



YILDIZ TECHNICAL UNIVERSITY FACULTY OF CHEMICAL AND METALLURGICAL ENGINEERING BIOENGINEERING DEPARTMENT



BYM4242 / BIOENGINEERING LABORATORY II

Course Coordinator

Prof. Dr. Mehmet Burçin PİŞKİN

Laboratory Coordinator

Res. Assist. Beyza KARACAOĞLU

2022-2023

Experiments and Responsible Teaching Staffs

Experiment No	Experiment	Exp. Time	Responsible Teaching Staff	E-mail
1	Plasmid DNA isolation and spectral analysis	09.30	Res. Asst. Başak AKIN	basakakin00@gmail.com
2	Construction and application of urea biosensor	09.30	Res. Asst. Dr. Mustafa NİĞDE	mnigde@yildiz.edu.tr
3	Biofuel production with thermochemical transformation	09.30	Res. Asst. Gülcan Ayşin KARACA	gakaraca@yildiz.edu.tr
4	Size and zeta potential analysis of protein by light scattering method	09.30	Res. Asst. Eda Nur YETİŞKİN MORKAN	yetiskinedaa@gmail.com
5	Baker's yeast production in bioreactor	09.30	Res. Asst. Beyza KARACAOĞLU (Lab. Coordinator)	beyzak@yildiz.edu.tr

LABORATORY CALENDER

You will have a
total of 5
experiments and 1
design experiment

WEEK	DATE	TOPICS
1	March 1	Meeting with Students, Introduction to course / Presentation of Standards for Engineering Applications
2	March 8	Experiment 1
3	March 15	Experiment 2
		Final Report of Experiment 1
4	March 22	Experiment 3
		Final Report of Experiment 2
5	March 29	Experiment 4
		Final Report of Experiment 3
6	April 5	Experiment 5
		Final Report of Experiment 4
7	April 12	Make-up Experiments
		Final Report of Experiment 5
8	April 19	MIDTERM WEEK
		Post-Quiz
9	April 26	<u>Submission of the Design Experiment Booklet</u>
		Final Report of Make-up Experiments
10	May 3	Design Experiments
11	May 10	Design Experiments
12	May 17	Design Experiments
13	May 24	<u>Deadline for Design Experiment Report Submission</u>
14	May 31	Design Experiment Presentations
15	-	FINAL EXAM

DESIGN EXPERIMENT

Week	Work
4	Determination of the problem and subject by the student
5	Approval of the subject by the responsible research assistant
9	Submission of the booklet
10-12	Performing the Design Experiment
13	Submission of the Final Report of Design Experiments
14	Presentations

- Each group has to design a Design Experiment which are not including experiments in lab-handbooks. After that you have to write booklet like your laboratory handbook about your experimental design. You have add graphs, data, figures, etc. into Final Report of Design Experiment.
- It is mandatory for the groups to adhere to the determined dates.
- Design experiments will be carried out face-to-face until further decision.

DESIGN EXPERIMENT AND PRESENTATION

- Each group will be guided by a Research Assistant which is going to announce you later. Students should contact Research Assistants who will assist their group for their design experiment topics and other questions.
- At the 14th week all groups do presentation about their Design Experiment about 15 minutes, and after presentation it will be a questions & answers part 5 minutes. Presentations will be carried out **online**.
- Each group member has to contribute to the design experiment and to prepare a presentation.

Design Group 1	Res. Asst. Eda Nur YETİŞKİN MORKAN	yetiskinedaa@gmail.com
Design Group 2	Res. Asst. Gülcan Ayşın KARACA	gakaraca@yildiz.edu.tr
Design Group 3	Res. Asst. Dr. Mustafa NİĞDE	mnigde@yildiz.edu.tr
Design Group 4	Res. Asst. Dr. Mustafa NİĞDE	mnigde@yildiz.edu.tr
Design Group 5	Res. Asst. Ayça ASLAN	aslaanayca@gmail.com
Design Group 6	Res. Asst. Ayça ASLAN	aslaanayca@gmail.com
Design Group 7 (KOOP)	Res. Asst. Ayça ASLAN	aslaanayca@gmail.com

