



BOTANY 100: CONCEPTS OF BOTANY – In-person! (NOT online!)

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

Email: mckay@sbcc.edu; **PLEASE DO NOT MESSAGE ME THROUGH CANVAS!**

Office hours (EBS305): MW 12:30-1:00 and 2:00-3:00;
or email for appointment (Zoom or in-person)

Lecture: Monday and Wednesday, 11:10- 12:30, EBS 301

Labs: (all sections meet in EBS 201)

CRN 42958: Tues 11:10 – 2:15

CRN 44520: 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:

Textbooks (“required” so that grants will cover cost. You don't need the textbook to succeed in this class. See P. 3 of this syllabus; I will explain more during 1st lecture):

- 1) *Raven Biology of Plants, 8th edition* (Evert and Eichhorn). I repeat: you do NOT need this book to succeed in this course, the posted lecture notes are more important. Information in the text will provide broader context for lecture material (see page 3).
- 2) *Dictionary of Root Words and Combining Forms* (Borror). *You should get this book!!!*

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. Life's too short...

Canvas site: Course-related documents, instructions, and 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).

Pipeline/SBCC email account: This how I will communicate with you. Check this daily!! **Please do NOT email me through Canvas!!** It does not preserve the thread of the conversation! Email me please! I want to recall everything we've discussed! ☺



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 *5 quizzes, open <u>notebook</u> , (not "open lecture notes")
Midterm 2	100	11.75%	
Midterm 3	100	11.75%	
Final exam	200	23.5%	
Quizzes 1-5*	5 @ 25 each = 125	14.75%	
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	15 @10 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+; ≥93% A; 92-90% 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 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 from 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 in Canvas. 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.
- Each week's lab is worth 20 points. The mechanics and grading of labs will be different if we are forced by emergency to hold labs online (our plan is to meet in person every week).

In-person labs (the preferred and typical way we'll hold labs)

Lab quizzes (10 points each week).

- Lab quizzes will occur at the beginning of lab each week (with a few exceptions that will be announced in advance). They are worth 10 points. Quizzes will generally cover material from the previous week's lab. So!! – be sure to correctly answer the questions 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 quizzes can be made up only in case of a valid emergency, and with prior communication with Matt.

Lab assignments (10 points each week).

- Weekly lab exercises will be maintained in your lab notebook, and **will be graded in lab, the day that each lab is completed!!** They are worth 10 points each weeks.
- Do NOT skip labs – you'll miss 20 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.

Online labs (we'll only hold online labs if Matt is unable to come to campus, as described and agreed upon via email prior to the semester)

- Online labs will be posted to the course's Canvas page, in the appropriate weekly module (i.e., weeks 1-15 of the semester).
- Completion of these labs will require you to scan and submit your written work as a PDF, and using a free app called Adobe Scan.
- Detailed instructions on how to use this app appear on the Canvas page for this class.
- Online labs are NOT a valid way to make-up in-person labs if you missed them, except for the following instances: a personal emergency, and for which communication occurred prior to the lab. In such cases, talk to me and we'll find a solution in the event that you miss an in-person lab. You must communicate with me before missing the lab!

Local Flora identification

Each week in lab, you will learn 2-3 plants that are common to the Santa Barbara area. 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.



COURSE SCHEDULE – subject to change

	Date	Lecture	Reading (Raven)	Lab
1: Matter, cells, and energy	1 Aug 28 Aug 30	- Botany, evolution, sci. method - Atoms, molecules, and cells	Ch 1, 11 Ch 2, 3	Lab 1: Observation and perspective
	2 Sept 4 Sept 6	- LABOR DAY HOLIDAY, NO CLASS - Carbohydrates	Ch 2	Lab 2: Cells and microscopes
	3 Sept 11 Sept 13	- Proteins Quiz 1 (Aug 29 – Sept 7) - Energy I: Respiration	Ch 2 Ch 6	Lab 3*: Lipids and soap <i>*contains lecture material for exams</i>
	4 Sept 18 Sept 20	- Energy II: Photosynthesis I - Energy III: Photosynthesis II	none Ch 7	Lab 4: Aerobic and anaerobic respiration
	5 Sept 25 Sept 27	- Energy IV: Photosynthesis III - Midterm 1 (Aug 29 – Sept 26)	Ch 7	Lab 5: Osmosis and diffusion;
2: Growth, form, and function	6 Oct 2 Oct 4	- 1° tissues: overview, leaves - 1° tissues: stems	Ch 25 Ch 25	Lab 6: Leaves Ch 6
	7 Oct 9 Oct 11	- Quiz 2 (Oct 3 – Oct 5) 1° tissues: overview, roots - Xylem and phloem function	Ch 24 Ch 23, 30	Lab 7: Primary tissues (roots and stems)
	8 Oct 16 Oct 18	- 2° tissues: wood and bark - Quiz 3 (Oct 3 – Oct 17) Secondary metabolites	Ch 26 none	Lab 8: Secondary tissues (wood and bark)
3: Evolution and diversity	9 Oct 23 Oct 25	- Midterm 2 (Oct 3 – Oct 19) - Algae, the plant-like protists	Ch 15	Lab 9: Algae <i>(Beach field trip – dress appropriately)</i>
	10 Oct 30 Nov 1	- Bryophytes and seedless vascular plants (ferns etc...) - Gymnosperms	Ch 16, 17 Ch 18	Lab 10: Spore-producing plants (bryophytes and seedless vascular plants)
	11 Nov 6 Nov 8	- Angiosperms I - Angiosperms II Quiz 4 (Oct 26 – Nov 9)	Ch 19, 20 Ch 19, 20	Lab 11: Gymnosperms <i>(Campus field trip – dress appropriately)</i>
	12 Nov 13 Nov 15	- Seeds: adaptations and ecology - TBD		Lab 12: Angiosperms I: flowers. PREP LOCAL FLORA
4: Ecology	13 Nov 20 Nov 22	- Midterm 3 (Oct 26 – Nov 16) - Selective breeding, GMOs, and <i>The Botany of Desire</i>	None; attend lecture!	Lab 13: FIELD TRIP: LOTUSLAND
	14 Nov 27 Nov 29	- Kingdom Fungi - Plant communities I	Ch 14 none	Lab 14*: Fungi <i>*contains exam material</i> Local flora ID quiz
	15 Dec 4 Dec 6	- Plant communities II - Ecosystem services Quiz 5 (Nov 23 – Dec 7)	None none	Lab 15: Rattlesnake Canyon field trip (RAIN OR SHINE!)

