

1. Catalog Description – This is a three-credit introductory course of biology for a student in the engineering discipline. The contents of the course, including the basic knowledge of biological functions of human at the organ/tissue, cellular and molecular level, is designed for preparing students to have the opportunity to develop their engineering career in a bio-related field.
2. Pre-requisites and Co-requisites – There are no pre-requisites and co-requisites for this course.
3. Course Objectives – This course aims to enable students to use an engineer’s point of view to understand basic biological concepts.
4. Contribution of course to meeting the professional component – This is an era that Engineers can apply their solid engineering training to much broader area, such as biomedical field, greatly. The course tries to expand the students’ discipline to enable students to apply the chemical engineering principles to biological and biomedical field.
5. Relationship of course to program outcomes – When finishing this course, the students will attain **1)** a knowledge of contemporary biological issues, **2)** the broad education necessary to understand the impact of engineering solution in current biological and biomedical research; and **3)** an ability to combine engineering and biological knowledge together to their career development.
6. Instructor: Yiider Tseng, PhD, Associate Professor of Chemical Engineering
 - a. Office location: 223 CHE (Chemical Engineering Building)
 - b. Telephone: (352) 392-0862
 - c. E-mail address: ytseng@ufl.edu
 - d. Web site: <http://www.che.ufl.edu/faculty/tseng/index.html>
 - e. Office hours: WF 9:20 am – 10:20 am, or special appointment by email
7. Teaching Assistant: Chris O’Donohue, PhD graduate student of Chemical Engineering
 - a. Office location: 133 ChE (Chemical Engineering) Building
 - b. Telephone: (484) 226-7954
 - c. E-mail address: chris.odonohue@gmail.com
 - d. Office hours: M 5:00-6:00, R 2:00-3:00 PM
8. Meeting Times – This class will meet three times a week.
9. Class schedule: MWF period 4 (10:40 am-11:30 am).
10. Meeting Location: Room 303, MAEA (Mechanical and Aerospace Engineering, Bldg. A)
11. Material and Supply Fees: Not applicable
12. Textbooks and Software Required
 - a. Title: *Campbell Biology* (Pearson/Benjamin Cummings Publisher)
 - b. Authors: Reece, Urry, Cain, Wasserman, Minorsky and Jackson
 - c. Publication date and edition: 2011 as 9th Edition
 - d. ISBN number
 - ISBN-13: 9780321558237
 - ISBN-10: 0321558235
13. Recommended Reading – Students are encouraged to actively acquire information from the Internet for related materials taught in the classes.
14. Course Outline:

TENTATIVE Schedule and Contents		
Wk	Date	Topics
1	Aug. 22 Aug. 24	Introduction Materials Balance: Chapter 40
2	Aug. 26 Aug. 29 Aug. 31	Chapter 41 Chapter 42 Chapter 43
3	Sept. 3 Sept. 5 Sept. 7	Labor Day (No Class) Chapter 44 Cells and Biomolecules: Chapters 2 – 6
4	Sept. 10 Sept. 12 Sept. 14	Membrane and Transport Chapter 7 Energy Balances: Chapter 8, 9 Chapter 10
5	Sept. 17 Sept. 19 Sept. 21	Exam I review EXAM I Communication and Response: Chapter 11
6	Sept. 24 Sept. 26 Sept. 28	Chapter 43 Chapter 45 Chapter 48
7	Oct. 1 Oct. 3 Oct. 5	Chapter 49 Career Showcase (No Class) Chapter 50-a
8	Oct. 8 Oct. 10 Oct. 12	Chapter 50-b Exam II review EXAM II
9	Oct. 15 Oct. 17 Oct. 19	Genetics: Chapter 12 Chapter 13
10	Oct. 22 Oct. 24 Oct. 26	Chapter 14 BMES ANNUAL MEETING (No Class) BMES ANNUAL MEETING (No Class)
11	Oct. 29 Oct. 31 Nov. 2	Chapter 15 Chapter 16 Chapter 17
12	Nov. 5 Nov. 7 Nov. 9	Exam III review EXAM III UF Home Coming (No Class)
13	Nov. 12 Nov. 14 Nov. 16	Veterans Day (No Class) Chapter 18 Chapter 47-a
14	Nov. 19 Nov. 21 Nov. 23	Chapter 47-b Thanksgiving (No Class) Thanksgiving (No Class)
15	Nov. 26 Nov. 28 Nov. 30	Chapter 19 Chapter 20-a Chapter 20-b
16	Dec. 3 Dec. 5	Exam IV review EXAM IV

15. Attendance and Expectations – Students are expected to attend the classes. Absence from the lectures may lead to poorer performance in exam scores. A student is required to report a special event that causes his/her absence prior the class by email. Students are also expected to memorize some course materials; in particular when the instructor will make his best effort to reduce the memorization load from this course.
16. Grading – The performance index (*PI*) is used as the scale system to determine the final grade. The summation of individual *PI*, determined by each exam using the following formula, $PI = (x_i - \bar{x})/\sigma$, where x_i , \bar{x} , and σ represents the test score, the averaged test score, and the standard deviation for the i^{th} exam, respectively. In addition, if necessary, a 4-page term paper (due by the last class of the fall semester) that counts as 0.4 *PI*, and the best performance index of your four exams will be added again to your final score.
17. Grading Scale – The student’s final score (presented as *PI*) determines his/her final grade. In general, a student *PI* value locates in the region, >3 , $[1, 3]$, $[0.4, 1]$, $[-0.8, 0.4]$, $[-2, -0.8]$, $[-3, -2]$, $[-5, -3]$, or <-5 , will obtain an A, A-, B+, B, B-, C+, C, or F, respectively.

“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 – In case of family emergency or illness, the student **NEED TO** provide official documentation for the absence. Then, the student’s performance index of the absent exam will be counted as the average of the rest *PI*s of 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.

Note: Statements in items 19-22 should be included as is.