



BIOLOGY 101: PLANT BIOLOGY

This course: 1) does satisfy the SBCC GE requirement in Natural Sciences (p.82 2013-14 SBCC Catalog); 2) does satisfy SBCC IGETC transfer requirement for the Biol. Sciences (p.98 2013-14 SBCC Catalog); 3) is transferable to UC & CSU as a GE lab science course; 4) does apply toward the SBCC biology major.

Instructor: Dr. Matt Kay

Email: mckay@pipeline.sbccc.edu; **Phone:** (805) 730-5172

Office hours: Tues 11:00-12:30, 1:30-4:00; Thurs 8:30-10:00 (EBS307) or email for appt.

Lecture: Monday and Wednesday 9:35am-10:55am (EBS309; all sections)

Labs*: Monday 11:10am-2:15pm (30394) Tuesday 7:50-10:55am (30395)

Wednesday 11:10am-2:15pm (30936) Wednesday 2:30pm-5:35pm (39126)

**all lab sections meet in EBS201*

Welcome to Biology 101!

In this course we will explore the fascinating biology of plants and their relatives. In these organisms, we will discover some of the most fascinating adaptations and stories found in biology. You need plants: your life depends upon them directly, and they enrich your quality of life immeasurably. Using plants as a general context, we will cover many fundamental concepts of biology that I think every well-rounded biologist should master. This last point is critical, because this course is designed for incoming biology majors – the successful student will find this course both challenging and foundational. We will need a few tools for our journey:

Textbook (“required”): *Raven, Biology of Plants, 8th edition* (Evert and Eichhorn). Available in the SBCC bookstore. Use the text to *prepare* for and review lectures. This text is a wonderful reference, and I encourage you to keep your copy after this class. That being said, however, the specific reading that I have assigned from Raven for individual lectures (see p. 5 of this syllabus) contains much more detail (or different detail) than you are required to master. Do not miss lectures, reading the book won’t save you. ATTEND LECTURE, use the book secondarily!

Supplemental books (“required”): 1) *Dictionary of Root Words and Combining Forms* (Borror)

Lab notebook (required): Purchase a composition style notebook for lab (SBCC bookstore). I prefer the black and white “marbled” cover notebooks, 7 ¾ x 10 ¼ inches, with blank pages.

Pipeline: I will use Pipeline to communicate with you via email, so you should check Pipeline regularly for updates, reminders, or schedule changes. To log into Pipeline: Go to the SBCC homepage (www.sbccc.edu) and click on “Pipeline”. Technical support is available at <http://www.sbccc.edu/support/contact/> or via phone (805 965-0581 x2949).

Class website: Course-related documents, including the syllabus, handouts, and miscellaneous supplemental material will be posted on our Bio101 course website at: <http://www.biosbccc.net/kay>. This will be an indispensable resource for you during this course – visit it frequently!!



Course Requirements and Expectations for Professional Behavior

Congratulations on selecting biology as your major. Your science career is now underway, and your success (survival!) in this field will demand that you behave as a professional. This will be challenging and rewarding, and potentially new to some of you. Disruptive behavior will not be tolerated in lecture or lab. I expect you to behave as a professional:

- Always be alert, prepared, and punctual. Arrive on time, don't shuffle for an early exit.
- Budget your time carefully, it is a precious resource. ("Never do nothing"...more later).
- No cell phones, ipods...ipads...or whatever new electronic device will be invented and mass marketed to you between now and the end of the semester. Whatever it is, turn it off (unless taking notes on a laptop...). (BTW: these devices are designed to exploit addictive aspects of your biochemistry. Don't be a victim, take control of your life.)
- Do not talk while the instructor or other presenters (it will be you at some point this semester...) are addressing the class...unless of course you have a question for the class.
- Be respectful and courteous to your colleagues and classmates.

You are required to enroll in *and attend* both the lecture and lab portions of this course to receive course credit. If you have a habit of skipping class you will NOT succeed in this course. I expect you to be present at all lectures and labs. If you cannot attend a lecture, it is your responsibility to seek out a fellow student (or me) and get notes or other materials. Missing lab is simply not an option – if you have a conflict find me in advance. If you miss a lab, you will still need to complete the lab exercise(s) and make up the quiz – and this will only be allowed with an excused absence due to illness, family emergency, or circumstances cleared in advance with me.

ASSIGNMENTS AND GRADING

Assignments, points, and % of final grade

Activity	Points	% of final grade	Comments
Lecture (550 pts)			
Homework (Week 1)	25	3.125%	"Basics of Chemistry" Due Week 2
Midterm 1*	100	12.5%	*Drop lowest midterm exam score, or if final is lowest then divide by 2 (i.e., final =12.5%) and keep 3 mid's
Midterm 2*	100	12.5%	
Midterm 3*	100	12.5%	
Final exam*	200	25.0%	
Review paper	100	12.5%	Due Sunday Nov. 11 by 11:59pm
Lab (250 pts)			
Lab notebook	100	12.5%	Due at end of semester (final exam)
Weekly Lab Quizzes	10 @15 each = 150	18.75%	Never, ever, open note!
Local flora ID exam	25	3.125%	(In lab, week 14, NOT open note)
Totals	800 pts	100%	

Final grades for semester:

≥92% A; 91-90% A-; 89-87% B+; 86-84% B; 83-80% B-; 79-77% C+; 76-70% C; 69-60% D; ≤59% F



GRADED ACTIVITIES – LECTURE

Midterm and final exams

Midterms and the final exam will include various question formats (e.g., multiple choice, fill in the blank, True/False, essay, short answer). They will be challenging and will draw directly from lecture material (see *Notebooks and organization*, below). Come prepared to perform!

