Approved,
DEAN,
Prof. univ. dr. ing. Gilbert-Rainer GILLICH

COURSE SYLLABUS

1. Data about the program

1.1 Higher education institution	Babeș-Bolyai University
1.2 Faculty	Faculty of Engineering
1.3 Doctoral school	Doctoral School of Engineering
1.4 Field of study	Mechanical Engineering
1.5 Study cycle	Doctorate
1.6 Study program / Qualification	Doctoral training / PhD in Mechanical engineering

2. Course data

2.1 Name of discipline	**Ethics in scientific research and intellectual property**							
2.2 Teacher responsible for lectures	**Conf. univ. dr. ing. abil. Zoltan-Iosif KORKA**							
2.3 Teacher responsible for seminars	**Conf. univ. dr. ing. abil. Zoltan-Iosif KORKA**							
2.4 Year of study	**1**	2.5 Semester	**1**	2.6. Type of evaluation	**V.P.**	2.7 Course framework	**Obl**	

3. Estimated total time of teaching activities (hours per semester)

3.1 Hours per week	**3**	Out of which: 3.2 Lectures	**1**	3.3 Seminars / Laboratory	**2**
3.4 Total hours in the curriculum	**36**	Out of which: 3.5 Lectures	**12**	3.6 Seminars / Laboratory	**24**
Allocation of study time:					
Textbook supported study, other course materials, recommended bibliography and personal notes					**46**
Additional learning activities in the library, on specialized online platforms and in the field					**34**
Preparation of seminars / laboratory classes, topics, papers, portfolios and essays					**120**
Tutoring					**-**
Examinations					**-**
Other activities: -					-

3.7 Individual study (total hours)	**214**
3.8 Total hours per semester	**250**
3.9 Number of credits	**10**

4. Preconditions (where applicable)

4.1 Curriculum	•
4.2 Competences	•

5. Conditions (where applicable)

5.1 Conducting lectures	• Video projector, PC, blackboard, chalk
5.2 Conducting seminars / laboratory classes	•

6. Specific competences acquired

Professional competences	**C1.** Learning and respecting the principles of scientific research ethics. **C2**. Ability to identify, formulate and solve research problems related to ethical dilemmas and the possibilities offered by Research Ethics to overcome them. **C3**. Ability to document, develop and exploit scientific work in the sphere of ethics and academic integrity. **C4**. Solving theoretical and/or practical problems using methodologies/legislation specific to the field of research.
Transversal competences	**CT1:** Written and oral communication skills in science. **CT2**: Assuming responsibilities appropriate to the role in a team under conditions of effective professional communication. **CT3**: Critical-constructive reflection on own level of professional training in relation to ethical standards.

7. Course objectives (based on the acquired competencies grid)

7.1 The general objective of the course	• Knowledge of the theoretical foundations of research ethics and intellectual property
7.2 Specific objectives	• Acquiring theoretical knowledge and practical skills on the application of ethical rules in scientific research • Acquiring theoretical and practical knowledge of intellectual property

8. Content

8.1 Lectures	Teaching methods	Comments
Lecture 1 1.1 The need for a course in ethics of scientific research 1.2 The most common deviations from research ethics	Interactive lecture, explanation, conversation, problem-solving	2 hours
Lecture 2 2.1 Ethical rules applicable to research activity 2.2 Deviations from the rules of good conduct in research activity 2.3 Misconduct and sanctions		2 hours
Lecture 3 3.1 Ways of identifying scientific fraud 3.2 Notable cases of scientific fraud. Case studies		2 hours
Lecture 4 Fundamentals of intellectual property		2 hours
Lecture 5 Invention. Defining elements		2 hours
Lecture 6 Patenting the invention		2 hours
Bibliography: **Papadima, L.**, *Deontologie academică,* Curriculum-cadru, Universitatea din Bucureşti, 2017 **Francis L. Macrina**, *Scientific Integrity*, ASM Press, Washington DC, 2014 **Iclănzan T.,** *Curs de proprietate intelectuală*, UP Timişoara, available at: https://www.upt.ro/img/files/inov-trans-teh/Elemente_fundamentale_de_Proprietate_Intelectuala-1.pdf		
8.2 Seminars	Teaching methods	Comments
Case studies: Deviations from research ethics	Problem solving, interactive conversation, exemplification	2 hours
Applicable legislation in scientific research ethics		2 hours
Sanctions applicable to breaches of good conduct in research		2 hours
Software used to identify the degree of similarity of a scientific work		2 hours
Case studies: Interpretation of similarity ratio		2 hours
Case studies: Citation methods		2 hours
Presentation of Report 1: A notorious case of scientific fraud		2 hours
Practical application: Preparing a patent documentation		6 hours
Patent exploitation		2 hours
Presentation of report 2: Drafting a patent application		2 hours
Bibliography: **Gibea T. ş.a.,** *Etică şi integritate academică. Instrumente suplimentare,* Editura Universităţii din Bucureşti, 2018 **Iclănzan T.,** *Proprietatea intelectuală*, UP Timişoara, available at: http://www.upt.ro/img/files/2014-2015/doctorat/cscd/CSCD_2014-2015_Conferinta_nr_3.pdf		

9. Aligning the contents of the discipline with the expectations of the epistemic community representatives, professional associations and standard employers operating in the program field

- The content of the course meets the deontological requirements of doctoral research in mechanical engineering, addressed nationally and internationally, constituting prerequisites for the development of professional and academic skills of doctoral students.

10. Examination (by request)

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Weight in the final grade
10.4 Lectures	Active presence and participation	Heuristic conversation	20%
10.5 Seminars / laboratory classes	Preparing two reports on a given topic	Defence of the two reports	80%
10.6 Minimum performance standard			
• Drafting and defending 2 reports that will address specific concrete problems in the fields of ethics and intellectual property, in accordance with the research methodology of the field • Active participation in lectures and seminars			

Date of issue	Signature of the teacher responsible for lectures	Signature of the teacher responsible for seminars
October 2022	**Conf. univ. dr. ing. abil. Zoltan-Iosif KORKA**	**Conf. univ. dr. ing. abil. Zoltan-Iosif KORKA**

Signature of the doctoral school director
Conf. univ. dr. ing. abil. Zoltan-Iosif KORKA