COURSE DESCRIPTION

1. Programme Identification Data

1.1 Higher Education Institution	**„ALEXANDRU IOAN CUZA” UNIVERSITY OF IAȘI**
1.2 Faculty	**FACULTY OF CHEMISTRY**
1.3 Department / Doctoral School	**DOCTORAL SCHOOL OF CHEMISTRY**
1.4 Field of Study	**CHEMISTRY**
1.5 Cycle of Studies	**DOCTORATE**
1.6 Study Programme / Qualification	**ADVANCED UNIVERSITY STUDIES – DOCTORAL SCHOOL OF CHEMISTRY / PhD IN CHEMISTRY**

2. Course Identification Data

2.1 Course Title			**ETHICS AND ACADEMIC INTEGRITY – ETHICS IN SCIENTIFIC RESEARCH**				
2.2 Course coordinator (lectures)			**Prof. univ. dr. habil. Cecilia ARSENE** **Prof. univ. dr. Ionel MANGALAGIU** **Prof. univ. dr. habil. Romeo Iulian OLARIU** **Prof. univ. dr. Aurel PUI**				
2.3 Seminar coordinator							
2.4 Year of study	**I**	**2.5** Semester	**1**	**2.6** Type of assessment	***C**	**2.7** Disciple regime	****CC**

*[E – exam / C – colloquium] **[CC = Compulsory Course / OC = Optional Course]

3. Estimated Total Workload (hours per semester)

3.1 Hours per week	**1**	**3.2** Lectures	**1**	**3.3** Seminars	**-**
3.4 Total hours according to the curriculum	**14**	**3.5** Lectures	**14**	**3.6** Seminars	**-**

Time allocation	hours
Study based on textbooks, course materials, bibliographic sources, and other relevant resources	14
Additional research in the library, on specialized electronic platforms, and in the field	40
Preparation for seminars, assignments, papers, portfolios, essays	20
Academic tutoring	4
Assessment activities	4
Other activities	4

3.7 Total hours of individual study	86
3.8 Total hours per semester	100
3.9 Number of credits	**4**

4. Preconditions (if applicable)

4.1 Curriculum prerequisites	Completion of a Master’s degree (or equivalent) and enrolment in the doctoral study programme in Chemistry, according to the regulations of the Doctoral School.
4.2 Competences prerequisites	General competence in the use of scientific language and in the analysis of information from the scientific literature; competence in documentation, synthesis, and academic argumentation in research contexts; as well as competence in using a personal computer and common applications from the Microsoft Office suite (Word, PowerPoint, Excel, Outlook).

5. Conditions (if applicable)

5.1 Conditions for lectures	Appropriate teaching spaces for doctoral activities, equipped with multimedia equipment (video projector, PC), with access to the Internet, institutional IT infrastructure, and bibliographic resources and scientific databases relevant to scientific research and

	academic ethics. Compliance with institutional regulations regarding the organization of doctoral studies.
5.2 Conditions for seminars	

6. Specific competences accumulated

Professional competences	• Competence to understand, interpret, and apply the principles of ethics and academic integrity in scientific research, in accordance with current academic, professional, and legislative standards; • Competence to critically analyze and ethically evaluate research projects, the processes of data collection and reporting, and scientific research results; • Competence to identify, prevent, and manage situations that may lead to breaches of research ethics and integrity, including plagiarism, data fabrication or falsification, and conflicts of interest; • Competence to apply the regulatory framework and good practices in scientific research in institutional, national, and international contexts; • Systematic and in-depth knowledge of current concepts, norms, debates, and trends in the field of research ethics, as well as the ability to communicate and engage in well-argued dialogue with specialists in related fields..
Transversal competences	• Competence to assume responsibility and demonstrate professional integrity in research activities and in the academic career; • Competence to make informed ethical decisions and responsibly manage complex situations in scientific research; • Competence to initiate and develop responsible research practices and projects based on respect for ethical principles and academic integrity.

7. Course Objectives (derived from the acquired competences)

7.1. General objective	To develop the competence to understand, analyze, and apply the principles of ethics and academic integrity in scientific research, in relation to the regulatory framework, good practices, and academic and professional standards, in order to ensure responsible and compliant conduct in doctoral research activities.
7.2. Specific objectives	Upon completion of the course, the doctoral student will be able to: • understand and apply fundamental principles of research ethics in the design and conduct of scientific research activities; • critically analyze research projects, data, and results from the perspective of compliance with ethics and academic integrity norms; • identify and manage potentially problematic ethical situations, such as plagiarism, data manipulation, conflicts of interest, or copyright infringement; • use the relevant regulatory framework and institutional mechanisms for the prevention and resolution of deviations from research ethics; • demonstrate a responsible, reflective, and ethical attitude in scientific research activities and in the academic career.

