BOTANY 100: CONCEPTS OF BOTANY

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 not apply toward the SBCC biology major.

Instructor: Dr. Matt Kay
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Office hours (EBS307): M, W 12:30-1:00 and 2:00-3:00; T 9:30-10:30am;
or email for appointment

Lecture: Monday and Wednesday, 11:10- 12:30, EBS 301
Labs: (all sections meet in EBS 201)
CRN 31005: Tues 11:10 – 2:15 CRN 39143: Weds 7:50 - 10:55am
CRN 33708: Tues 2:30 – 5:35

Welcome to Botany 100!

In this course we will explore the fascinating biology of plants and their close relatives. In these organisms, we will discover some of the most fascinating adaptations and stories found in biology. You need them: your life depends upon them directly, and they enrich your quality of life immeasurably – if you don't believe it now, you soon will! If we are successful on our journey together, your view of plants – and your relationship with them - will forever be changed. For this journey we will need a few tools:

Textbook (highly recommended): *Botany: An Introduction to Plant Biology, 5th edition* (Mauseth). Available in the bookstore. Use the text to *prepare* for and review lecture material. Information in the text will support lecture material (see page 5).

Supplemental books (recommended): 1) *Dictionary of Root Words and Combining Forms* (Borror); 2) *Introduction to the Plant Life of Southern California* (Rundel and Gustafson).

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.

Your attitude (positive, required): If you wish to sit passively and collect a grade, you are in the wrong class. I expect students to be prompt, courteous, and engaged.

Pipeline: If you have not already done so, you should log into and familiarize yourself with Pipeline. I will use Pipeline to communicate with you via email and Canvas, so you should check your email and Canvas page for messages and posted lecture notes. To log into Pipeline: Go to the SBCC homepage (www.sbcc.edu) and click on "Pipeline".

Class website: Course-related documents, including the syllabus and lecture notes, will be posted on Canvas. This will be an indispensable resource – visit it frequently!! NOTE: The Canvas page works best when entered via the "Courses" tab (left side of Canvas page) or in "Card View", as demonstrated in lecture & lab. (The default student view is flawed, IMO).

Course Requirements and Expectations

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.

Disruptive behavior will not be tolerated in lecture or lab. I expect you to behave as an adult – if that is confusing here are some firm ground rules:

- 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…).
- Arrive on time, don't shuffle for an early exit.
- 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.
- If you think you might be behaving disruptively, you probably are.

ASSIGNMENTS AND GRADING

Assignments, points, and % of final grade

Activity	Points	% of final grade	Comments
Lecture (525 pts)			
Midterm 1	100	11.75%	Drop lowest midterm exam score, or if final is lowest then divide by 2 (i.e., final =11.75%) and keep 3 mid's
Midterm 2	100	11.75%	
Midterm 3	100	11.75%	
Final exam	200	23.5%	
Quizzes 1-5*	5 @ 25 each = 125	14.75%	*5 quizzes, open notebook, (not "open lecture notes")
Lab (325 pts)			
Assignments	15@10 each = 150	17.5%	Weekly lab activities, in your notebook (not collected, use to study for lab quizzes – see p. 4)
Weekly Lab Quizzes	10 @15 each = 150	17.5%	
Local flora ID exam	25	3%	Open notebook (in wk 14 lab)
Totals	**850 pts**	**100%**	

Final grades for semester:

≥100 A+; ≥92% A; 91-89% A-; 88-87% 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 be comprised of multiple choice ("fill in the bubble"), fill in the blank, True/False, and short answer written questions. Bring a *Scantron* form and pencil to class on the day of midterm exams. These are half of your grade – come prepared to perform! They will be challenging and will draw directly form lecture material (see *Notebooks and organization*, below).

Lecture quizzes

Lecture quizzes will be given periodically (see schedule for dates), and will be administered at the beginning of lecture. You will need ~20 minutes to complete quizzes. Students may use their personal notebooks to respond to questions, but no other materials (posted lecture notes, text book, internet, etc…) may be consulted. Referencing sources other than your personal notebook (**repeat: *you may NOT use posted lecture notes***) will be considered cheating and you will receive a zero for that quiz (and incur my eternal wrath). Questions on quizzes will be similar to those asked on exams – so use quizzes as practice exams and study guides. You will need pen *and* pencil and paper to complete each quiz – but those tools should be brought to every lecture…right?

Quizzes are intended to reward good attendance, detailed notebooks, and staying on top of the material. In addition, even with open notes you will need to respond quickly and think on your feet (i.e., I will not ask you to simply transcribe your notebook). If you come to class, pay attention, and take good notes (a very important skill) you should enjoy and do great on quizzes. If not…you can only blame yourself!! Keep a tidy notebook that you bring to every class. The lowest quiz score will be dropped. ***There will be no opportunity to make-up missed lecture quizzes.***

Notebooks and organization

Making a reliable record of observations and events is an essential skill in science, as well as most other professions. To succeed in this class you will need to keep records/notes of lectures in two critical ways:

1) Lecture notes posted online. After each lecture I will post my notes. You should print these and keep them in a binder. Alternatively, if you prefer to not consume paper you can compile these in a folder on your personal computer.
2) Your personal lecture notebook. This will contain notes you take during lecture. Many drawings, figures, and anecdotes that I present in lecture will not appear in the posted lecture notes (and this is intentional!), but this material will figure prominently on exams and quizzes.

