BMEN 1100 Course Syllabus

Course Information

Course Number BMEN 1100
Course Title Introduction to Bioengineering I
Term Fall 2016

Section	*Day*	*Times*	*Room*	*Instructor*	*Schedule*
.101	Thursday	10:00 am – 12:45 pm	ML1 1.122	Foland	A
.102	Thursday	1:00 pm – 3:45 pm	ML1 1.122	Meyer	C
.103	Thursday	10:00 am – 12:45 pm	ML1 1.118	Foland	C
.104	Tuesday	1:00 pm – 3:45 pm	ML1 1.118	Foland	A
.105	Tuesday	10:00 am – 12:45 pm	ML1 1.122	Myers	A
.106	Tuesday	4:00 pm – 6:45 pm	ML1 1.122	Meyer	B
.107	Thursday	1:00 pm – 3:45 pm	ML1 1.118	Meyer	B
.108	Tuesday	1:00 pm – 3:45 pm	ML1 1.122	Foland	C
.109	**Tuesday**	**4:00 pm – 6:45 pm**	**ML1 1.118**	**Meyer**	**C**
.110	Tuesday	10:00 am – 12:45 pm	ML1 1.118	Myers	B
.HN1	Monday	10:00 am – 12:45 pm	ML1 1.122	Rennaker	B

Professor Contact Information

Professor: Steven Foland, PhD
For sections: .101, .103, .104, and .108
Email: stevenfoland@utdallas.edu
Office Location: BSB 13.331

Professor: Kathleen Myers, PhD
For sections: .105 and .110
Email: kxm156530@utdallas.edu
Office Location: BSB 13.306

Professor: Clark Meyer, PhD
For sections: .102, .106, .107, and ***.109***
Email: cam140130@utdallas.edu
Office Location: BSB13.562
Phone number: 972-883-4175

Professor: Robert Rennaker, PhD
For sections: .HN1
Email: renn@utdallas.edu
Office Location: BSB 11.102

Office hours:
Meyer 2-4 pm Wednesday in BSB
and by appointment.

Please email Faculty/appropriate TAs to make alternate appointments at least 24 hours in advance.

TA Contact Information

Name	Email Address	Primary Sections
Manasvini A.	mxa155330@utdallas.edu	102, 103
Nicholas 'Nick' Chongjin Lee	**cnl150130@utdallas.edu**	108, **109**, 110
Ashlesha Deshmukh	asd151130@utdallas.edu	104, 106
Shichang Li	sxl134730@utdallas.edu	107, HN1
Ronald 'Ron' Hall	rlh160030@utdallas.edu	101, 105

Office Location: ML1 1.122
TA Open Lab/Office Hours:

Monday	4-9 pm
Tuesday	7-9 pm
Wednesday	4-9 pm

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
Student outcomes followed by ABET classification include:

1) Demonstrate proficiency in basic, limited statistical analysis of real-world experimental data. – (b) An ability to design and conduct experiments, as well as to analyze and interpret data.
2) Create reports to communicate results of a variety of lab activities in both written and oral formats. – (g) An ability to communicate effectively.
3) Research an issue facing biomedical engineers in the modern world. – (j) Knowledge of contemporary issues.
4) Use software tools, electronics instrumentation, and machinery necessary to complete a variety of basic tasks in bioengineering. – (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

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 it and your email at least daily.

Tentative Academic Calendar (C)

Date	Week	Introduction / Syllabus	Notes and Homework
Tuesday, August 23	1	Introduction, Syllabus Review, Data Analysis and Excel	Homework: Watch 4 training videos before week 9 class. Submit training certificates to eLearning.
Tuesday, August 30	2	Data Analysis and Excel	
Tuesday, September 6	3	Data Analysis and Excel	
Tuesday, September 13	4	Data Analysis and Excel	
Tuesday, September 20	5	LabVIEW and basic programming	
Tuesday, September 27	6	LabVIEW and basic programming	
Tuesday, October 4	7	LabVIEW and basic programming	
Tuesday, October 11	8	Oral Presentation	
Tuesday, October 18	9	UTDesign Shop Project	Homework: Purdue Test
Tuesday, October 25	10	UTDesign Shop Project	Homework: Manufacturing
Tuesday, November 1	11	UTDesign Shop Project	Homework: Machining
Tuesday, November 8	12	Bioelectronics	
Tuesday, November 15	13	Bioelectronics	
Tuesday, November 22		FALL BREAK	
Tuesday, November 29	14	Bioelectronics	
Tuesday, December 6		No meeting	**Reports due online by Wednesday December 7th at midnight.**
Finals Week	15	**Final exam**	Written and Practical

Important Dates:

Last Day to Drop without W: Wednesday, September 7, 2016
Last Day to Drop with WL: Thursday, October 27, 2016
Fall Break and Thanksgiving: Monday – Saturday, November 21-26, 2016
Last Day of Final Exams: Thursday, December 15, 2016

Grading Policy

Grade	98+	97-94	93-90	89-87	86-83	82-80	79-77	76-73	72-70	69-60	<60
	A+	A	A-	B+	B	B-	C+	C	C-	D	F

The following percentages will be used in calculating the final course grade:
UNIT 1: 15%
UNIT 2: 15%
UNIT 3: 15%
UNIT 4: 15%
Midterm Oral Presentation: 10%
Final Written Report: 15%
Final Exam: 15%

Due Dates
Any in-class activities not completed before the class ends are due by midnight on the day before the subsequent class meeting. Homework will be due at the time designated on the assignment.

Course Policies

- Class attendance is mandatory. Advance notice for any non-emergency absence to the instructor is expected. Student will lose credit for the day of non-participation in the class activity.
- Students must complete all the experiments and projects.
- 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.
- 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.

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: http://go.utdallas.edu/syllabus-policies

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