

Alanya Alaaddin Keykubat University | Rafet Kayış Faculty of Engineering
Genetic and Bioengineering Department
2023-2024 Spring Semester

Syllabus

Code/Name	SEC 304.1 / SCIENTIFIC RESEARCH METHODS
Type	Required
Credit/ECTS	4/4
Hour per Week	3
Level/Year	Undergraduate/3
Semester	Spring
Classroom	FFF D305
Content	This course starts with the discussion of research methods and techniques that are commonly used in Genetic and Bioengineering. The students are expected to write and present a research proposal utilizing the techniques they learned. Following research techniques, the class will be focusing on research methodology concepts in Genetic and Bioengineering, using specific case studies.
Prerequisites	
Textbooks	<i>Primary</i> Mainly PowerPoint documents sent by responsible lecturer <i>Supplementary</i> <ul style="list-style-type: none">• Research article published in such library as PUBMED, ELSEVIER
Objectives	<ul style="list-style-type: none">• To introduce some of the major issues in understanding of natural and technical sciences,• To gain understanding of the nature of research,• To make distinction among several research methods and their applications,• To gain some experience in writing research proposals.
Course Outcomes	In this course students should be able: C01. To define a research question, C02. To review the scientific literature, C03. To write a research proposal, C04. To present a research proposal, C05. To critically evaluate and review research studies.

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Weekly Schedule of Topics

W	Topic
1	Fundamentals of science, technology, research, and scientists
2	Research and scientific methodology
3	Sources to reach scientific information
4	Research ethics
5	Student presentations (Pioneer Scientist)
6	Student presentations (Pioneer Scientist)
7	Types of articles and writing a research article
8	How to deliver a scientifically effective presentation
9	Introduction to qualitative and quantitative research approaches
10	Interactive: Teaching Assistant Research Expertise
11	Student presentations (Research Article)
12	How to write project
13	Interactive: Reference management software & how to use Endnote
14	Mock interview

Professional Contribution

Be able to get knowledge about making hypothesis and writing project.

Contribution to Program Outcomes*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2	2	0	2	0	4	3	3	5	5	5
CO2	2	3	0	4	0	4	3	5	2	0	0
CO3	2	2	0	2	0	4	5	2	4	5	3
CO4	1	2	0	2	0	4	5	2	2	5	0
CO5	3	3	2	4	4	4	3	5	5	2	5

* Contribution Level | 0: None | 1: Very Low | 2: Low | 3: Medium | 4: High | 5: Very High

Special Conditions

- Students work in groups.
- Presentation will be conducted in class and selected original articles for presentation will be sent to the responsible lecturer.

Requirements

Course Policy

- Students should be in the class on time.
- Both student and responsible lecturer should communicate in English
- Students should prepare themselves by reading course presentation, book and articles sent.

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	<ul style="list-style-type: none">• At least 70% attendance is required, otherwise a grade of DZ will be assigned.• Students must be present in class for the presentations, otherwise students will not be graded for the presentation.								
Cheating & Plagiarism	<ul style="list-style-type: none">• Copying or letting someone copy anyone work on exams, assignments, or reports is cheating.• Cutting and pasting text, figures and tables from web sources, chatGPT or any other electronic source is plagiarism.• The consequence of academic dishonesty is to receive a grade of FF for the course.								
Evaluation	<table><tr><td>Midterm Exam</td><td>25%</td></tr><tr><td>Presentation homework</td><td>25%</td></tr><tr><td>Project writing</td><td>50%</td></tr><tr><td>Total</td><td>100%</td></tr></table>	Midterm Exam	25%	Presentation homework	25%	Project writing	50%	Total	100%
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Presentation homework	25%								
Project writing	50%								
Total	100%								
Rubric	A rubric will be announced prior to project writing and presentation sessions.								
Instructor									
Name/Surname	Sinem Yılmaz	Email	sinem.yilmaz@alanya.edu.tr						
Room	210	Office Hours	Thursday 10:30-12:30 and 13:30-15:00						

Prepared by Sinem Yılmaz on June 4th, 2024