

BSC 2005 – Biological Sciences for Non-Majors

Syllabus for Class Number 11717

Spring 2019

I. Class Meetings

Class Number 11717 Period 4 MWF 10:40 AM–11:30 AM Turlington L007

First day of classes: Monday, January 2, 2019

Last day of classes: Wednesday, April 24, 2019

Final Exam: None

Online Exercises and Tutorials are continuously available; assignments will be posted regularly.

II. BSC Laboratory Courses

The BSC laboratory courses (BSC 2005L) are managed separately from the BSC lecture courses. Please read the information available at the BSC Website (<http://www.bsc.ufl.edu>) for more information on the laboratory courses.

III. Instructors

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IV. Course Communications

- A. **Course Website:** <http://lss.at.ufl.edu> (select Canvas); or <https://ufl.instructure.com/courses/323993>
- B. **Contacting Your Instructors:** If you have a question about course mechanics or course material that cannot be answered from the syllabus, course announcements, or the course FAQ, please post it to the Raise Your Hand Discussion Board on Canvas (see section IX. "Getting Help", below). If you have a question involving a personal/grade-related issue, please e-mail your TA or Lecture Instructor, as appropriate. All e-mail correspondence **must originate from your ufl.edu account, have your full name in the body of the e-mail, and contain your course number in the subject line.** E-mails not meeting these requirements may not be recognized by our e-mail filters, and thus may not be answered. Barring unusual circumstances, expect a reply within 24 hours during the week, and 48 hours over the weekend. E-mails and Discussion Board posts are checked at least once per day, but sometimes not more than that.

All correspondence regarding the online assignments (LaunchPad) must be sent to the TAs

- C. **Communications From Your Instructors:** Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus, on the course webpage, and announced in class. Not having read the information in this syllabus, on the webpage, or in course announcements will NOT constitute an excuse for missing deadlines, assignments, or other assessments. Please set your preferences in Canvas so that you receive timely notifications of course announcements and other information.

V. Course Goals and Objectives

The primary goal of this course is to establish a coherent foundation of knowledge in biology and to enable students to be educated citizens competent to understand topics in biology and science in general. Fundamental concepts discussed include the evolution, diversity, and function of photosynthetic life; the evolution, structure, function, and physiology of animals; and the ecology of organisms, populations, communities, biomes, and the globe. An additional course goal is to develop critical thinking skills for development of reasoned thought and for evaluation of life experiences.

VI. General Education Objectives for Biological Sciences

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

The General Education objectives and the associated Student Learning Outcomes for Biological Sciences are achieved through lectures, in class discussion, interactive “clicker” response systems, and online activities and exercises. The learning objectives and SLOs are further reinforced by inquiry-based and active-learning exercises in the companion laboratory course, BSC 2005L. In particular, the companion lab expands upon development and testing of specific hypotheses.

VII. General Education Student Learning Outcomes

The general education student learning outcomes (SLOs) describe the knowledge, skills and attitudes that students are expected to acquire while completing a general education course at the University of Florida. The SLOs fall into three categories: **content**, **communication** and **critical thinking**.

Every general education course must address all three SLOs. Note that the subject area objectives (detailed above) describe the context within which the SLOs are achieved

Category	Institutional Definition	Institutional SLO
CONTENT	Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.	Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.

COMMUNICATION

Communication is the development and expression of ideas in written and oral forms.

Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.

CRITICAL THINKING

Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.

Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.

To assess student performance in meeting these student learning outcomes for this course, students are evaluated by a variety of instruments throughout the course: three exams during the semester, daily graded "clicker" questions used to assess comprehension and reasoning, and graded on-line activities, exercises and assessments. Student Learning Outcomes are further assessed in BSC 2005L, the companion lab course. For example, the Communication SLO is assessed in graded written assessments and in oral presentations in the lab. In combination, BSC 2005 and BSC 2005L provide assessments of all categories of the General Education Student Learning Outcomes.

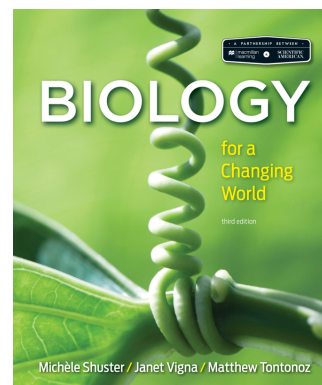
VIII. Course Resources

Textbook

Biology for a Changing World, 3e by Shuster, Vigna, Tontoz, and Sinha. Sinauer Associates and W.H. Freeman (publisher), 2018.

