

<b>Course Unit Title</b>	Graduation Project
<b>Course Unit Code</b>	BME 400
<b>Type of Course Unit</b>	Compulsory
<b>Level of Course Unit</b>	4 <sup>th</sup> year BSc program
<b>National Credits</b>	4
<b>Number of ECTS Credits Allocated</b>	10
<b>Theoretical (hour/week)</b>	-
<b>Practice (hour/week)</b>	-
<b>Laboratory (hour/week)</b>	-
<b>Year of Study</b>	4
<b>Semester when the course unit is delivered</b>	8
<b>Course Coordinator</b>	Assoc. Prof. Dr. Terin Adalı
<b>Name of Lecturer (s)</b>	All Lecturers in Department of Biomedical Engineering
<b>Name of Assistant (s)</b>	-
<b>Mode of Delivery</b>	Project, Presentation
<b>Language of Instruction</b>	English
<b>Prerequisites</b>	Refer to the Graduation project guideline
<b>Recommended Optional Programme Components</b>	Refer to the Graduation project guideline
<b>Course description:</b>	
<p>Graduation project leading to BSc. Degree, arranged between a student and the faculty member. The aim of the project must be one of the following: application of new scientific methods for solving different engineering problems, modification of biomaterials, tissue engineering research, and their modeling, development different software packages, analysis and investigation of new research areas in Biomedical engineering fields.</p> <p>Design, develop and present a project based on the knowledge acquired during undergraduate studies.</p>	
<b>Objectives of the Course:</b>	

The purpose of the Graduation Project is to assure/ascertain that the students have acquired the skills, knowledge and concepts necessary to perform well when they leave the university.

Each student will use educational tools to broaden his/her knowledge about a particular, self-selected topic.

Students are also expected to show how proficient they are in solving real world problems with certain constraints for the outcome-based evaluation by the review board.

BME400 is the first part of the project to apply literature survey, data collection finding a research question, and establishing the first prototype of their research project.

### Learning Outcomes

After completing the course the student will be able to		Assessment
1	Understand and apply the fundamentals of engineering-design practices and procedures	3, 4
2	Participate in team work activities	3, 4
3	Implement the techniques of oral and written presentations	3, 4
4	Identify an engineering problem and assess alternative solutions	3, 4
5	Apply project management fundamentals	3, 4
6	Understand the ethics of engineering profession and environmental issues	3, 4
7	Interact with industry, and related NGOs.	

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4. Presentation, 5. Lab. Work

### Course's Contribution to Program

		CL
1	Apply knowledge of mathematics, natural science with relevant to life science and multidisciplinary context of engineering science.	5
2	Analyze, design and conduct experiments, as well as to analyze and interpret data.	5
3	Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.	5
4	Function on multidisciplinary teams.	5

5	Control in design work, by using simulation, modelling and tests and integration in a problem solving oriented way.	5
6	Display an understanding of professional and ethical responsibility.	5
7	Communicate effectively aware of the non-technical effects of engineering.	2
8	Search technical literature and other information sources.	5
9	Recognize of the need for, and an ability to engage in life-long learning.	2
10	Exhibit a knowledge of contemporary issues.	5
11	Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

### Course Contents

Week	Topics	Exam
1	Project management	
2	Project management	
3	Project research question proposal	
4	Project management	
5	Project management	
6	Project report submission	
7		Midterm
8	Project management	
9	Project management	
10	Project management	
11	Project first presentation	
12	Project management	
13	Project management	
14	Presentation to the review board and oral examination	
15		Final

**Recommended Sources**

Will be required depending on the recommendation of the project supervisor and according to the needs of the specific project topics.

**Supplementary Materials:**

Project Manual for students of Engineering Faculty

**Assessment**

Presentation	25%	
Project Jury Assessment	75%	
Total	100%	

**ECTS allocated based on Student Workload**

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including Exam weeks)	-	-	-
Labs and Tutorials	-	-	-
Assignment	-	-	-
Project/Presentation/Report	3	70	240
E-learning activities	-	-	-
Quizzes	-	-	-
Midterm Examination	-	-	-
Final Examination (Presentation to the review board)	1	1	1
Self-Study	14	5	70
Total Workload			311
Total Workload/30(h)			11.46
ECTS Credit of the Course			11