Experiment Groups

GROUP NO	STUDENT ID	NAME	SURNAME
1	1905A011	İDİL	AÇAR
	1805A043	YAREN	AĞCA
	1905A022	RUVEYDA	AĞIRMAN
	1905A917	MELİKA	AHMADINASSAB
	1905A020	NİLGÜN EFTALYA	AKGÖL
	1905A911	FURUZA	ALİYEVA
	1905A922	AHMAD	ALTABL
	1805A040	ŞEHRİBAN	AŞLANCI
	1905A606	EMİN	AŞUT
	1905A039	YAGMUR GİZEM	AY
	2005A603	BENSU	AYDOĞMUŞ
	1805A033	SELİN SUDE	AYHAN
	19056912	HODA	CHEIKHKHAMIS

2	1905A926	NOUR	CHICKH MOHAMAD
	1805A055	HATİCE BEYZA	ÇAY
	2005A604	DERYA	ÇELİK
	1905A018	GİZEM	DEMİRCİ
	1805A015	ŞEVAL	DEMİRTAŞ
	1805A058	ENDERCAN	ERÇETİN
	1905A006	ERGİSÜ SEZGİN	ESİN
	1805A036	MİNE	EŞBAHOĞLU
	1905A934	HAYTHAM	FASSİH
	1805A046	RAİFE	GENÇER
	1905A051	RÜYA	GİRİŞKEN
	2005A606	BEYZA	GÖZÜKÜÇÜK
	1805A053	EKİN DEREN	GÜRTEKİN

3	1805A016	SÜMEYYE	GÜVENÇ
	1905A906	HİBE	HARİRİ
	1805A912	ELAF	HOSREH
	1805A022	FATMA BAHAR	İŞİK
	1905A705	EBRU CEREN	İLHAN
	1905A049	CEYDA	İRİŞEN
	1805A913	FATİMA	JAMOUS
	1905A921	EMİRA	KALİFA
	1805A048	İMİRAN ÇAĞRI	KANTARCI
	1805A044	BETÜL	KARADUMAN
	1905A042	DEMİR OLEKSİY	KARASU
	19056904	LOUNA	KARZOUN
	1905A918	NARİN	KASHEKHİ

GROUP NO	STUDENT ID	NAME	SURNAME
4	1805A054	BUSE	KAYGIN
	1805A041	SİMGE BİLGE	KEBABCI
	1805A035	BİLGE	KELEŞ
	1805A010	BEYZA	KILIÇ
	2005A612	MUSTAFA VEYSEL	KIRIMI
	1805A034	BUGRA	KİREKO
	1805A031	AYŞE NAZ	KOÇ
	1705A036	YUNUS EMRE	KUL
	1905A606	ARYA	LEYLABİ
	1805A917	HALİT	MAİBAR
	1905A903	MOHAMMAD	MOGHADDASI
	1905A003	MELİHCAN	ORAN
	1805A023	BEYZA SİLA	ÖÇALAN
	1805A020	ILKNUR	ÖGÜT

5	1805A007	HÜSEYİN MURAT	ÖZADENÇ
	1805A051	MUHAMMED MUSTAFA MERT	ÖZDEMİR
	1905A032	SUDE	ÖZHAN
	1905A912	ZEYNEP	RAMAZAN
	1905A913	OLA	RAMAZAN
	1805A018	AHMET	SAFI
	1905A701	AYŞENUR	SAKOĞLU
	18056065	SHHD	SARAJ
	2005A601	SENANUR BERKEM	SOMAR
	1905A914	SİMAF	SÜLEYMAN
	1905A057	ŞEVVAL	ŞAHİN
	2005A611	BÜŞRA BETÜL	ŞİMŞEK
	19056902	ELMİRA	TAGHIYEVA
	1805A047	BEYDA	TAĞ

6	2005A705	EMİNE	TAYRAN
	1905A025	CEYDA	TOPAL
	1905A916	ALİ	TORABKHANI NOSHAHR
	1805A045	BURAKHAN	TOY
	1805A054	FATMA BERİN	TUFEKCİOĞLU
	1805A026	AYŞE ŞULE	UÇAR
	1905A902	ZEİNA MAZİN	WALİ
	1905A607	BORA	YAMAN
	1805A021	BİNNAZ SELDA	YARDIMCI
	1805A014	GİZEM	YAŞAR
	1805A059	BEYDA NUR	YATIKÇI
	1805A028	SELİN	YAVUZ
	1805A025	BURCU	YUNATCI