Although I will not directly grade your personal notebooks and organization of lecture notes, these are critical for success – you will not perform highly if you are unorganized. This is especially true for lecture quizzes, which are open note (personal notebooks only).

GRADED ACTIVITIES – LAB

The lab component of this class is mandatory and you can not pass this class without passing the lab component. Labs are held every week at the time and place noted on page 1 of this syllabus. Lab sections are full: you must attend the lab for which you are enrolled, except under extenuating circumstances and with my approval.

Lab quizzes

12 lab quizzes will be administered on predetermined dates throughout the semester. Each is worth 15 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 generally cover material from the previous week's lab. So!! – be sure to correctly answer the question s from the previous week's lab assignment. If you arrive late, you will have only the time that remains of the 10-15 minute quiz period to complete the quiz. Be on time.

Lab assignments

Weekly lab exercises appear in the lab manual (available at bookstore) and **will be graded in lab, the day that each lab is completed!!** Do **NOT** leave lab without having me grade that day's assignment – do NOT blow off labs – you'll miss 25 possible points (lab quiz + lab exercise) each time you do…attend and participate! If you must miss a lab, clear it with me and come to an alternative section – space permitting.

Local Flora identification

Each week in lab, I will bring in 2-4 plants that you will: a) draw, b) preserve in a plant press as a lab group. You will have an open note (**BUT NOT OPEN plant press**) ID quiz on these ~20 specimens during lab week 13. The details of this quiz will be explained week 12 in lab. It is essential that you keep a clear and accurate record of these plants – we'll work on this together.

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 form 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, dspshelp@sbcc.edu

COURSE SCHEDULE

		Date	Lecture	Reading (Mauseth)	Lab
1: Matter, cells, and energy	1	Aug 26 Aug 28	- Botany, evolution, sci. method - Atoms, molecules, and cells	Ch 1 Ch 2, 3	Lab 1: Observation and perspective
	2	Sept 2 Sept 4	- LABOR DAY HOLIDAY, NO CLASS - Carbohydrates	 Ch 2	Lab 2: Cells and microscopes
	3	Sept 9 Sept 11	- Proteins **Quiz 1 (Aug 26 – Sept 9)** - Energy I: Respiration	Ch 2 Ch 11	Lab 3*: Lipids and soap **contains lecture material for exams*
	4	Sept 16 Sept 18	- Energy II: Photosynthesis I - Energy III: Photosynthesis II	Ch 10 Ch 10	Lab 4: Aerobic and anaerobic respiration
	5	Sept 23 Sept 25	- Energy IV: Photosynthesis III **- Midterm 1 (Aug 26 – Sept 23)**	Ch 10	Lab 5: Osmosis and diffusion;
2: Growth , form, and function	6	Sept 30 Oct 2	- 1° tissues: overview, leaves - 1° tissues: stems	Ch 5 & 6; for lab 6 Ch 5	Lab 6: Leaves Ch 6
	7	Oct 7 Oct 9	**- Quiz 2 (Sept 30 – Oct 2)** 1° tissues: overview, roots - Xylem and phloem function	 Ch 7 *consult lecture notes*	Lab 7: Primary tissues (roots and stems)
	8	Oct 14 Oct 16	- 2° tissues: wood and bark - **Quiz 3 (Oct 7 – Oct 14)** Secondary metabolites	Ch 8 *consult lecture notes*	Lab 8: Secondary tissues (wood and bark)
3: Evolution and diversity	9	Oct 21 Oct 23	**- Midterm 2 (Sept 30 – Oct 16)** - Algae, the plant-like protists	 Ch 19; *lecture notes!*	Lab 9: Algae (*Beach field trip – dress appropriately*)
	10	Oct 28 Oct 30	- Bryophytes and seedless vascular plants (ferns etc…) - Gymnosperms	Ch 20, 21 Ch 22	Lab 10: Spore-producing plants (bryophytes and seedless vascular plants)
	11	Nov 4 Nov 6	- Angiosperms I - Angiosperms II **Quiz 4 (Oct 23 – Nov 4)**	Ch 9, 23 Ch 9, 23	Lab 11: Gymnosperms (*Campus field trip – dress appropriately*)
	12	Nov 11 Nov 13	VETERAN'S DAY, NO SCHOOL - Seeds: adaptations and ecology		Lab 12: Angiosperms I: flowers
4: Ecology	13	Nov 18 Nov 20	**- Midterm 3 (Oct 23 – Nov 13)** - Selective breeding, GMOs, and *The Botany of Desire*	 None; attend lecture!	Lab 13: Angiosperms II: fruits Prepare for ID exam in Wk 14
	14	Nov 25 Nov 27	- Kingdom Fungi - Plant communities I	Ch 24 Ch 26 & 27 	Lab 14*: Fungi **contains exam material* **Local flora ID quiz**
	15	Dec 2 Dec 4	- Plant communities II - Ecosystem services **Quiz 5 (Nov 20 – Dec 2)**	Ch 26 & 27 Ch 26 & 27	Lab 15: Rattlesnake Canyon field trip (RAIN OR SHINE!)