There are current versions of the textbook on reserve at the Marston Science Library. Visit the Reserve Materials area to check out these copies.

A physical copy of the textbook is not required for the course, but is optionally available in the UF Bookstore. The required LaunchPad access (see below) includes an electronic copy of the textbook.

**1. LaunchPad Online Resources**

LaunchPad is an online assignments and tutorial system from the textbook publisher that includes an electronic version of the textbook. LaunchPad will be used for required readings, interactive activities, and quizzes. Access to LaunchPad is required for BSC2005.

LaunchPad will be offered at the lowest cost option through UF All Access. UF All Access allows students the choice to "opt-in" for a limited time to receive access to Launchpad for a reduced price and pay for these materials through their student account. Students who do not choose this option will be able to purchase the access code through the UF Bookstore, or directly from the LaunchPad site. All options provide access to the same materials.

To access LaunchPad via UF All Access:

1. Click on the following link <https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED>. This prompts you to log in with your GatorLink account.
2. Students are shown a list of classes in which they are enrolled that are participating in UF All Access, with the prices.
3. Students should click the Opt-in check box next to the class(es) to which they are trying to get access.
4. Students then need to click the button below to authorize the charges.
5. Click the Opt-In button next to the “Amount to Charge” once you have reviewed your course selections.
6. The access code is now displayed ****Note: copy this code to be used when registering LaunchPad in Canvas.

For help with this system, difficulties finding your access code, or issues with an invalid access code, please contact allaccess@bsd.ufl.edu.

If you are waiting on financial aid disbursement and choose not to use the UF All Access program, you can register for temporary LaunchPad access via the LaunchPad site, but you will have to purchase access once the temporary access expires.

Instructions on correctly registering for LaunchPad will be available on the Canvas course site once the semester has started. Please wait for these instructions before registering for LaunchPad; incorrect registration on LaunchPad may result in receiving zero points for all LaunchPad assignments.

For help with LaunchPad, contact LaunchPad Technical Support: (800) 936-6899 (phone) or via their web form at <http://support.bfwpub.com/supportform/form.php?View=contact>.

IX. Getting Help

A. Computing Problems

For issues with technical difficulties with Canvas, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

If you have technical difficulties with LaunchPad, please contact *LaunchPad* Technical Support: 1-(877) 587-6534 (phone) or visit <http://support.bfwpub.com/supportform/form.php?View=contact>.

B. University Support Services

College can be a very stressful time in a person’s life. Resources are available on campus to help students meet academic goals and solve personal problems, which may interfere with their academic performance. If you find that you are having difficulty emotionally or academically, there is substantial support available. See “[A Self Help Guide for Students](#)” or contact on of the following services:

1. [UF Counseling and Wellness Center](#), Radio Rd Facility, 392-1575
2. [Dean of Students Office](#), 202 Peabody Hall, 392-1261
3. [Career Resource Center](#), Reitz Union, 392-1601
4. [CLAS Academic Advising Center](#), Farrison Hall, 100 Fletcher Drive, 392-1521

C. Other Questions

If you have non-tech-support questions about other aspects of the course, check the following sources first to see if it is already answered, **before** e-mailing your instructors:

- Course Syllabus

- E-Learning Announcements (this is the primary means that your instructor has to communicate with you in a timely manner)
- eLearning FAQ Discussion Boards

If you still cannot find the answer to your questions:

- If it is a question that others might find useful to know the answer to as well, post it to the eLearning discussion board titled "Raise Your Hand".
- If it is a question specific to you (e.g. account or grade specific) that concerns LaunchPad, contact [the online TA](#). Otherwise, contact the appropriate instructor.

X. Assessments and Grading

A. Exams

There will be four "midterm" exams, but no cumulative "final" exam. The midterm exams will be administered during the normal semester and during the normal class meeting times. Each exam will cover material from lecture, the online discussions, and the assigned reading in the textbook. The exams will **not** be cumulative. Each exam will be worth 20% of the course grade. Your lowest exam score will be dropped.

All exams will be multiple-choice and machine graded. Answer sheets will be provided and must be filled in using a #2 or softer pencil. **Each student must take the exam during class time. Each student must bring her/his Gator ID to class on exam days.** No student will be allowed to start an exam after the first student to complete an exam leaves the classroom. All exams and answer sheets will be collected at the end of the exam period. No additional time will be given to complete an exam if you arrive late (in other words, if you begin an exam late, you will have less time to complete it). Please be aware that filling in the scantron sheets is part of the exam; no extra time at the end of the class period will be given for filling out the scantron sheets.

