

## COURSE UNIT DESCRIPTION - BIOETHICS

Course unit title	Code
<b>BIOETHICS</b>	

Lecturer(s)	Department(s)
<b>Coordinator:</b> Assoc. prof. Grita SKUJIENĖ	Vilnius University, Life Sciences Center, Saulėtekio av. 7, Vilnius.

Cycle	Level of the course unit	Type of the course unit
Full-time studies (2 <sup>nd</sup> stage)	1 out of 1	Elective

Mode of delivery	Period of delivered	Language(s) of instruction
Face to face	2 <sup>nd</sup> semester, spring	English

Prerequisites and corequisites	
<b>Prerequisites:</b> Molecular Cell biology, Biotechnology or Genetic engineering	<b>Corequisites (if any):</b> None

Number of credits allocated to the course unit	Student's total workload	Contact hours	Self-study and research hours
5	135	48	87

Purpose of the course unit: programme competences to be developed		
<p><i>Purpose:</i> Bioethical and legal knowledge and the ability to apply them to scientific and practical activities related to solving bioethical problems in biotechnology, biomedicine and other fields.</p> <p><i>Subject-related competences:</i></p> <ul style="list-style-type: none"> <li>• Moral bioethical decision-making and the assessment;</li> <li>• the research work skills matching with the ethical provisions of the implementation of the practical problems;</li> </ul> <p><i>General competences:</i></p> <ul style="list-style-type: none"> <li>• analytical and critical thinking;</li> <li>• self-sufficiency and creativity.</li> </ul>		
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
<ul style="list-style-type: none"> <li>• Demonstrates deep bioethical and legal knowledge in any biotechnology and biomedicine-related activities</li> </ul>	Lectures (problem-based learning with discussions), seminars (self-study, analysis of literature and presentation).	Final exam; Topic-related seminar presentation;
<ul style="list-style-type: none"> <li>• Demonstrates biotech/biomedical research planning and documentation preparation LBK consideration process(eg, to molecular cell biology techniques to investigate cells and their components);</li> </ul>	Seminars (checking and discussion of exercises)	Topic-related exercises credits
<ul style="list-style-type: none"> <li>• Integrates knowledge of different scientific disciplines(modern molecular biology/law /ethics/medicine/psychology/economy, etc.) in solving of bioethical dilemmas;</li> </ul>	Lectures (problem-based learning with discussions), seminars (self-study, analysis of literature and presentation).	Final exam; Topic-related seminar presentation;
<ul style="list-style-type: none"> <li>• Analyzes, interprets, critically and systematically evaluates the obtained results of studies of modern life sciences in the context of present ethically attitudes and scientific knowledge;</li> <li>• Gives conclusions grounded on .ethics and science.</li> </ul>	Seminars (self-study, analysis of literature and presentation), exercises	Topic-related seminar presentation; topic-related exercises credits

Content: breakdown of the topics	Contact hours						Self-study work: time and assignments		
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	Contact hours	Self-study hours	Assignments
<b>1. Why do scientists need bioethical control? Ethical dilemmas: professional scientists' responsibility, accountability and commercialism. Bioethics-Law-Biotechnology: the junction, relevance, problems, criticism.</b>	2						2	4	Analysis of the topic-related scientific papers; self-directed learning.
Human and natural interaction patterns and the environmental consequences. How the quality standard of life is impressed by ethics?			2				2	4	Creative project: "How I, as molecular biology graduate student, can contribute to the future generations, the biosphere and biodiversity protection".
Problem question that biotechnology leads to ethical debate and why? Genomics possibilities and limits. Genetic selection, eugenics and discrimination.	2						2	4	Analysis of the topic related themes in Website 'Ethics of biotechnology'.
Human population imbalance and limits of biotechnology. The problems of the gene technological approach to disease and health in medical practice.	2						2	4	Analysis of the topic-related scientific papers. Critical analysis of the topic-related cases; searches for the best solutions of the ethical problems.
<b>2. Bioethical decision principles. The precautionary principle: is it technological progress brake?</b>	2						2	4	Find out what the ethical principles are protected by Universal Bioethics and Human Rights Declaration.
Genetic research ethical principles. Do we have the right to change the genetic structure of living organisms?	2						2	4	Analysis of the topic-related scientific papers; self-directed learning.
Biopharmaceutical, GMO and GMP security. Risks, discomfort and benefits of genetic study.	2						2	2	Movie, review and critical analysis. Short discussions' interpolations during the lecture.
Cloning: Where is our direction? Benefits and risks of xenotransplantation.	2						2	6	Analysis of the topic-related scientific papers; self-directed learning, seminar presentation

