

**EASTERN MEDITERRANEAN UNIVERSITY
COURSE OUTLINE**

COURSE CODE	BIOL 416	COURSE LEVEL	Fourth Year	SEMESTER OFFERED	2019-2020 Spring Semester										
COURSE TITLE	Bioethics of Genetics and Genomics														
COURSE TYPE	Area Core (Molecular Biology and Genetics)														
LECTURER(S)	MSc. Fezel Nizam Office: AS114 Office phone: 630 2060 Office Hours: TBA E-mail: fezel.nizam@emu.edu.tr														
CREDIT VALUE	(3, 1, 0) 3	ECTS VALUE	7												
PREREQUISITES	None														
COREQUISITES	None														
DURATION OF COURSE	One Semester														
RELATIONSHIP TO OTHER COURSES	This is a core course for Molecular Biology and Genetics Program.														
AIMS															
<p>The aim of this course is to critically think about and discuss the relevant Ethical, Legal and Social Issues (ELSI) surrounding the contemporary developments in the fields of molecular biology, genetics and genomics. Course is focused to introduce the field of bioethics as an interdisciplinary subject through critical thinking, writing and discussing contemporary issues. This course will cover mainly the genetics and genomics aspects of the ethical issues by the processes of both scientific and philosophical thinking.</p>															
GENERAL LEARNING OUTCOMES (COMPETENCES)															
<p>The students who successfully complete this course are able to:</p> <ul style="list-style-type: none"> • Understand the legal and ethical discussions in genetics and genomics • Understand the basic problems, methods, and approaches to the field of bioethics • Engage in the critical analysis of bioethical questions and articulate their theoretical and practical dimension • Discuss and form opinions about the ethical, legal and social issues in genetics and genomics • Identify and critically evaluate the bioethical issues that arise in genetic research and in clinical genetics 															
LEARNING / TEACHING METHOD															
<p>The modes of delivery include formal lectures, discussions and presentations. In addition, in-class exercises, literature search and assignments are used as learning tools.</p>															
METHOD OF ASSESSMENT															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Presentation</td> <td style="text-align: right;">25%</td> </tr> <tr> <td>Discussion: Critical Comments/Questions/ Debates</td> <td style="text-align: right;">10%</td> </tr> <tr> <td>Written Assignment</td> <td style="text-align: right;">15%</td> </tr> <tr> <td>Quiz</td> <td style="text-align: right;">10%</td> </tr> <tr> <td>Final</td> <td style="text-align: right;">40%</td> </tr> </table>						Presentation	25%	Discussion: Critical Comments/Questions/ Debates	10%	Written Assignment	15%	Quiz	10%	Final	40%
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Discussion: Critical Comments/Questions/ Debates	10%														
Written Assignment	15%														
Quiz	10%														
Final	40%														
ATTENDANCE															
<p>Attendance is required. Students who attend less than 50% of classes and laboratories, and who do not take midterm and final exams receive an NG grade</p>															
EXTRA CREDIT															
<p>Unannounced extra credit options may arise throughout the semester. Attending all of the lectures is to your benefit.</p>															
TEXTBOOK															
<p>No required textbooks</p>															

RECOMMENDED READING

“The Immortal Life of Henrietta Lacks” by Rebecca Skloot
“The Gene: An Intimate Story” by Siddhartha Mukharjee – 2016

Other reading materials are assigned throughout the semester

TENTATIVE CONTENT & SCHEDULE OF LECTURES

Lectures will be held on the following specified times and lecture halls:

Monday 14:30 -17:20 at CL213

The lecture topics and exam schedules within the semester are as follows:

