COURSE UNIT DESCRIPTION - BIOETHICS

Course unit title	Code
BIOETHICS	

Lecturer(s)	Department(s)
Coordinator: Assoc. prof. Grita SKUJIENĖ	Faculty of Natural Sciences, Department of Biochemistry and Molecular biology, Čiurlionio 21 LT 03101

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

Mode of delivery	Period of delivered	Language(s) of instruction
Face to face	2nd semester, spring	Lithuanian (English)

Prerequisites and corequisities	
Prerequisites: Molecular Cell biology, Biotechnology or Genetic engineering	**Corequisities (if any):** None

Number of credits allocated to the course unit	Student's total workload	Contact hours	Self-study and research hours
4	107	56	51

Purpose of the course unit: programme competences to be developed

Purpose:
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.

Subject-related competences:
- Moral bioethical decision-making and the assessment;
- the research work skills matching with the ethical provisions of the implementation of the practical problems;

General competences:
- analytical and critical thinking;
- self-sufficiency and creativity.

Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
• Demonstrates deep bioethical and legal knowledge in any biotechnology and biomedice-related activities	Lectures (problem-based learning with discussions), seminars (self-study, analysis of literature and presentation).	Final exam; Topic-related seminar presentation;
• Demonstrates biotech/biomedical research planning and documentation preparation LBK consideration process(eg, to molecular cell biology techniques to investigate cells and their components);	Exercises	Topic-related exercises credits
• Integrates knowledge of different scientific disciplines(modern molecular biology/law /ethics/medicine/psychology/economy, etc.) in solving of bioethical dilemmas;	Lectures (problem-based learning with discussions), seminars (self-study, analysis of literature and presentation).	Final exam; Topic-related seminar presentation;
• 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;	Seminars (self-study, analysis of literature and presentation), exercises	Topic-related seminar presentation; topic-related exercises credits

• Gives conclusions grounded on .ethics and science.		

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**
1. Why do scientists need bioethical control? Ethical dilemmas: professional scientists' responsibility, accountability and commercialism. Bioethics-Law-Biotechnology: the junction, relevance, problems, criticism.	**4**						**4**	**2**	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**	2	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**	2	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**	5	Analysis of the topic-related scientific papers. Critical analysis of the topic-related cases; searches for the best solutions of the ethical problems.
2. Bioethical decision principles. The precautionary principle: is it technological progress brake?	**2**						**2**	**1**	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**	**3**	Analysis of the topic-related scientific papers; self-directed learning.
Biopharmaceutical, GMO and GMP security. Risks, discomfort and benefits of genetic study.	**2**						**2**	**1**	Movie, review and critical analysis. Short discussions' interpolations during the lecture.
Cloning: Where is our direction? Benefits and risks of xenotransplantation.	**2**		2				**4**	**5**	Analysis of the topic-related scientific papers; self-directed learning, seminar presentation

3. What ethical values are protected by the Council of Europe, UNESCO and the European Commission bioethical documents?	**4**						**4**	**2**	Analysis of the topic-related scientific papers; Seminar presentations, self-directed learning.
The documents regulating Biotechnological researches in Lithuania and Europe;				2			**2**	**2**	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			**2**	**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/legal problems.
Oncology research ethics.	**2**		2				**4**	**3**	Analysis of the topic-related scientific papers; self-directed learning. Seminar presentations.
4. Lithuanian Bioethics Committee (LBC) establishment, activities and results. Functions and operating principles of Ethics Commission of the Lithuanian State Food and Veterinary Service.	**2**						**2**	**1**	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;	1						**1**	0,5	Self-directed learning of the topic.
The study design and evaluation.	1						**1**	0,5	Self-directed learning of the topic.
What are the risks and benefits of the permissible?	2			2			**4**	3	Movie review and analysis.
Decision making and responsibility.			2				**2**	2	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.
5. Submission of Documents for LBC and Ethics Commission of the Lithuanian State Food and Veterinary Service.	**2**						**2**	**1**	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			**2**	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			**2**	4	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**	2	Apply the method of ethical matrix for solving the ethical problems.
6. Human health and ethical perspectives of an environmental management.	**2**						**2**	**1**	Analysis of the topic-related scientific papers; Movie under discussion.
Total	**32**		**8**	**16**			**56**	**51**	

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 (multidisplinary 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 publica-tion**	**Title**	**Issue of a periodical or volume of a publication**	**Publishing place and house or web link**
Compulsory reading				
Steinbock B. (Ed.)	2007	The Oxford Handbook of Bioethics		Oxford University Press
Talbot M.	2012	Bioethics: An Introduction		NHBS
Topic-related scientific reviews.	2008-2013	„News in Bioethics and Biotechnology"		http://www.eubios.info/NBB.htm
Optional reading				

Iltis A.S., Johnson S.H., Hinze B.A. (Eds)	2008	Legal Perspectives in Bioethics		Routledge: New York and London
Bellomo M.	2006	THE STEM CELL DIVIDE: The Facts, the Fiction, and the Fear Driving the Greatest Scientific, Political, and Religious Debate of Our Time		AMACOM: New York • Atlanta • Brussels • Chicago • Mexico City • San Francisco Shanghai • Tokyo • Toronto • Washington, D.C.
Tavani H. (Ed.)	2005	Ethics, Computing, and Genomics. Science.		Jones & Bartlett Learning
Habermas J.	2003	The future of human nature		Cambridge University Press
Hall E.R.	2003	Bioethics and biotechnology: what is at stake for humanity now? (Summary report)		United Nations University, Tokyo
Topic-related scientific reviews.	Lithuanian Bioethics Committee		http://bioetika.sam.lt/index.php?-1309701469	
	Ethics of biotechnology		http://www.biotechnologyonline.gov.au/biotec/forourselves.html	
	Science and Technology		http://www.ost.gov.uk	
	Research Ethics		http://www.researchethics.ca/	
	Ethics and Science (the European Commission)		http://europa.eu.int/comm/science-society	
	Research ethics committee		http://www.hse.gov.uk/research/ethics	