YILDIZ TECHNICAL UNIVERSITY
FACULTY OF CHEMICAL AND METALLURGICAL ENGINEERING
BIOENGINEERING DEPARTMENT

BIOENGINEERING LABORATORY- II
BYM4242
LABORATORY BOOKLET

Istanbul, 2022/2023

Laboratory Handbook

- Laboratory worksheet will be published in the Announcements & Documents section of the Avesis page by Prof. Dr. Mehmet Burçin PIŞKİN

(<https://avesis.yildiz.edu.tr/mpiskin/dokumanlar>)

Final Report

- Final report **prepared by each group** must be e-mailed to laboratory coordinator on following **Wednesday. You have to delivery hard-copies of your reports to each responsible teaching assistants until April 26,2023.**

The content of the report should be as follows:

- Aim of Experiment
- Introduction (Theoretical Knowledge)
- Experimental Method
 - Schematic Representation and Presentation of the Experimental Setup
 - Experiment Conditions
 - Safety Concern (add MSDS information)
- Detection and Analysis of Experimental Data
 - Experiment Data
 - Graphs/Equations/Calculations
- Experiment Results and Discussion
- Resources (Do not add website links!!!)





Writing of the Report:

- All reports will be written in Times New Roman, 12 points and 1.15 line spacing.
- Page margins will be 2.5 cm.
- Grammar rules will be taken into consideration while writing the report.
- In addition, references will be cited in the text.

Evaluation of the Report:

- **If the plagiarism score is above 30%**, the report will be requested to be revised, and if the new report is above 30%, the report will not be accepted. When it is below 30%, the plagiarism section will be given 50 points in the table.
- **If the plagiarism score is between 20-30%**, 75 points will be given to the plagiarism part of the table.
- **If the plagiarism score is below 20%**, 100 points will be given to the plagiarism section of the table.



**YILDIZ TECHNICAL UNIVERSITY
DEPARTMENT OF BIOENGINEERING
COURSE NAME
2020-2021 FALL**

FINAL REPORT EVALUATION FORM

Name of Experiment:
Group number:

Date :
Result: Accepted / Rejected

Sections	Score	Impact	Grade (Score × Impact)
Theoretical Part			
Aim of the Experiment		0,05	
Theoretical Information		0,05	
Experimental Methods			
Schematic representation the experimental setup		0,05	
Experimental conditions (Selected parameters)		0,05	
Safety		0,05	
Determination and analysis of experimental data			
Experimental Data		0,05	
Graphics/Equations/Calculations		0,20	
Evaluation of results			
General results, discussion and suggestions		0,20	
References		0,05	
Effective and correct use of English		0,05	
Plagiarism score*		0,20	
Total Grade:			

*This score is determined from Turnitin software and detection does not cover bibliography.

1. If the plagiarism score is above 30%, the report will be requested to be revised and the report will not be accepted when the new report is above 30%. When it is below 30%, 50 points will be given to the plagiarism part in the table.