Homework assignment Week 1 (due Week 2)

This assignment will cover the fundamental topics from lecture during Week 1, and also a review of basic chemistry from two sources: 1) the textbook, and 2) a document that I will distribute to you via email. It is CRITICAL that you understand the basics of chemistry as well as evolution via natural selection from our first lecture and lab. If you don't master these concepts, you will not understand subsequent lectures. Do NOT ignore this assignment!

Research paper

You will write a research paper that is structured as a peer-reviewed "review article". The structure, content, and grading of this review article are described in a separate document. This project will require you to locate, read, and synthesize original research articles from peer-reviewed scientific journals. The paper is due no later than **Sunday November 11 by 11:59pm**. You will submit your paper electronically. Because this assignment is described elsewhere, I will conclude with two warnings here: 1) Do not cheat or plagiarize, and; 2) do not procrastinate – start this paper early in the semester.

GRADED ACTIVITIES – LAB

The lab component of this class is mandatory and you can not pass this class without passing the lab component. You must attend lab every week: attendance is mandatory and noted.

Lab quizzes

12 lab quizzes will be administered on predetermined dates throughout the semester (typically Tuesdays). Each is worth 10 points. **You will be allowed to drop your two lowest quiz scores, but there will be no opportunity to make-up missed lab quizzes.** Quizzes will cover material from the previous week's labs. It is imperative that you take detailed notes during lab (see below), and that you show up ON TIME for lab. Quizzes are NOT open note – study your lab notebook thoroughly prior to reporting to lab.

Lab notebook

A critical skill for all scientists is the maintenance of an accurate and "tidy" record of one's activities and observations. During each lab period, you will be expected to keep a complete record of activities and observations. It is impossible to do this without extensive diagrams and drawings. I know, I know... you are "bad at art". So was/am I. Get over it. You need to learn to illustrate and describe your observations. You can do it...take it from me. Lab notebooks will be collected during the final exam, and will be ready to pick up later that week.

Local Flora identification

Each week in lab, I will bring in 2-3 native/introduced plants that grow abundantly in natural areas of Santa Barbara. Students will be required to draw these, recognize them and know their Latin names, and know the basic biology/natural history that is presented in lab. You will have an ID quiz on these ~18-20 specimens during lab of week 14 (this is NOT open note).



Attendance

Do not skip lectures or labs. This is common-sense professional behavior: show up to work! Attendance is noted during labs. Midterms (and the final) will be drafted from information conveyed during lectures. Although there is a textbook for this course and specific reading is recommended for each lecture (see course schedule in this syllabus), there is no substitute for being present in lecture and taking thorough notes. Reading the text will not save you if you skip lecture. If you must miss a lecture, be sure to obtain notes from a classmate.

Academic Honesty

Academic dishonesty will not be tolerated in this course. SBCC has a strict policy on academic honesty and I have zero tolerance for any act of academic dishonesty. Academic dishonesty includes but is not limited to: (1) Cheating on an exam or quiz (e.g. looking at or copying from somebody else's exam, talking during an exam, using cell phones or texting, bringing prepared "cheat sheets", using translators or dictionaries); (2) Copying someone else's work or answers on any assignment; (3) Plagiarism (failing to properly cite material produced by others, or intentionally turning in work that is characterized as one's own).

DSPS Students

SBCC students with disabilities who are requesting accommodations for classes, college activities or tests should use the following SBCC procedure. (NOTE: This procedure also includes student requests to bring into classes service animals and/or personal service attendants who are not SBCC employees.

Step 1: Obtain documentation of your disability from a licensed professional. You may use the "Disability Verification Form" found at www.sbcc.edu/dsps.

Step 2: Make an appointment to meet with a DSPS Specialist to review your documentation and discuss reasonable accommodations. To schedule a meeting, please call DSPS at (805) 730-4164.

Step 3: Bring your disability documentation to your DSPS appointment. The DSPS office is located in room 160 of the Student Services building.

Step 4: *Each semester*, reach written accommodation agreement with the DSPS Specialist and your instructor.

Please complete this process in a timely manner to allow adequate time to provide accommodation.