8. Content

8.1	**Lecture Topics**	**Teaching methods***	**Notes** (hours / references)
1.	Ethical standards and academic freedom	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])
2.	Codes of ethics. Ethics and scientific research	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])
3.	Integrity in research. Research data collection and reporting. Misuse of data	Interactive lecture, explanation and conceptual demonstration, academic conversation and	(2 hours, [1÷5])

		debate, problematization	
4.	Integrity in research. Falsification and fabrication of data. Plagiarism and intellectual theft. Intellectual property	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])
5.	Integrity in research. Deviations from good scientific conduct and the responsibility of the researcher	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])
6.	Data manipulation and distortion. Erroneous research. Expanding, rejecting, or ignoring data. Publication and communication of research results	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])
7.	Enforcement of codes of ethics. Conflict of interest. Reporting deviations. Institutional mechanisms and corrective actions	Interactive lecture, explanation and conceptual demonstration, academic conversation and debate, problematization	(2 hours, [1÷5])

*In cases of force majeure, teaching activities may be conducted online, in accordance with current legislation.

Bibliography

1. Hınız, G. Research Ethics and Ethical Behavior in Research. In: Abu-Shaheen, A.K., Hamza, M.A., Marar, S. (eds) Introduction to Research Ethics and Academic Integrity, Springer, **2025**.
2. Speight, J. G. Ethics in the University. Scrivener Publishing, Wiley, **2016.**
3. Blackburn, S. Ethics: A Very Short Introduction. Oxford University Press, **2009**.
4. Otteson, J. R. Actual Ethics. Cambridge University Press, **2006**.
5. Schultz, R. A. Contemporary Issues in Ethics and Information Technology. IRM Press, **2005**.

9. Learning Outcomes

Knowledge and understanding	• explain the fundamental concepts of ethics and academic integrity in scientific research and their role in ensuring research quality and credibility; • describe the normative framework, standards, and good practices applicable to research ethics at institutional, national, and international levels; • understand the main types of deviations from good conduct in research, as well as their causes and consequences; • recognize the importance of research ethics in the processes of publishing, evaluating, and disseminating scientific results..
Application and analysis	• apply principles of research ethics in the design, conduct, and reporting of scientific research activities; • use ethical criteria and institutional standards in the analysis of research projects and obtained results; • critically analyze concrete cases of research ethics violations, such as plagiarism, data falsification or fabrication, and conflicts of interest; • relate ethical principles to current practices in scientific research and academic publishing
Critical Assessment and Accountability	• critically and constructively evaluate research behaviors, decisions, and practices from the perspective of ethics and scientific integrity; • assess the impact of ethical violations on researchers, institutions, and the scientific community; • demonstrate responsibility, autonomy, and integrity in one's own doctoral research approach; • justify the need to respect ethical norms and principles of good conduct in scientific research..
Academic Communication	• communicate issues related to research ethics clearly and in a well-argued manner, both orally and in writing, in academic and professional contexts; • use terminology specific to research ethics and academic integrity in dialogue with specialists in related fields; • participate actively and in a reasoned manner in academic debates on current ethical issues in scientific research; • present analyses and reasoned positions on ethics and integrity in scientific research

	clearly, concisely, and critically.

10. Correlation of the course content with the expectations of community representatives, professional associations, and representative employers in the field related to the program.

The content of the course *Ethics and academic integrity – Ethics in scientific research* is aligned with the expectations of the academic and research community, professional associations, and employers in the field of scientific research by developing the competences necessary to ensure compliance with the principles of ethics and academic integrity at all stages of the research process.
Upon completion and successful passing of the discipline, the doctoral student will acquire the competence to identify, analyze, and manage situations with ethical risk in scientific research activities, to apply the relevant normative framework and institutional mechanisms for the prevention and resolution of deviations, and to adopt responsible professional conduct in accordance with current academic and professional standards.

11. Assessment

Activity	**11.1 Assessment criteria**	**11.2 Assessment methods**	**11.3 Weight in final grade (%)**
11.4 Lectures	Correctness, coherence, and quality of argumentation in responses, demonstrating understanding and application of the principles of ethics and academic integrity in scientific research; the ability to critically analyze ethical situations specific to research activities.	Colloquium – oral and well-reasoned presentation of an ethical issue in scientific research, based on the relevant normative framework and specialized literature.	100
11.5 Seminars			
11.6 Minimum Performance Standard			
In order to pass the discipline, the doctoral student must demonstrate: • the ability to identify key activities and situations with the potential to generate ethical and integrity-related issues in scientific research; • knowledge and application of methods for preventing and avoiding ethical problems in scientific research; • the ability to analyze and appropriately address a concrete ethical situation in relation to the principles and norms of research ethics.			

Date of completion
26.09.2025

Course coordinator

Prof. univ. dr. habil. Cecilia ARSENE

Prof. univ. dr. Ionel MANGALAGIU

Prof. univ. dr. habil. Romeo Iulian OLARIU

Prof. univ. dr. Aurel PUI

Seminar coordinator

Date of approval
29.09.2025

Director of the Doctoral School of Chemistry
Prof. univ. dr. habil. Cecilia ARSENE