If necessary, exams MAY be curved using the following approach: The top 3% of the scores will be averaged, and the difference from 100 points will be added to each exam score.

Exams will be available for review by appointment for one week after the exam date; specific times for exam review will be announced following each exam. Exams will **not** be available for review after the semester has ended.

Make-up Exams: No make-up exams will be given without prior permission or documentation of illness. Students that will be missing an exam due to a pre-arranged university-approved excused absence (sports, etc.) should let the instructor know **a minimum of two weeks in advance**. These students may be required to take the make-up exam *before* the scheduled in-class exam.

In case of illness or personal emergency on exam day, students must submit documentation to the Dean of Students office (P202 Peabody Hall, dsocares@dso.ufl.edu) and request an instructor notification to be sent. These notes must be received within five business days after the exam.

B. Online Assignments (LaunchPad)

As part of BSC 2005, you are required to complete online assignments that will account for 20% of your overall grade. If at any time you have questions about these assignments, please contact the Online Instructor. **DO NOT contact the Lecturer for questions about online homework completed through LaunchPad.** Online assignments will be completed online at the LaunchPad website: <http://www.macmillanhighered.com/launchpad/hillis2e/1896687>. See instructions above (VIII.B. Online Resources and Electronic Textbook) on how to access the *LaunchPad* website. A schedule will be posted on e-Learning with the due dates for each assignment. **All assignments must be completed by the stated due date and time for credit. Extensions will NOT be given because of technical or personal issues that occur within 24 hours of the assignment deadline.** Most assignments will also have a set time limit, so

make sure you have time to devote to that assignment before you begin. You are expected to work by yourself on the assignments and cheating will not be tolerated.

Note that all due dates for assignments are clearly posted on the LaunchPad Assignments tab and reflect the most up-to-date information. On this page you can also see your grade on an assignment and its status (e.g., complete, or due in x days). Also, there are many other resources available on LaunchPad to help you study material from your textbook, such as Diagnostic quizzes, Flashcards, Interactive chapter summaries, etc. Items that are NOT on the assignments page will not be graded, but we still strongly encourage you to use them to help you study.

If you have technical difficulties, please contact *LaunchPad* Technical Support: 1-(877) 587-6534 (phone) or visit <http://support.bfwpub.com/supportform/form.php?View=contact>.

If there is a technical problem with accessing *LaunchPad* or a particular assignment within *LaunchPad*, you must contact *LaunchPad* technical support **FIRST**. **LaunchPad tech support is the only one who can fix technical issues with the site.** Then, contact the Online Instructor at least 48 hours prior to the deadline, so appropriate steps can be taken to fix the issue. **Repeated for emphasis: technical problems with *LaunchPad* must be reported to the online instructor at least 48 hours prior to the submission deadline, no exceptions!**

Grading of Online Exercises:

Students will receive 20% of the course grade from online exercises, and for performance on online assessments. There are several different types of assignments that students will have to complete. For any quizzes, you will be graded based on number of questions answered correctly out of total number of questions on your FIRST quiz submission! For all other assignment types (activities, tutorials, etc.) you will receive full credit upon completion. It is important to keep up. Each module's assignments are due on the day the *next* module begins (example: Module 1's online assignments are due the day that Module 2 begins). It is especially important not to wait until just before the deadlines to complete *LaunchPad* assignments; problems usually happen at the last minute. You can always go back and re-do the assignments after you have submitted them for a grade, as a study aid.

There are NO make-ups available for *LaunchPad* assignments. Once assigned, assignments are available online at all times until the deadlines. Extensions for *LaunchPad* assignment sets will only occur in extreme circumstances. A Dean of Students note verifying documentation of illness or a personal matter must be provided for at least five of the seven days of the week of the assignment's deadline for accommodations to be considered. It is especially important to not wait until just before the deadlines to complete *LaunchPad* assignments. A computer problem, problem with the *LaunchPad* site, or personal problem happening within hours of the deadline is not a valid excuse for not completing the assignment.

C. Learning Catalytics Questions

Students will receive 20% of the total course points for participation in the in-class quizzes that are to be answered using the classroom response system (Learning Catalytics, see above). The points earned will reflect the proportion of Learning Catalytics questions answered correctly in class. Each question posed will be scored *either* as 0.25 Learning Catalytics points for participation with an additional 0.75 Learning Catalytics points for a correct answer, or as a fully participation-based score for questions without a graded answer.

