Alanya Alaaddin Keykubat University | Rafet Kayış Faculty of Engineering
Genetic and Bioengineering Department
2024-2025 Fall Semester

Syllabus

Code/Name	SEC 403.3 / INDUSTRIAL BIOTECHNOLOGY
Type	Required
Credit/ECTS	3/3
Hour per Week	2 (2+0+0)
Level/Year	Undergraduate/4
Semester	Fall
Classroom	D305
Content	History of industrial biotechnology, Fermentation, Industrial production, Industrial biotechnological applications, Biotechnological applications in industrial biotechnology
Prerequisites	-
Textbooks	***Primary*** Class Notes ***Supplementary*** *Lesson notes prepared from books and articles*
Objectives	• To explain the definition, history and working areas of industrial biotechnology in detail. • Explaining the fermentation process in detail. • To explain the process stages of producing industrial products. • To explain the process stages of industrial biotechnological applications. • To explain the biotechnological applications in industrial biotechnology
Course Outcomes	In this course you will be able to: CO1 Explain the concepts of industrial biotechnology. CO2 Outline the applications of fermentation technology. CO3 Explain synthesis of industrial products. CO4 Develop problem solving skills. CO5 Defining the use of biotechnological applications in industry.

Weekly Schedule of Topics

W	Topic
1	Information about the course process
2	History of industrial biotechnology
3	Fermentation technology
4	Industrial production of enzymes
5	Industrial biotechnological applications in the pharmaceutical industry
6	Industrial biotechnological applications in the food industry
7	Industrial biotechnological applications in the feed industry
8	Industrial biotechnological applications in the paper and pulp industry
9	Biotechnological applications in the textile industry
10	Biotechnological applications in the detergent industry
11	Industrial biotechnological applications in biodiesel production
12	Biofuel production and applications

13	Industrial systems biology
14	Industrial biotechnology applications overview
Professional Contribution	Explaining the field of industrial biotechnology and its applications

Contribution to Program Outcomes*

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

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

Special Conditions	-
Requirements	-
Course Policy	• Be in class on time. • English should be used to communicate with each other. If there is difficulty in making sentences in English, a dictionary can be used. • Cell phones must be turned off and put away during class. • Attendance is not compulsory.
Cheating & Plagiarism	• Copying or letting someone copy your work on exams, assignments, or reports is cheating. • Cutting and pasting text, figures and tables from web sources or any other electronic source is plagiarism. • The consequence of academic dishonesty is to receive a grade of **FF** for the course.
Evaluation	Midterm 50% Final Exam 50% Total 100%
Rubric	A rubric will be announced by the instructor before the exams are given.

Instructor **-**

Name/Surname	Dr. Sevda ALTUN	Email	sevda.altun@alanya.edu.tr
Room		Office Hours	W 11.30-12.30 | T 13.30-14.30

Prepared by Dr.Sevda ALTUN.