BMEN 1100 Course Syllabus

Course Information

Course Number   BMEN 1100
Course Title   Introduction to Bioengineering I
Term   Fall 2023

Section	Day	Times	Room	Instructor
.101	Monday	1:00 pm – 2:40pm	ML1 1.118	K. Myers
.102	Tuesday	1:00 pm – 2:40pm	ML1 1.118	B. Porter
.103	Tuesday	1:00 pm – 2:40pm	ML1 1.122	B. Porter
.104	Friday	10:00 am – 11:40 am	ML1 1.118	K. Myers
.105	Friday	10:00 am – 11:40 am	ML1 1.122	K. Myers
.111	Wednesday	10:00 am – 11:40 am	ML1 1.122	K. Myers

Professor Contact Information

Instructor: Kathleen Myers, PhD
For sections: .101/.104/.105/.1l1
Email: kxm156530@utdallas.edu
Office Location: ECSN 2.222
Phone number: 972-883-7209

Instructor: Ben Porter, PhD
For sections: .102 – .103
Email: ben.porter@utdallas.edu
Office Location: ECSN 2.226
Phone number: 972-883-7328

Office hours: see course homepage on eLearning for TA hours
    Dr. Porter's hours are posted on eLearning (also available by appointment)
    Dr. Myers' hours are posted on eLearning (also available by appointment)

Please email Faculty/appropriate TAs to make appointments at alternate times.

Graduate Teaching Assistant (TA) Contact Information

Name	Email Address	Primary Section(s)
Renjinming Dai	renjinming.dai@utdallas.edu	1L1, 103
Fatemeh Vahidi Zaman	fatemeh.vahidizaman@utdallas.edu	102, 104
Mia Sargusingh	mia.sargusingh@utdallas.edu	101
Sadhya Achanta	sadhya.achanta@utdallas.edu	105

Undergraduate Assistant Contact Information

Name	Email Address	Primary Section(s)
Tasha Rustandi	tasha.rustandi@utdallas.edu	102-103
Sugkirthy Gowri Sridhar	sugkirthygowri.sridhar@utdallas.edu	1L1, 104-105

Class Materials
The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Course Pre-requisites, Co-requisites, and/or Other Restrictions
Prerequisites and *Co-requisites*: None

Course Description
BMEN 1100 Introduction to Bioengineering I is a laboratory course emphasizing the essential skills and tools necessary to succeed in a biomedical engineering degree plan. Three core areas of the field will be introduced – biochemistry, solid mechanics, and bioelectronics. Lab activities will include statistical analysis of a biochemical transport problem, understanding and fabricating mechanical devices based on engineering drawings, and assembling and testing simple electronic circuits to record and analyze bioelectrical signals of the human body.

Program Educational Objectives
Biomedical Engineering Bachelor's graduates are expected to attain the following Program Educational Objectives within a few years after graduation:

- Careers that lead to leadership roles in biomedical engineering or related fields.
  or
- Gain admission to graduate, professional, or health related programs.

Course Learning Objectives
Course learning outcomes followed by ABET classification by student outcome include:

1) Apply software tools, electronics instrumentation, and machinery used by biomedical engineers to complete a variety of tasks. (SO 1 – an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics)
2) Apply basic, limited statistical analysis to real-world experimental data. (SO 6 – an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions)
3) Identify and understand ethical issues through evaluation of professional responsibilities in biomedical engineering. (ABET SO 4 – an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts)

Required Textbooks and Resources
Required Texts: None
Suggested Text: None
Required Materials / Resources:
Access to elearning.utdallas.edu. Notes, other material, and/or resources will be posted on eLearning on a regular basis. Please check eLearning and your email at least daily.

