

Biology for Engineers
ABE 2062 Section 6949
Class Periods: MWF, period 2 (8:30 – 9:20 am)
Location: MAEA 0303
Academic Term: Fall 2019

Instructor:

Yiider Tseng, Ph.D.

Email Address: ytseng@ufl.edu

Office Phone Number: (352) 392-0862

Office Hours: MW, 9:30 – 11:00 am or email appointment.

Office location: CHE 223

Course Description

This is a 3-credit introductory biology course for students in the engineering discipline to develop their engineering career in a bio-related field. The contents of the course include the basic knowledge of biological functions of human at the organ, tissue, cellular, and molecular levels.

Course Pre-Requisites / Co-Requisites

There are no pre-requisites and co-requisites for this course.

Course Objectives

This course aims to enable students to use an engineer's point of view to understand basic biological concepts.

Materials and Supply Fees

Not applicable.

Professional Component (ABET):

This is an era that engineers can extensively apply their solid engineering training to a broader bio and biomedical related area. The course aims to give students an opportunity to expand their view of engineering to bio-related fields.

Relation to Program Outcomes (ABET):

When finishing this course, the students shall attain **1)** knowledge regarding 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 involve biological knowledge to their career development.

Required Textbooks and Software

- Title: *Mastering Biology for Campbell Biology* (Pearson/Benjamin Cummings Publisher)
- ISBN number: UFALLACCESS

Comments/Notes: Students: Please note that this course will be participating in the UF All Access program. Login at the website <https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED> and Opt-In to receive your required Mastering Biology access code, which will be used to register within Canvas. Codes can also be purchased at the bookstore, but at a higher cost. Any code obtained outside of UF All Access will not work for the course. There will be discounted loose-leaf texts available in the bookstore, but only the access code is required. Step-by-step instructions will be posted in Canvas for registering the access code.

Recommended Materials

There is no recommended material; however, the students are encouraged to search related course topics in the Internet.

Course Schedule

SCHEDULE AND CONTENTS (Tentative)		
Wk	Date	Topics
1	Aug. 21	Introduction/Syllabus
	Aug. 23	Background knowledge: Chapter 40.1, 6
2	Aug. 26	Chapter 5.1 – 5.4
	Aug. 28	Chapter 7
	Aug. 30	Chapter 6
3	Sept. 02	Labor Day Holiday
	Sept. 04	EXAM I (Until Aug. 30)
	Sept. 06	Materials Balance: Chapter 40.2 – 40.4
4	Sept. 09	Chapter 41
	Sept. 11	Chapter 41
	Sept. 13	Chapter 42
5	Sept. 16	Chapter 42
	Sept. 18	Chapter 44
	Sept. 20	Exam II (Until Sept. 16)
6	Sept. 23	Energy Balances: Chapter 8
	Sept. 25	Career Showcase
	Sept. 27	Chapter 9
7	Sept. 30	Chapter 10
	Oct. 02	Communication: Chapter 11
	Oct. 04	UF Homecoming
8	Oct. 07	Exam III (Until Oct. 2)
	Oct. 09	Chapter 43
	Oct. 11	Chapter 45
9	Oct. 14	Chapter 48
	Oct. 16	Chapter 49
	Oct. 18	Chapter 50
10	Oct. 21	Chapter 50
	Oct. 23	EXAM III (Until Oct. 18)
	Oct. 25	Genetics: Chapter 12
11	Oct. 28	Chapter 13
	Oct. 30	Chapter 14
	Nov. 01	Chapter 15
12	Nov. 04	Chapter 5.5, 16
	Nov. 06	Exam IV (Until Nov. 4)
	Nov. 08	Regulation and Biotechnology: Chapter 17
13	Nov. 11	Veterans Day Holiday
	Nov. 13	Chapter 18
	Nov. 15	Chapter 47
14	Nov. 18	Chapter 19
	Nov. 20	Chapter 20
	Nov. 22	Chapter 20
15	Nov. 25	Exam V (Until Nov. 22)
	Nov. 27	Thanksgiving Holiday
	Nov. 29	Thanksgiving Holiday
16	Dec. 02	No Class
	Dec. 04	No Class

There is no final exam for this class.

Attendance Policy, Class Expectations, and Make-Up Policy

State whether attendance is required and if so, how will it be monitored? What are the penalties for absence, tardiness, cell phone policy, laptop policy, etc. What are the arrangements for missed homework, missed quizzes, and missed exams? This statement is required: Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Evaluation of Grades

Assignment	Percentage of Final Grade
Pre-class Quizzes*	Bonus
Post-class Exams	50%
Five Exams	50%
Total	100%

- Top 30% got two grades pumped (e.g., B+ to A), 30% - 50% get one grade pumped; however, only who got the bonus score above 85 is eligible for the upgrade.

Grading Policy

- 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.
- Grading Scale – The student's final score (presented as PI) determines his/her final grade. In general, A: > 3 (PI score), (A-): 2 - 3, B+: 1 - 2, B: -1 - 1, B-: -3 - -1, C+: < -3. However, students who have the final PI lower than -5 might receive score lower than C+.

More information on UF grading policy may be found at:

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

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students 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.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.