

BME1008: Introduction to Biomedical Engineering

1. Catalog Description (1 Credit Hour): Introduction to and overview of biomedical engineering. Lectures will be given by faculty expert in an area of biomedical engineering. The goal is to give beginning students an appreciation for the breadth of the field and to guide them in making curriculum, major and career choices.
2. Pre-requisites and Co-requisites: None
3. Course Objectives:
 - a. **Provide students with a broad overview of the biomedical engineering field**
 - b. **Guide students in making early curriculum, major, and education choices concerning biomedical engineering**
 - c. **Provide an overview of common careers available to BME graduates**
4. Contribution of course to meeting the professional component: Not Applicable
5. Relationship of course to program outcomes: Not applicable
6. Instructor

Kyle D. Allen, Ph.D.
Biomedical Sciences Building, J389
(352) 273-9337
kyle.allen@bme.ufl.edu
*** Preferred contact -- Email**

Class Website: See Sakai – BME1008, Spring 2012

Office Hours: By appointment preferred, or, Monday, 10:00-11:00

7. Teaching Assistant: Not Applicable
8. Meeting Times: **Wednesdays, Period 9, 4:05-4:55**
9. Class/laboratory schedule: **Every Wednesday, See Course Outline**
10. Meeting Location: **New Engineering Building, RM 202**
11. Material and Supply Fees: Not Applicable
12. Textbooks and Software Required: Not Applicable
13. Recommended Reading:

The following websites provide a nice overview of the BME field and current events

 - bme.ufl.edu
(Information on our faculty, research, and laboratories)
 - undergraduate.bme.ufl.edu
(Information on the undergraduate BME curriculum at UF)
 - www.bmes.org
(Check out undergraduate research section, career connections, news and press, among other resources)
 - www.whitaker.org
(Check out undergraduate research programs and summer programs)
 - www.nibib.nih.gov
(Information on recent advances in Biomedical Engineering and government funding in BME)
 - www.embs.org
(Information on the IEEE Engineering in Medicine and Biology Society)

14. Course Outline – ****Will be provided at the next class**

15. Attendance and Expectations

Attendance is required and will be a substantial part of your final grade. Every lecture will have a sign-in sheet. It is your responsibility to sign the sheet with your initials. Don't forget to sign the sheet. If you forget, you may not receive credit.

I also reserve the right to take attendance credits away if you are disruptive to the class, fall asleep, break out your computer to send emails, bring other distractions such as crossword puzzle, are playing games or sending text messages on your phone or other evidence that you are not putting forth any effort to pay attention.

Common Errors:

- Do not have your friends sign you in. If you think I won't check for common handwriting, you'll be sorely mistaken.
- Excused absences may be granted on a case-by-case basis. Excused absences will not be granted for cases that could have been anticipated by the student. Advanced notice will markedly increase your chances. Timeliness in the request will also increase your chances. Helpful hint - most sick people can still use email.

16. Grading

Quizzes: 10% per quiz (40% total)

- Each quiz will have between 7-10 questions, but will be scaled such that the quiz is worth 10 pts. In other words, not all questions on the quiz will be treated equally; some will be worth more than others toward your final grade.
- Quizzes will be online through the Sakai website. Failure to take the quiz on time will result in a 1.5 pt penalty.

Comprehensive Quiz: 20%

- The final quiz will have between 15-20 questions, but will be scaled such that the quiz is worth 20 pts. In other words, not all questions on the quiz will be treated equally; some will be worth more than others toward your final grade.
- Quizzes will be online through the Sakai website. Failure to take the quiz on time will result in a 3.0 pt penalty.

Attendance: 20%

- There will be 14 classes with attendance at each class worth 0.7 pts toward your final grade.

Term Papers: 20% [10% each]

- There will be two papers, each worth 10 pts each.

17. Grading Scale

A	A-	B+	B	B-	C+
92.5-100	90.0-92.4	87.5-89.9	82.5-87.5	80.0-82.4	77.5-79.9
C	C-	D+	D	D-	F
72.5-77.5	70.0-72.4	67.5-69.9	62.5-67.5	60.0-62.4	0-59.9

* I will round your grade to the nearest tenth of a point; then, your letter grade will be assigned based on the above table.

“A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

18. Make-up Exam Policy:

Paper make-up quizzes will be provided after the class following the quiz date. A 1.5 pt penalty for a quiz or 3.0 pt penalty for the comprehensive will be assigned unless an excused absence has been granted to the student. Advanced notice and timeliness in handling a missed quiz or assignment will increase the student's chances of receiving a make-up exam without the late penalty. Failure to take the make-up exam will result in a no points for the student.

19. Honesty Policy:

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

20. Accommodation for Students with Disabilities

Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

21. UF Counseling Services

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
- Career Resource Center, Reitz Union, 392-1601, career and job search services.

22. Software Use

All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Paper #1

Due: 3/27/13, 11:55 PM (5 minutes before midnight)

How: Sakai Website

Assignment: Pick 1 lecture from the class. And answer the following 3 fill in the blank questions on the Sakai website.

Question 1: What were the medical problems that the presenter was working to solve?

(i.e. Is the investigator focusing on a particular disease? Technique to help medical doctors? Or, some other need in human health care?)

Question 2: What were some of the biological changes that the presenter was studying or measuring?

Question 3: What were some of the engineering devices or techniques that the presenter was using to study biological changes, and/or developing to help solve a medical problem in human health care?

** A 500 character limit will be enforced on each question. Try to keep your answers brief, as length does not equal correct.

Paper #2

Due: 4/10/13, 11:55 PM (5 minutes before midnight)

How: Use Turn-it-in via Sakai Website

Assignment: Pick 1 of the following options and write a 1 page essay on the topic

Option #1 – BME Application Essay: The BME online application consists of basic information submitted online and a one page essay. The essay should contain the reasons you want to study BME, what do you plan to do with your BME BS degree, and which BME Program Track are you interested in and why.

Or,

Option #2 - Imagine you've pursued a career in biomedical engineering. You are now 5 years into your career (post-graduation). Describe the challenges in human health that you have worked on during your 5 year career. Describe the engineering and biology techniques you are using or have used to solve these challenges.

Logistics: The essay will be submitted online, but a one 8.5 in x 11 in page with 1 inch margins, 11 point Times New Roman font, with no graphics will fit within the space provided online. Line spacing is at the student's discretion, but the suggested spacing is 1.5 lines.