AIMS	The purpose of this course is to provide the students with the necessary skills to: - identify and produce the various parts of a scientific manuscript; - use official web sites, national libraries and bibliographical data; - propose a clinical drug trial; - write a patent. The course is divided into four parts:
SCIENTIFIC WRITING	1) SCIENTIFIC WRITING - Dott.ssa Maria Lo Ponte This part of the course is not a conventional English language course but an English for Specific Purposes (ESP) series of lectures and workshop. The aim is to make the students aware of the importance of dealing with language as *discourse* and not as a set of rules; after all, communication has, simultaneously, a structural, functional and discoursal level. By the end of the course, students are expected to be able to identify and produce the various parts of the manuscript. Analysis of the inner semantic connections between sections, paragraphs and sentences that determine the overall texture.
RESEARCH COMMUNICATION	2) RESEARCH COMMUNICATION – Prof. Giulia Donadel Students will learn how to use official web sites to achieve scientific results officially recognized by the scientific community. They will use their own tablet and other devices to connect themselves to the National Library in Bethesda, Maryland, the temple of all data published worldwide. Students will become acquainted with bibliographic search, collect information and use it to write abstracts and other scientific editing. Teamwork and/or individual training on particular topics provided by the teacher. An informal evaluation will be carried out during the last class session.

BIOETHICS AND HUMAN EXPERIMENTATION	3) BIOETHICS AND HUMAN EXPERIMENTATION - Prof. Maria Grazia Marciani The potential of human experimentation has increased enormously in the last decades with the advancement and specialization of technology: in the fields of genetics, molecular biology, pharmacology, biochemistry, physics, functional imaging. But the rapid progress of the experimental and clinical research in biomedical sciences, raise several ethical dilemma that physicians have to resolve dealing their clinical activity. The experimental research on human being, in the middle of the twentieth century started to be regulated by principles and lows in various part of the world (Nuremberg Code 1947; Universal Declaration of Human Rights 1948). The most famous and still current code of professional ethics is the Declaration of Helsinki of 1964, which has been revised several times (last revision was in 2008) to address new scientific and ethical problems that arose. Therefore the regulation of human experimentation is one important matter defining the end, the subject, and the condition of experimentation itself: essential is to clarify if the end if therapeutic or not, for subjects to distinguish the sick, foetus, prisoner etc, and for conditions to consider freedom, informed or presumed consent. Therefore, in pharmacological experimentations, preceded by a scientific knowledge and followed by laboratory studies and confirmation, the validation process is completed through experimentation on the recipient for whom is intended: the man itself. This is the main path to achieve the “good” of the patient. Clinical Drug Trials: - Experimentation is necessary; - The technical meaning of pharmacological experimentation; - History, practice and legislation (The Nuremberg Code, Helsinki Declaration); - International Ethical Guidelines for Biomedical Research involving Human Subjects: European directives (2012); Decrees and circulars of the Italian Ministry of Health; Ethics of human experimentation (the fundamental ethical values); - Function of Ethical Committee.

PATENT & COPYRIGHT	I LESSON: (4 HRS) - What a patent is, the importance of patenting: a resource to enhance, the life of a patent (2HRS); - Exercise: How to write a patent (2HRS). II LESSON: (4HRS) - Technology Transfer: Clinical & Biomedical Innovation - Exercise: How to write a preliminary form III LESSON: (3HRS) - IP & Other Forms of Protection: CONFERENCE

TEXTBOOKS	- SCIENTIFIC WRITING: - Robert A. Day – Scientific English: A Guide – Oryx Press - Robert A. Day – How to write & publish a Scientific Paper – Oryx Press - Vernon Booth – Communicating in Science – Cambridge University Press (All available on amazon.com) - BIOETHICS AND HUMAN EXPERIMENTATION Handouts provided during the sessions. - PATENT & COPYRIGHT Handouts provided during the sessions.

EXAM METHOD	- SCIENTIFIC WRITING: Written evaluation on the last lesson; and final comprehensive oral exam also including - PATENT & COPYRIGHT - BIOETHICS AND HUMAN EXPERIMENTATION - RESEARCH COMMUNICATION ✓ Single oral final exam: must enroll through totem to record your grade. ✓ Attendance is compulsory: this is a PASS/FAIL course

PREREQUISITES: Previous knowledge of B2 English.

The specific learning outcomes of the program are coherent with the general provisions of the Bologna Process and the specific provisions of EC Directive 2005/36/EC. They lie within the European Qualifications Framework (Dublin Descriptors) as follows:

1. **Knowledge and Understanding**

- Demonstrate the capacity to write and understand scientific article, .
- Demonstrate the capacity to understand the process of drugs copyrights.
- Understand the importance of the differences between patent and copyrights.
- Understand the basics of bioethics and human experimentation.
- Understand the powerful of science communication.

2. **Applying Knowledge and Understanding**

- Apply the knowledge to write a scientific article.
- Apply the theoretical knowledge to the clinical setting, being able to apply the general concepts of bioethics on human experimentation.
- Be able to write a patent.

3. **Making Judgements**

- Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical education.

- Identify the fundamental application of the theoretical studies to clinical practice in terms of bioethics and human experimentation.

4. **Communication Skills**

- Present the topics orally in an organized and consistent manner.
- Use of proper scientific language coherent with the topic of discussion.

5. **Learning Skills**

- Identify the possible use of the acknowledged skills in future career.
- Assess the importance of the acquired knowledge in the overall medical education process.

EXAM COMMISSION	The Coordinator, full Professors of the disciplines, Professors of similar disciplines, Specialists of the subject, compose the exam Commission of the Integrated Course.

Donadel Giulia, President
Lo Ponte Maria
Di Francesco Paolo
Marciani Maria Grazia
Giannantonio Ginevra

CONTACTS

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PREREQUISITES: *Common European Framework of Reference for Languages Levels*

- **B2 "***Has a sufficient range of language to be able to give clear descriptions, express viewpoints and develop arguments without much conspicuous searching for words, using some complex sentence forms to do so.".*

The specific learning outcomes of the program are coherent with the general provisions of the Bologna Process and the specific provisions of EC Directive 2005/36/EC. They lie within the European Qualifications Framework (Dublin Descriptors) as follows:

1. **Knowledge and Understanding**

- Learn to report appropriate laboratory and diagnostic studies.
- Report clinical and ethical cases; provide an exhaustive explanation of the possible hypothesis and appropriate approaches.

2. **Applying Knowledge and Understanding**

- Understand the significance of classificatory tools in the main aspects of scientific investigation.

3. **Making Judgements**

- Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical and bio-ethical education.

4. **Communication Skills**

- Present the topics in an organized and consistent manner.
- Use of proper scientific language coherent with the topic of discussion.

5. **Learning Skills**

- Identify the possible use of the acknowledged skills in the future career.
- Assess the importance of the acquired knowledge in the overall medical education process.