Final Exam: Monday, Dec. 9; 11:00am-1:00pm (EBS 301)

Official SBCC course content and objectives for Botany 100

Student learning outcomes: Students who successfully complete this course will be able to:

1. Describe the biology of plants including their anatomy, physiology, and their ecological and organismal diversity.

2. Describe the biology of plant-like organisms including their anatomy, physiology, and their ecological and organismal diversity.

Course Content and Scope:

Science and the scientific method, the philosophy and role of science in society.

Introduction to eukaryotic, bacterial, and archean cell structure and function

Tissues of the plant body: meristematic tissues, primary tissues, secondary tissues, stems, roots, leaves, flowers, fruits, and seeds.

Pollination, fertilization, fruit and seed set, and seed germination

The chemical and physical properties of the water molecule

Water and food transport in the plant body.

Processes of photosynthesis and respiration

Mechanisms of heredity, and Mendelian genetics

Plant growth regulating substances

Diversity of plant groups on Earth

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.)

Lab Assignments

1) ___/10
2) ___/10
3) ___/10
4) ___/10
5) ___/10
6) ___/10
7) ___/10
8) ___/10
9) ___/10
10) ___/10
11) ___/10
12) ___/10
13) ___/10
14) ___ /10
15) ___/10

Lab Quizzes

1) ____/15
2) ____/15
3) ____/15
4) ____/15
5) ____/15
6) ____/15
7) ____/15
8) ____/15
9) ____/15
10) ____/15
11)____/15
12)____/15

Lecture Quizzes

1) ____/25
2) ____/25
3) ____/25
4) ____/25
5) ____/25

Midterm Exams

1) _____/100
2) _____/100
3) _____/100

Final Exam

1)_____/200

Local flora ID (wk 14, in lab)

1) _____/25

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
23/30	24	25	26	27	28	29

July 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			

August 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

September 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					

October 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		

November 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

SANTA BARBARA CITY COLLEGE
2019-2020 Academic Calendar

MAY 2019		
	11	Spring Semester Ends
	20	Summer Intersession Begins
	20	Summer Session 1 Begins (6 weeks)
	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 (6 weeks) (Saturday)
JULY 2019		
	Varies	Last Day to Drop Classes without "W"
	4	Independence Day, Holiday
	12	Last Day to Petition for Pass/No Pass Grading
AUGUST 2019		
	9	Summer Session 2 Ends
	22—23	Faculty and Staff In-Service Days
	26	Fall Semester Begins
SEPTEMBER 2019		
	2	Labor Day, Holiday
	7	Last Day to Drop Classes without W" *(with Enrollment/Tuition Refund)*
	8	Last Day to Drop Classes without W" *(without Enrollment/Tuition Refund)*
	27	Last Day to Petition for Pass/No Pass Grading
OCTOBER 2019		
	25	Last Day to Withdraw from Classes/College
NOVEMBER 2019		
	11	Veterans Day, Holiday
	28—30	Thanksgiving, Holiday
DECEMBER 2019		
	7	Last Day of Instruction
	9—14	Final Exams
	14	Fall Semester Ends
	15—Jan 12	Winter Vacation
	25	Christmas, Holiday
JANUARY 2020		
	1	New Year's Day, Holiday
	13	Spring Semester Begins
	20	Martin Luther King, Jr. Day, Holiday
	25	Last Day to Drop Classes without "W" *(with Enrollment/Tuition Refund)*
	26	Last Day to Drop Classes without "W" *(without Enrollment/Tuition Refund)*
	31	Faculty and Staff In-Service (1pm-5pm)
FEBRUARY 2020		
	13	Last Day to Petition for Pass/No Pass Grading
	14	Lincoln's Birthday, Holiday Observance
	17	Washington's Birthday, Holiday
MARCH 2020		
	13	Last Day to Withdraw from Classes/College
	23—28	Spring Break
MAY 2020		
	2	Last Day of Instruction
	4—9	Final Exams
	8	Commencement
	9	Spring Semester Ends
	18	Summer Intersession Begins

Board Approved 4/26/18

Blue Days = Term Begins | Yellow Days = Final Exams | Green Days = Campus Closed | Orange Days = Spring Break

December 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				

January 2020

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 2020

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

March 2020

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				

April 2020

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 2020

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
24/31	25	26	27	28	29	30

June 2020

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				