2. If the plagiarism score is between 20-30%, 75 points will be given to the plagiarism part of the table.

3. If the plagiarism score is below 20%, 100 points will be given to the plagiarism part of the table.

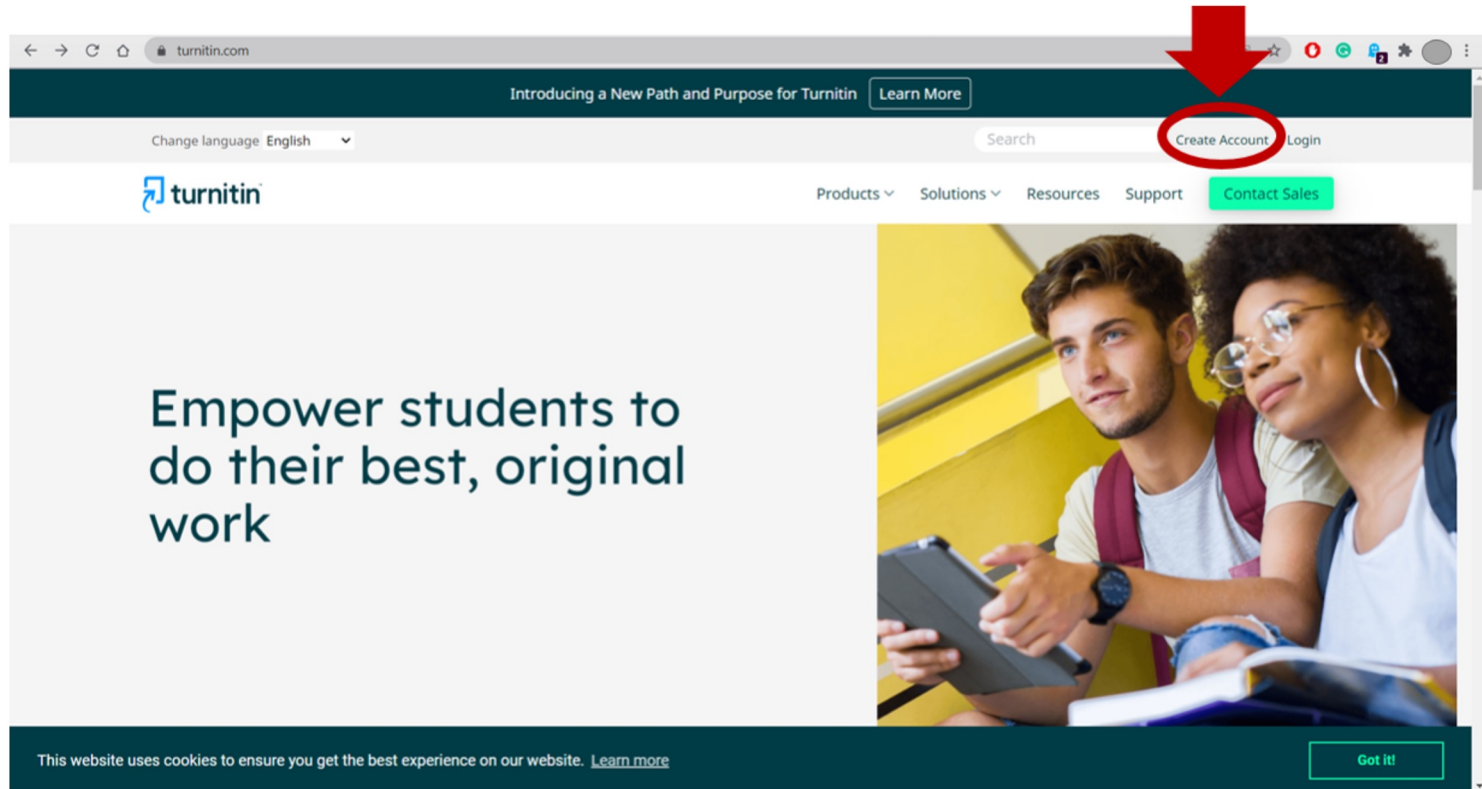
EVALUATION OF DESIGN EXPERIMENT BOOKLET

Bölümler	Puan	Ağırlık	Not (=Puan x Ağırlık)
Teorik Bölüm			
Deneyin Amacı		0,05	
Giriş (Teorik bilgi)		0,05	
Deneyisel Yöntem			
Deney Düzeneklerinin Şematik Gösterimi ve Tanıtımı		0,05	
Deney Koşulları (Parametreler)		0,05	
Güvenlik Kaygısı(MSDS vb referans)		0,05	
Deney Verilerin Saptanması ve Analizi			
Deneyin Yapılışı ve Verilerin Toplanması		0,05	
İstenen Grafikler/Denklemeler/Hesaplamaların Açıklanması		0,20	
Sonuçların Değerlendirilmesi			
Deney Öncesi Sorular		0,20	
Kaynaklar		0,05	
Türkçenin Etkin ve Doğru Kullanımı		0,05	
İntihal*		0,20	
Toplam:			

BIOENGINEERING LABORATORY II

Turnitin Tutorial

Go to '<https://www.turnitin.com>' from your browser. Click on **Create**





Click on the **Student** tab.