Tentative Academic Calendar

Dates	Week	Topics
August 21 – 25	1	Introduction, Syllabus Review
Aug 28 – Sept 1	2	Engineering Design Challenge
September 4 – 8	3	Labor Day Week – No Labs
September 11 – 15	4	Data Analysis and Excel (1)
September 18 – 22	5	Data Analysis and Excel (2)
September 25 – 29	6	Bioelectronics (1)
October 2 – 6	7	Bioelectronics (2)
October 9 – 13	8	Bioelectronics (3)
October 16 – 20	9	Engineering Ethics (1)
October 23 – 27	10	Engineering Ethics (2)
Oct 30 – Nov 3	11	Biomaterials and Drug Delivery Simulation
November 6 – 10	12	Genetic Engineering Lab
November 13 – 17	13	Class Activity/Data Analysis
November 20 – 24	14	FALL BREAK
Nov 27 – Dec 1	15	Final Exam Review and Open Lab
Dec 9 – 15		Final Exam

This calendar is subject to change at the discretion of the Professor

Important Dates:

Last Day to Drop without W: Wednesday, September 6, 2023
Last Day to Drop with WL: Tuesday, November 7, 2023
Fall Break and Thanksgiving: Monday, November 20 – Sunday, November 26, 2023
Last Day of Final Exams: **Friday, December 15, 2023**

The date and time for the final exam is to be set by the Office of the Registrar and will occur on one of the designated final exam dates (Saturday, December 9 – Friday, December 15, 2023). Do not make any travel

arrangements to be away from campus during this time until the exam date is announced. **Scheduled travel will NOT be an acceptable excuse for a makeup final exam.**

Technical Requirements
In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Course Access and Navigation
This course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning webpage for more information. To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication
This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools. Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

Server Unavailability or Other Technical Difficulties
The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Grading Policy

Grade	97.0+	96.99-93.0	92.99-90.0	89.99-87.0	86.99-83.0	82.99-80.0	79.99-77.0	76.99-73.0	72.99-70.0	69.99-60.0	<60
	A+	A	A-	B+	B	B-	C+	C	C-	D	F

The following percentages will be used in calculating the final course grade:

For non-LLC Students
Campus BMEN Event Attendance (≥2): 10%
Class Assignments and Homework: 70%
Final Exam: 20%

For LLC Students
Campus BMEN Event Attendance (≥2): 5%
Class Assignments and Homework: 65%
LLC Participation/Assignments: 10%
Final Exam: 20%

Due Dates
Any in-class activities not completed before the class ends are due by midnight on the day before the subsequent class meeting unless otherwise specified. Due dates will be designated within the assignment on elearning. Assignments submitted after the due date will be subject to the late penalty described below.

Course Policies
- **Class attendance and punctuality is mandatory.** Since this class only meets once per week, even a single absence has the potential to be detrimental to your progress in this course. Advance notice for any non-emergency absence to the instructor is required. If approved by the instructor, arrangements to make up the missed class time with another section must be made prior to the week of absence. If the absence is not approved in advance and/or the class time is not made up by the student, then **the student will receive an automatic 25% penalty on any in-class assignments for that week.** In case of emergency absence, notice to the instructor should be provided as soon as possible (preferably by an email to instructor and TA). If the absence is excused, the student will still be required to make up any missed assignments to receive credit, and deadline(s) will be set at time of approval – reference this alternate due date when uploading assignments to elearning in the comment box.
- Students must complete all assignments, experiments, and projects.
- If you have difficulties submitting an assignment, you must email the instructor BEFORE the due date.
- **Late work will be assigned a 20% penalty per 24 hours late**.
- Grade disputes must be brought to the instructor's attention within one week of an assigned grade. In case of such a dispute, please be prepared to provide justification for your request. **No grade changes will be considered after the one week deadline has passed.**
- Each student is expected to participate in class discussion and activities.
- No alternative testing schedule or make up exams will be administered without prior authorization. Family events, vacation plans, etc. do not constitute a valid excuse for a make-up exam.
- Requests for letters of recommendation will not be considered from students with any unexcused absences. A minimum 2-weeks notice is required for all recommendation letter requests.

Comet Creed
This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources
The information contained in the following link lists the University's academic support resources for all students.

Please go to Academic Support Resources webpage for these policies.

UT Dallas Syllabus Policies and Procedures
The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to UT Dallas Syllabus Policies webpage for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.