Students may not make up Learning Catalytics questions, regardless of the reason (e.g., absence, malfunctioning cell phone, forgot to register, etc.). It is the student's responsibility to regularly check (i.e., daily or weekly) their gradebook in Learning Catalytics to ensure that their submissions were correctly received, and to contact Learning Catalytics support to resolve any issues with submissions not being properly recorded in the Learning Catalytics gradebook. Learning Catalytics tech support cannot recover

grades for submissions that did not save unless the student provides a screenshot of their submission within 24 hours of lecture.

D. Extra Credit

The instructor *may* offer extra credit. If extra credit is offered, the same content and amount will be offered to all students. There will be no extra credit tailored to individual students.

E. Grading Summary

Assessment	% of Total Points
Exams	60 (20% ea.)
<i>LaunchPad</i>	20
Learning Catalytics	20
TOTAL	100.0

All grades will be posted on e-Learning (in terms of course points, i.e., the point scheme above), and it is the responsibility of the student to check their grades on e-Learning and make sure they match their grades on *LaunchPad* and Learning Catalytics. **If there is a discrepancy you must let us know within ONE week of the grade being posted on eLearning.**

Minimum grade cutoffs are listed below. Because each exam may be curved individually (see section X-A, above), **the scores for the course as a whole will not be curved** (i.e. these grade cutoffs will not be lowered) except under extremely rare circumstances (i.e., unless we tell you otherwise these cutoffs will not be lowered, so do not ask). However, these cutoffs will not be raised; in other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. **Final scores will NOT be rounded** (i.e., 89.99% is not 90%).

Point Range (%)	Letter Grade
≥ 90.00	A
≥ 86.66	A–
≥ 83.33	B+
≥ 80.00	B
≥ 76.66	B–
≥ 73.33	C+
≥ 70	C
≥ 66.66	C–
≥ 63.33	D+
≥ 60	D
≥ 56.66	D–
< 56.66	E

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

F. Special Treatment

Please do not request individual special treatment regarding grading at the end of the semester; **we do not adjust grades for individuals for any reason**. Plan to do well on all exams and other assessments from the beginning of the semester; if you are having difficulty in the class, please let your instructors know *before* the exams rather than after.

XI. Academic Honesty

All students registered at the University of Florida have agreed to comply with the following statement:

"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

In addition, on all work submitted for credit the following pledge is either required or implied:

"On my honor I have neither given nor received unauthorized aid in doing this assignment."

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

XII. Attendance and Conduct in Class

Students are expected to attend all classes and are responsible for all material covered during the lecture, including announcements. **In addition, your attendance is necessary to earn points for "clicker" (Learning Catalytics) quiz questions; such points cannot be made up.** Students are strongly encouraged to read the assigned chapters before coming to class as this will make it easier to comprehend the lecture material. If you miss class, visit the e-Learning site for any lecture slides/notes and course announcements. Note that attendance will be taken at the beginning of lecture using the Learning Catalytics system. There are no points awarded for attendance directly. There is no penalty for failing to check in when attendance is taken. However, if you are confirmed to be present and you unexpectedly have connection difficulties when Learning Catalytics questions are asked (which generally happens to a few students every lecture) then this information will help resolve the issue. No credit will be retroactively awarded for unanswered Learning Catalytics questions if there is no evidence you were actually in lecture.

Please be courteous and do not talk during lecture. This can be distracting to other students and the instructor. Students that are being disruptive may be asked to leave the lecture, resulting in the loss of participation points for the day.

Use of electronic devices in class to take notes or otherwise participate in classroom activities is approved. Approved electronic devices are laptop computers, cell phones, smart phones, tablets, iPod touch, and voice recording devices. Other uses of these devices or the use of unapproved devices will be considered disruptive. Unapproved electronic devices include video recorders, digital cameras and MP3 players. Students who use unapproved devices in class will be considered disruptive. Multiple disruptions will be considered grounds for the assignment of a failing grade.

XIII. Time Commitment

The UF College of Liberal Arts and Sciences assumes that each student will devote 3-4 hours per week per credit-hour to each course, including time in lectures and labs. Because BSC 2005 is 3 credits, each student should therefore expect to devote 9-12 hours per week to this course during a regular semester, or 11-15 hours per week during the summer. A recommended time allocation is below.

Activity	Hours per Week
Lectures	3
Online Exercises	1-2
Textbook Readings	2-3

Review and Study

2-4

If you find yourself spending more than the recommended number of hours per week on average on these activities, discuss this with your course instructor to see if you can refine your study habits. If you find yourself spending less than the recommended number of hours per week on average, you should recognize that you may have difficulty learning and comprehending the material in this time, and this will probably be reflected in poor performance on the various assessments, causing you to receive a lower overall course grade.