DSPS office: (805) 965-0581 x 2364, SS Building, room 160, dsps@sbcc.edu

Student Learning Outcomes for Bio101:

- BIOL101 SLO1 - Summarize the fundamental molecular and cellular principles critical to an understanding of plant biology including the structure and functional importance of biomolecules, cell walls, cell membranes, cell organelles, and the biochemical pathways of photosynthesis and cellular respiration.
- BIOL101 SLO2 - Characterize and differentiate the structural and functional characteristics of the major vascular plant phyla and demonstrate an understanding of the major evolutionary changes that have occurred in these phyla including a description of the fundamental anatomy, physiology and ecology of plants as they relate to their habitats, life histories and phylogenetic relationships.
- BIOL101 SLO3 - Summarize the fundamental molecular and cellular principles critical to an understanding of the growth and development of vascular plants, including the roles played by plant hormones and other growth regulators. Define the theory of evolution and articulate the fundamental role that evolution plays in the adaptation of animal species including the correlation of genetics to the evolutionary continuity and diversity of life.
- BIOL101 SLO4 - Demonstrate proficiency in the basic skills of plant dissection, microscopy techniques and experimental protocols.
- BIOL101 SLO5 - Research and prepare a cited written report in a standard scientific format based on a search and evaluation of the literature data.



Course grade sheet

Here is a “scorecard” to help you keep track of your grade in the course (needless to say, you should keep the assignments themselves as references for studying). Please do not ask me to calculate your grade (you should never do this in school or life – it implies that you are unorganized, incapable, lazy, or some combination of these attributes.)

<u>LAB</u>	<u>LECTURE</u>
Lab Quizzes	Homework Assignment (Week 1)
1) ___/10	1) ___/25
2) ___/10	
3) ___/10	Midterm Exams
4) ___/10	1) ___/100
5) ___/10	2) ___/100
6) ___/10	3) ___/100
7) ___/10	
8) ___/10	Final Exam
9) ___/10	1) ___/200
10) ___/10	
11) ___/10	Research Paper
12) ___/10	1) ___/100
Lab Notebook (due at final exam)	
1) ___/100	
Local flora ID (Week 14, in lab)	
1) ___/25	



SANTA BARBARA CITY COLLEGE
2018-2019 Academic Calendar

May 2018						
S	M	Tu	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June 2018						
S	M	Tu	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July 2018						
S	M	Tu	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August 2018						
S	M	Tu	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September 2018						
S	M	Tu	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October 2018						
S	M	Tu	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November 2018						
S	M	Tu	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY 2018		
12	Spring Semester Ends	
21	Summer Session 1 Begins	
Varies	Last Day to Drop Classes without 'W'	
28	Memorial Day, Holiday	
JUNE 2018		
1	Last Day to Petition for Pass/No Pass Grading	
29	Summer Session 1 Ends (Friday)	
30	Summer Session 2 Begins (Saturday)	
JULY 2018		
Varies	Last Day to Drop Classes without 'W'	
4	Independence Day, Holiday	
13	Last Day to Petition for Pass/No Pass Grading	
AUGUST 2018		
10	Summer Session 2 Ends	
23-24	Faculty and Staff In-Service Days	
27	Fall Semester Begins	
SEPTEMBER 2018		
3	Labor Day, Holiday	
8	Last Day to Drop Classes without 'W' (with Enrollment/Tuition Refund)	
9	Last Day to Drop Classes without 'W' (without Enrollment/Tuition Refund)	
28	Last Day to Petition for Pass/No Pass Grading	
OCTOBER 2018		
26	Last Day to Withdraw from Classes/College	
NOVEMBER 2018		
12	Veterans Day, Observance	
22-24	Thanksgiving, Holiday	
DECEMBER 2018		
8	Last Day of Instruction	
10-15	Final Exams	
15	Fall Semester Ends	
16-Jan 13	Winter Vacation	
25	Christmas, Holiday	
JANUARY 2019		
1	New Year's Day, Holiday	
14	Spring Semester Begins	
21	Martin Luther King, Jr. Day, Holiday	
26	Last Day to Drop Classes without 'W' (with Enrollment/Tuition Refund)	
27	Last Day to Drop Classes without 'W' (without Enrollment/Tuition Refund)	
FEBRUARY 2019		
1	Faculty and Staff In-Service (1pm-5pm)	
14	Last Day to Petition for Pass/No Pass Grading	
15	Lincoln's Birthday, Observance	
18	Washington's Birthday, Holiday	
MARCH 2019		
15	Last Day to Withdraw from Classes/College	
25-30	Spring Break (may change depending on SBUSD)	
MAY 2019		
4	Last Day of Instruction	
6-11	Final Exams	
10	Commencement	
11	Spring Semester Ends	
20	Summer Session 1 Begins	
Varies	Last Day to Drop Classes without 'W'	
27	Memorial Day, Holiday	
31	Last Day to Petition for Pass/No Pass Grading	
JUNE 2019		
28	Summer Session 1 Ends (Friday)	
29	Summer Session 2 Begins (Saturday)	

December 2018						
S	M	Tu	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

January 2019						
S	M	Tu	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February 2019						
S	M	Tu	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

March 2019						
S	M	Tu	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

April 2019						
S	M	Tu	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May 2019						
S	M	Tu	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June 2019						
S	M	Tu	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

Blue Box = Summer Session 1; Yellow Box = Final Exams; Green Box = Summer Session 2; Orange Box = Spring Break