BME3060 Biomedical Engineering Fundamentals

BME 3060    Biomedical Engineering Fundamentals

1. Catalog Description – 3 credit hours. Working within the framework of biomedical engineering applications, this course provides the engineering fundamentals of the conservation laws of mass and energy.

2. Pre-requisites
   CHM2046 or CHM2096, MAC2313, PHY2049

3. Course Objectives – The foundation of many biomedical engineering problems is based on conservation laws. The goals of this course are to develop problem-formulation and problem-solving skills, develop and understand mass and energy conservation equations, in order to apply them to solve problems in biomedical engineering.

4. Contribution of course to meeting the professional component (ABET - TBD)

5. Relationship of course to program outcomes: (ABET - TBD)

6. Instructor – Benjamin Keselowsky
   a. Office location – BMS J291
   b. Telephone – 352-273-5878
   c. E-mail address – bgk@ufl.edu
   d. Web site – www.bme.ufl.edu
   e. Office hours – by appointment

7. Teaching Assistant –
   a. Office location –
   b. Telephone
   c. E-mail address -
   d. Office hours –

8. Meeting Times: 7th period; 1:55 – 2:45 pm; The final exam group code is 2B.

9. Class schedule: Monday, Wednesday, Friday

10. Meeting Location: NEB 101

11. Material and Supply Fees: none

12. Textbooks and Software Required
   a. Title – Basic Principles and Calculations in Chemical Engineering, 7th Ed.
   b. Author – Himmelblau / Riggs
   d. ISBN number – 0-13-140634-5

13. Recommended Reading (textbook, supplemental handouts)

14. Course Outline – detailed outline will be provided in class
   Topics covered:
   Introduction to Engineering Calculations
   Foundations of Conservation Principles
   Conservation of Mass
   Conservation of Energy
15. Attendance and Expectations – Attendance is required, absences, tardiness and class disruptions (cell phone use, newspaper, laptop use, etc.) will be penalized. Absences for valid reasons such as illness and religious holidays are allowed with proper documentation.

16. Grading – homework 10%; exams 90% (Four regular exams are given, the lowest exam is dropped. The remaining three exams are worth 20% each. The final exam is worth 30% and cannot be dropped.)

17. Grading Scale –

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Grades may be curved at the instructor’s discretion.

A grade of “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: http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html

18. Make-up Exam Policy – Exams may be made up if extenuating circumstances are discussed beforehand or due to medical/family emergency.

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. The Student Honor Code is fully discussed here: http://www.dso.ufl.edu/scrc/honorcodes/conductcode.php

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.