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Create a New Student Profile

Class ID Information

All students must be enrolled in an active class. To enroll in a class, please enter the class ID number and class enrollment key that you were given by your instructor.

Please note that the key and pincode are case-sensitive. If you do not have this information, or the information you are entering appears to be incorrect, please contact your instructor.

Class ID

Class enrollment key

User Information

Your first name

Your last name

First Name: **ING/Group Number**
Last Name: **Experiment Name**

Class ID: **38116848**
Class enrollment key: **BYM4242GR2**

It is sufficient for **one person from each group to register and upload your final report** in the system. Write **ING/Group Number** on the '**Your First Name**' tab to show that you are an English group. On the '**Your Last Name**' tab, write your **Experiment Name**. Please do not write your own name and surname !!!

Continue on page. Write your own e-mail address and then create a password for yourself. After choosing the secret question, click on the **I Agree-Create Profile** tab below. Thus, your student account will be created.

Email address

This field is required.

Confirm email address

Password and Security

Please keep in mind that your password is case sensitive (for example, paSS1234 would be different than pass1234) and must be at least 8 characters long.

Enter your password

This field is required.

Confirm your password

Next, please enter a secret question and answer combination. You will be asked for this combination if you ever forget your password and need to reset it.

Secret question

Please select a secret question. ▾

Question answer

Click on the **Bioengineering Laboratory II 2022-2023**



[Tüm Sınıflar](#) [Hesaba Katıl \(ÖA\)](#)

GÖRÜNTÜLENİYOR: HOME

Bu sayfa hakkında
Bu, öğretmen anasayfanızdır. Bir sınıf oluşturmak için, "Sınıf Ekle" düğmesine tıklayınız. Bir sınıfın ödevlerini ve yapılan gönderileri görüntülemek için sınıf adına tıklayınız.

YILDIZ TEKNİK ÜNİVERSİTESİ [+ Sınıf Ekle](#)

















[Tüm Sınıflar](#) [Süresi Dolmuş Sınıflar](#) [Aktif Sınıflar](#)

Sınıf Numarası	Sınıf adı	Durum	Başlangıç Tarihi	Bitiş Tarihi	Class Summary	Learning Analytics	Düzenle	Kopyala	Sil
38116040	Bioengineering Laboratory II 2022-2023	Aktif	28-Şub-2023	30-Tem-2023					
38116794	Biyomühendislik Laboratuvarı II 2022-2023	Aktif	28-Şub-2023	30-Tem-2023					



Click on the submit tab of the experiment.

This is your class homepage. To submit to an assignment click on the "Submit" button to the right of the assignment name. If the Submit button is grayed out, no submissions can be made to the assignment. If resubmissions are allowed the submit button will read "Resubmit" after you make your first submission to the assignment. To view the paper you have submitted, click the "View" button. Once the assignment's post date has passed, you will also be able to view the feedback left on your paper by clicking the "View" button.

Assignment Inbox: 2020-2021 Bahar Mühendislik Laboratuvarı Grup 1					
Assignment Title	Info	Dates		Similarity	Actions
SHELL-TUBE HEAT EXCHANGER		Start	19-Apr-2021 12:00AM		Submit View 
		Due	03-May-2021 11:59PM		
		Post	03-May-2021 11:59PM		
OXYGEN TRANSFER IN COLUMN REACTOR		Start	05-Apr-2021 12:00AM		Submit View 
		Due	12-Apr-2021 11:59PM		
		Post	12-Apr-2021 11:59PM		
ADSORPTION		Start	12-Apr-2021 12:00AM		Submit View 
		Due	19-Apr-2021 11:59PM		
		Post	19-Apr-2021 11:59PM		
UNSTEADY STATE HEAT CONDUCTION		Start	31-Mar-2021 12:00AM		Submit View 
		Due	05-Apr-2021 11:59PM		
		Post	05-Apr-2021 11:59PM		
ASTM DISTILLATION		Start	03-May-2021 12:00AM		Submit View 
		Due	10-May-2021 11:59PM		
		Post	10-May-2021 11:59PM		
SOLID-LIQUID EXTRACTION		Start	10-May-2021 12:00AM		Submit View 
		Due	17-May-2021 11:59PM		
		Post	17-May-2021 11:59PM		
FLUID FLOW		Start	17-May-2021 12:00AM		Submit View 
		Due	24-May-2021 11:59PM		
		Post	24-May-2021 11:59PM		
PUMP SELECTION		Start	24-May-2021 12:00AM		Submit View 
		Due	31-May-2021 11:59PM		
		Post	31-May-2021 11:59PM		

Click on Cut & Paste Upload tab and choose **Single File Upload**.