XIV. Accommodations for Students with Disabilities

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of classes**. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

XV. Course Evaluation

To improve the teaching and learning of this important course, **students are required to submit a teaching evaluation for each instructor electronically via this website:** <https://evaluations.ufl.edu/evals/>

Evaluations are stored and reported in a completely anonymous manner. Authentication for evaluation submission is only to ensure that only one evaluation is submitted per student per instructor.

XVI. Lecture Schedule

This is a tentative schedule; the dates and coverage of specific topics **are subject to change**.

Date	Lecture	Module title (Reading assignment)	Topic
Mon 7-Jan	1	Module 1: Process of Science	Intro to BSC2005
Wed 9-Jan	2	(Reading: Chapter 1)	What is biology and how do we study it?
Fri 11-Jan	3		The scientific method
Mon 14-Jan	4	Module 2: The Molecules of Life	Molecules, chemistry
Wed 16-Jan	5	(Reading: Chapter 2)	Biological molecules, water, polarity
Fri 18-Jan	6		pH, enzymes, ATP
Mon 21-Jan	7		MLK Day
Wed 23-Jan	8	Module 3: The Cell	Cell Theory, and Prokaryotes vs. Eukaryotes; Cell structure
Fri 25-Jan		(Reading: Chapter 3)	Exam 1
Mon 28-Jan	9		Transport across a Membrane
Wed 30-Jan	10	Module 4: Energy and Photosynthesis	Energy and Thermodynamics
Fri 1-Feb	11	(Reading: Chapter 5)	Photosynthesis reactions
Mon 4-Feb	12	Module 5: DNA	Structure of DNA & how it was determined
Wed 6-Feb	13	(Reading: Chapter 7)	DNA profiling, PCR, and gel electrophoresis
Fri 8-Feb	14	Module 6: Inheritance	Meiosis
Mon 11-Feb	15	(Reading: Chapters 11 & 12)	Mendel; punnett squares for 1 vs. 2 trait
Wed 13-Feb	16		Sex-linked inheritance; Other dominance relationships
Fri 15-Feb	17		Quantitative genetics
Mon 18-Feb	18	Module 7: Natural Selection & Adaptation	Darwin's story
Wed 20-Feb		(Reading: Chapter 13)	Exam 2
Fri 22-Feb	19		Natural Selection
Mon 25-Feb	20		Modes of selection, sexual selection
Wed 27-Feb	21	Module 8: Micro & Macroevolution	Allele frequencies and Hardy Weinberg
Fri 1-Mar	22	(Reading: Chapter 14)	Genetic drift and founder effects
Mon 4-Mar			SPRING BREAK
Wed 6-Mar			SPRING BREAK
Fri 8-Mar			SPRING BREAK
Mon 11-Mar	23		Speciation
Wed 13-Mar	24	Module 9: Fossil Evidence for Evolution	Fossils, fossilization and the fossil record
Fri 15-Mar	25	(Reading: Chapter 15)	History of the earth and mass extinctions

Mon 18-Mar	26	Module 10: Phylogenies & Life on Earth	Biodiversity and biogeography
Wed 20-Mar	27	(Reading: Chapter 16)	Classification systems and how to read a tree
Fri 22-Mar	28		Building a tree / synapomorphies
Mon 25-Mar	29	Module 11: Prokaryote Diversity	Prokaryote diversity
Wed 27-Mar		(Reading: Chapter 17)	Exam 3
Fri 29-Mar	30		Bacteria & Archaea
Mon 1-Apr	31		Beneficial and harmful prokaryotes
Wed 3-Apr	32	Module 12: Eukaryote Diversity	Intro, Endosymbiont Theory, Protists, and Fungi
Fri 5-Apr	33	(Reading: Chapter 18)	Plants
Mon 8-Apr	34		Animals
Wed 10-Apr	35	Module 13: Population & Community Ecology	Pollinators, keystone, symbiotic relationships
Fri 12-Apr	36	(Reading: Chapter 21)	Food chains, Niches, competition, invasive plants, biomagnification
Mon 15-Apr	37	Module 14: Ecosystem Ecology and Sustainability	Biomes
Wed 17-Apr	38	(Reading: Chapter 22 & 23)	Climate change and global warming
Fri 19-Apr	39		Sustainability and footprints
Mon 22-Apr			NO CLASS
Wed 24-Apr			Exam 4