WEEK	DATE	TOPICS
1	17 February	Introduction to Bioethics – Medical Ethics - Terminology
2	24 February	Introduction to Bioethics – Medical Ethics - Terminology
3	2 March	Introduction to Bioethics a) Ethical Frameworks and Methods of Reasoning b) Genetics and Genomics Ethics
4	9 March	c) Genetics and the Law d) Privacy and Confidentiality e) Genetic discrimination, Non-medical Use of Genetic Information f) Eugenics g) Genome Editing
5	16 March	Presentation 1: Ethics in Genetic Counseling – definition – genomic counseling Presentation 2: Cancer risk assessment – BRCA testing and further familial cancers
6	23 March	Presentation 3: Sex Selection – PGD – IVF-surrogates – human nuclear genome transfer – 3 parent embryos – designer babies Presentation 4: Personalized Genome Sequencing – Genomic Sequencing in the general population – global genomic data sharing for research
7	30 March	Presentation 5: DTC – WGS – Whole Exome Sequencing Presentation 6: Sample donation for genetic research – DNA – Tissue – Consent Presentation 7: Biobanking
8	6 April – 17 April	Midterms
9	20 April	Presentation 8: Prenatal genetic testing –screening – abortion Presentation 9: Human Experimentation
10	27 April	Presentation 10: Animal Research in Genetics and Biotechnology - GMO Presentation 11: GWAS Autism –Screening for neurodevelopmental diseases
11	4 May	Debate 1: CRISPR-Cas applications- genome editing – ELSI, rules, regulations, restrictions, approach of international scientific community
12	11 May	Debate 2: Stem Cells – Regenerative Medicine
13	18 May Last Class Day	-Ethics Education in Genetics and Genomics – span of – lack of -Scientific Publications – Open Access – Data sharing – Cost of publications – access to publications Quiz
14	27 May – 13 June	Final Exam Period

PLAGIARISM POLICIES

Plagiarism includes direct copying from the original source of the information and/or not mentioning the source in the references. Plagiarism and cheating are absolutely not tolerated. These include different assignment groups/teams copying from each other and the use of literature/internet sources directly, while omitting any references. Homework and projects submitted must be your own work. Even though the contents of an assignment could be the same, the submitted work should be original, unique and be prepared using your own words. Cheating in the submitted homework or at the exams is a disciplinary offence. Students committing such offences will be referred to the EMU Disciplinary Committee. The minimum punishment of any detected plagiarism or cheating event will be an F grade being given to the student for that course.

ACADEMIC INTEGRITY

You are expected to submit YOUR OWN WORK for all assignments and activities. You may consult with your fellow students and discuss each assignment. However, the final work you submit must be your own. Even if you have collaborated with another student, the assignment should be phrased and presented in your own words. Work, which is highly similar in content, presentation, and wording, will be suspect and questioned. You are expected to adhere to EMU's policies on Academic Integrity. Instances of plagiarism and academic dishonesty will be severely dealt with, according to EMU practices and policies.

For more information on what is plagiarism and how to avoid it please refer to the following sources or consult your lecturer:

<http://www.plagiarism.org/plagiarism-101>

<http://www.plagiarism.org/plagiarism-101/types-of-plagiarism>

<http://www.northwestern.edu/provost/policies/academic-integrity/how-to-avoid-plagiarism.html>

<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>

<https://owl.english.purdue.edu/owl/resource/589/3/>

MAKE-UP POLICIES

There will be no make-up options for the pre-announced and unannounced in-class exercises.

There will be no make-up options for homework/projects/assignments beyond submission deadlines.

Students, who miss the midterm exam with legitimate and documented excuses, may be eligible for a make-up exam. In order to be able to take the make-up exam, valid documentations should be provided to the Department Administration within 3 working days of the scheduled exam that was missed. It is the students' responsibility to check with the Department for the make-up schedule. In courses with 2 midterm exams, there will only be 1 cumulative make-up exam. Students who miss the final exam will not have a make-up exam but may take the re-sit exam instead.

Laboratory make-up information is listed on your laboratory syllabus.

CLASSROOM POLICIES

Students are responsible for complying with the following rules:

- Students should be on time to lectures.
- Cell phones should be turned off during lectures.
- No video or audio recordings of lectures are permitted.
- Laboratory policies are listed on your laboratory syllabus.

NOTE: This course outline is intended to be a guideline and is tentative. The contents of the course may not match precisely, as the time to cover a given subject can vary. Additionally, current scientific findings which would be interesting to cover under the related topics of your course outline may arise on daily basis.