Class Portfolio My Grades Discussion Calendar

NOW VIEWING: HOME > 2020-2021 BAHAR MÜHENDISLIK LABORATUVARI GRUP 1

Submit: Cut & Paste Upload ▾

STEP ● ○ ○

Single File Upload

First name

TR

Last name

Group 5

Submission title

Cut and paste your paper

4

Submit: [Single File Upload](#) ▾

STEP ● ○ ○

First name


Last name


Submission title

[What can I submit?](#)

Choose the file you want to upload to Turnitin:

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Upload

Cancel

!!! Important Note: Please check
your report in pursuance of
important informations part at
the end of this presentation,
before you submit.

Click on 'Return to Assignment List'

Submit: Single File Upload

STEP ●●●

Congratulations - your submission is complete! This is your digital receipt. You can print a copy of this receipt from within the Document Viewer.

Author:
TR Group 5

Assignment title:
UNSTEADY STATE HEAT CONDUCTION


Submission title:

File name:

File size:
Unknown

Submission date:
31-Mar-2021 06:23PM (UTC+0300)

Submission ID:
1547328367



No image could be created for this submission. You may download the file above.

We take your privacy very seriously. We do not share your details for marketing purposes with any external companies. Your information may only be shared with our third party partners so that we may offer our service.

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Similarity will be seen under the heading '**Similarity**'. You have to click on the '**View**' tab to see your similarities. When you click it, your plagiarism report will open.

This is your class homepage. To submit to an assignment click on the "Submit" button to the right of the assignment name. If the Submit button is grayed out, no submissions can be made to the assignment. If resubmissions are allowed the submit button will read "Resubmit" after you make your first submission to the assignment. To view the paper you have submitted, click the "View" button. Once the assignment's post date has passed, you will also be able to view the feedback left on your paper by clicking the "View" button.

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		Due	24-May-2021 11:59PM			
		Post	24-May-2021 11:59PM			
PUMP SELECTION	①	Start	24-May-2021 12:00AM		Submit	View
		Due	31-May-2021 11:59PM			
		Post	31-May-2021 11:59PM			

IMPORTANT RULES !!!

- Upload your reports to the Turnitin system by **23:59 on Tuesday** of the next week at the latest!!
- For reports which you are uploaded to Turnitin with a similarity rate of **over 30 percent**, please contact the laboratory coordinator. Points will be deducted from late submitted or uploaded reports to Turnitin system from total grade.
- Upload your reports to the Turnitin system without removing the cover pages from your reports.
- Please deliver the original versions of the reports to the laboratory coordinator via e-mail (beyzak@yildiz.edu.tr), and hard-copies of your reports to each responsible teaching assistants until April 26, 2023.
- If the reports submitted late, each day 10 points will be deducted from reports.

EVALUATION

1 midterm exam: % 30

1 final exam: % 40

Quizzes and laboratory applications: % 30

For questions about the Bioengineering Laboratory II

Res. Asst. Beyza KARACAOĞLU (Lab. Coordinator)	beyzak@yildiz.edu.tr
Res. Asst. Başak AKIN	basakakin00@gmail.com
Res. Asst. Gülcan Ayşin KARACA	gakaraca@yildiz.edu.tr
Res. Asst. Eda Nur YETİŞKİN MORKAN	yetiskinedaa@gmail.com
Res. Asst. Dr. Mustafa NİĞDE	mnigde@yildiz.edu.tr

Any volunteer for communication between students and Lab coordinator?

The background is a complex geometric composition. It features several overlapping triangles and quadrilaterals in three main colors: a muted blue, a golden-yellow, and a light grey. The shapes are arranged in a way that creates a sense of depth and movement. A large white diamond shape is positioned on the left side, serving as a container for the text. The overall aesthetic is modern and minimalist.

**Have a successful
year 😊**