Final Exam: Monday, Dec. 11; 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. BOT100 SLO1 - Describe fundamental processes operative throughout botany and plant biology, including evolution via natural selection, sexual reproduction, photosynthesis, basic chemistry, and biochemical processes (cellular respiration, fermentation, photosynthesis)
2. BOT100 SLO2 - Describe the anatomy and physiology of plants and plant-like organisms
3. BOT100 SLO3 - Compare and contrast the major evolutionary lineages of plants and plant-like organisms, including important structural features of each lineage, ecological importance, and human uses

Course Content and Scope:

Lecture Content	Lab Content
<ul style="list-style-type: none"> • Science and the scientific method. The role of science in our society. The philosophy of science. • Introduction to eukaryotic, bacterial and archean cell structure and function. • Tissues and organs 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. • The process of photosynthesis. • The process of cellular respiration. • The mechanisms of heredity, and Mendelian genetics. • Plant growth regulating substances. • The diversity of plant groups on Earth. 	<ul style="list-style-type: none"> • Designing and interpreting scientific experiments. • Tissues and organs 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. • The process of photosynthesis. • The process of cellular respiration. • The mechanisms of heredity, and Mendelian genetics. • Plant growth regulating substances. • The diversity of plant groups on Earth.

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



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.) I will not maintain a complete grade book in Canvas – please keep your own records!! This is a life skill!

<u>Lab Activities/Quizzes</u>	<u>Quizzes and Exams</u>
1) ___/20	Lecture Quiz 1 ___/25
2) ___/20	Lecture Quiz 2 ___/25
3) ___/20	Lecture Quiz 3 ___/25
4) ___/20	Lecture Quiz 4 ___/25
5) ___/20	Lecture Quiz 5 ___/25
6) ___/20	
7) ___/20	Midterm 1 ___/100
8) ___/20	Midterm 2 ___/100
9) ___/20	Midterm 3 ___/100
10) ___/20	
11) ___/20	Final Exam* ___/200
12) ___/20	
13) ___/20	
14) ___/20	
15) ___/20	
Local Flora ID ___/25	*see “Assignments and Grading”, Page 2, for explanation of final exam point value and option for dropping lowest Midterm.



SANTA BARBARA CITY COLLEGE

2023-2024 Academic Calendar

MAY 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
	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 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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JULY 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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AUGUST 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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SEPTEMBER 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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OCTOBER 2023						
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NOVEMBER 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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26	27	28	29	30		

MAY 2023
 20 Spring Semester ends
 29 Memorial Day, Holiday
Board Approved: 12/15/2022

JUNE 2023
 5 10-Week Summer Term Begins
 Varies Last Day to Drop Classes without 'W'
 Varies Last Day to Petition for Pass/No Pass Grading
 19 Juneteenth, Holiday

JULY 2023
 4 Independence Day, Holiday

AUGUST 2023
 12 Summer Term Ends
 24-25 Faculty and Staff In-Service Days
 28 Fall Semester Begins

SEPTEMBER 2023
 4 Labor Day, Holiday
 9 Last Day to Drop Classes without 'W' (with Refund)
 10 Last Day to Drop Classes without 'W' (without Enrollment/Tuition Refund)*

OCTOBER 2023
 27 Last Day to Withdraw from Classes/College

NOVEMBER 2023
 10 Veterans Day, Observance
 23-25 Thanksgiving, Holiday

DECEMBER 2023
 8 Last Day to Petition for Pass/No Pass Grading
 9 Last Day of Instruction
 11-16 Final Exams
 16 Fall Semester Ends
 18-Jan 21 Winter Vacation
 22-Jan 1 Christmas Holiday Break

JANUARY 2024
 1 New Year's Day, Holiday
 15 Martin Luther King, Jr. Day, Holiday
 22 Spring Semester Begins

FEBRUARY 2024
 2 Faculty and Staff In-Service (1pm-5pm)
 3 Last Day to Drop Classes without 'W' (with Refund)*
 4 Last Day to Drop Classes without 'W' (without Enrollment/Tuition Refund)*
 16 Lincoln's Birthday, Holiday
 19 Washington's Birthday, Holiday

MARCH 2024
 22 Last Day to Withdraw from Classes/College
 25-30 Spring Break (may change depending on SBUSD)

MAY 2024
 10 Last Day to Petition for Pass/No Pass Grading
 11 Last Day of Instruction
 13-18 Final Exams
 17 Commencement
 18 Spring Semester Ends
 27 Memorial Day, Holiday

JUNE 2024
 3 10-Week Summer Term Begins
 19 Juneteenth, Holiday

* Online Services Only

Term Begins **Final Exams** **Campus Closed** **Spring Break**

DECEMBER 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
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JANUARY 2024						
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FEBRUARY 2024						
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MARCH 2024						
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APRIL 2024						
SUN	MON	TUE	WED	THU	FRI	SAT
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MAY 2024						
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JUNE 2024						
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