<b>3. What ethical values are protected by the Council of Europe, UNESCO and the European Commission bioethical documents?</b>	<b>2</b>		1				<b>3</b>	<b>6</b>	Analysis of the topic-related scientific papers; Seminar presentations, self-directed learning.
The documents regulating Biotechnological researches in Lithuania and Europe;	2		1				<b>3</b>	<b>6</b>	Self-study of the Documents and their comparison. Brief oral presentation of studied documents.
What is the Human Genome owner? Ethical and legal problems of studies performed with human tissues.			2				<b>2</b>	<b>4</b>	Self-study of the topic-related scientific papers; Critical analysis of the proposed examples; work in groups: searching for the best solution of ethical/legal problems.
Oncology research ethics.	<b>1</b>		2				<b>3</b>	<b>5</b>	Analysis of the topic-related scientific papers; self-directed learning. Seminar presentations.
<b>4. Lithuanian Bioethics Committee (LBC) establishment, activities and results. Functions and operating principles of Ethics Commission of the Lithuanian State Food and Veterinary Service.</b>	<b>2</b>						<b>2</b>	<b>2</b>	Preview of the websites of LBC and the Ethics Commission of the Lithuanian State Food and Veterinary Service.
The importance of the requirements of Ethical commissions for research projects;	2						<b>2</b>	2	Self-directed learning of the topic.
The study design and evaluation.	2						<b>2</b>	2	Self-directed learning of the topic.
What are the risks and benefits of the permissible?	2						<b>2</b>	2	Movie review and analysis.
Decision making and responsibility.			2				<b>2</b>	4	Self-study of the topic-related scientific papers; Critical analysis of the proposed examples; work in groups: searching for the best solution of ethical and legal problems.
<b>5. Submission of Documents for LBC and Ethics Commission of the Lithuanian State Food and Veterinary Service.</b>	<b>2</b>						<b>2</b>	<b>2</b>	Preview of the websites of LBC and Ethics Commission of the Lithuanian State Food and Veterinary Service: searching for the needful applications.
Biomedical research design and preparation of documents for LBK authorization.			2				<b>2</b>	4	Perform a task, give a plan and prepared documents for the overall reading and analysis. Defend decisions.
The study of animal design and preparation of	2		1				<b>3</b>	<b>6</b>	Perform a task, give a

documents for the Ethics Commission of the Lithuanian State Food and Veterinary Service authorization.									plan and prepared documents for the overall reading and analysis. Defend decisions.
'In considering the application' by the ethical matrix method and consensus.			2				2	4	Apply the method of ethical matrix for solving the ethical problems.
<b>6. Human health and ethical perspectives of an environmental management.</b>	<b>1</b>		1				<b>2</b>	<b>6</b>	Analysis of the topic-related scientific papers; Movie under discussion.
<b>Total</b>	<b>32</b>		<b>16</b>				<b>48</b>	<b>87</b>	

Assessment strategy	Weight,%	Assessment period	Assessment criteria
Assessment of Seminar presentations and participation in Exercises	50	During semester till exam session.	Marks: 2-4 (insufficient); 5 (sufficient); 6 (satisfactory); 7 (highly satisfactory); 8 (good); 9 (very good); 10 (excellent). Assessment of these Presentation aspects (each aspect separately till mark 10): 1. Contents (multidisciplinary analysis is comprehensive or not, the matter is presented understandably and logically or not, drawing of conclusions is reasonable or not); 2. Communication (speech is explicit and coherent or not; contact with auditory is suitable and correct or not; and full-scale answer to questions is given or not); 3. Slides (pattern of minds is logic or not; design is imaginative and interesting but moderated or not; good citation (even of the pictures) or not); Assessment is average mark of marks given by all students separately and teacher for the all Presentations separately.
Exam	50	Till the end of exam session (during exam session)	It is obligatory to complete all seminars and exercises before the exam. Test of 20 questions(questions of different complexity; responses are measured in points: one logical argument/statement =1 point), totalized to 100 points which are assimilated to mark.Assesses the only teacher. ≤ 39 received points - 1-4 (insufficient) 40-49 received points - 5 (sufficient) 50-59 received points - 6 (satisfactory) 60-69 received points - 7 (highly satisfactory) 70-79 received points - 8 (good) 80-89 received points - 9 (very good) 90-100 received points - 10 (excellent)
Total	100		Average mark of marks received for the presentations and exam.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
<b>Compulsory reading</b>				
Twin R.	2015	Animals as Biotechnology: Ethics, Sustainability and Critical Animal Studies (Science in Society)		Earthscan from Routledge
Talbot M.	2012	Bioethics: An Introduction		Cambridge University Press
Topic-related scientific reviews.	2008-2013	„News in Bioethics and Biotechnology”		<a href="http://www.eubios.info/NBB.htm">http://www.eubios.info/NBB.htm</a>

<b>Optional reading</b>			
Iltis A.S., Johnson S.H., Hinze B.A. (Eds)	2008	Legal Perspectives in Bioethics	Routledge: New York and London
Topic-related scientific reviews.	Lithuanian Bioethics Committee		<a href="http://bioetika.sam.lt/index.php?-1309701469">http://bioetika.sam.lt/index.php?-1309701469</a>
	Ethics of biotechnology		<a href="http://archive.industry.gov.au/Biotechnologyonline.gov.au/biotec/ethics.html">http://archive.industry.gov.au/Biotechnologyonline.gov.au/biotec/ethics.html</a>
	Bioethics.com		<a href="http://www.bioethics.com/">http://www.bioethics.com/</a>
	Science and Technology		<a href="https://scienceandtechnology.jpl.nasa.gov/">https://scienceandtechnology.jpl.nasa.gov/</a>
	Research Ethics		<a href="http://www.researchethics.ca/">http://www.researchethics.ca/</a>
	Ethics and Science (the European Commission)		<a href="https://ec.europa.eu/research/ege/index.cfm">https://ec.europa.eu/research/ege/index.cfm</a>
	Research ethics committee		<a href="http://www.hse.gov.uk/research/index.htm">http://www.hse.gov.uk/research/index.htm</a>