

Curriculum Committee Minutes

Sub-Committee of the Academic Senate

Fall 2022 Semester

Meeting Thursday, November 10th, 2022 2:15 pm via Zoom

<https://marin-edu.zoom.us/j/93434117360?from=addon>

Present: Gina Cullen, Bob McCoy, Sheldon Carroll, Luna Finlayson, Lisa Morse, Sara McKinnon, Kathleen Smyth, Alex Jones, Beth Sheofsky, Scott Serafin, Sara Malmquist-West, Grace Mengqi Yuan, Dan Zaffran, Nancy Willet, Timothy Wat, Tina Christensen.

Absent: Cari Torres.

Standing Items

1. Call to Order at 2:15 pm via zoom
2. Approval of the amended agenda
 - Motion to approve: Lisa Morse
 - Second the motion: Sara Malmquist-West
 - Vote: all approved
3. Approval of the minutes
 - Motion to approve: Sara Malmquist-West
 - Second the motion: Bob McCoy
 - Vote: all approved
4. Public request to address the Committee
 - There was none.
5. Chair Announcement
 - BOAP would be reviewed again in the next meeting on Dec 8th. The communication on the email thread would resume at the meeting.

Discussion

1. ESL/ESLN Name change to differentiate high and low skills – Sara McKinnon
 - From Noncredit ESL to: **ESL Foundational Skills** – ESLN Levels 10-40
 - From Credit ESL to: **ESL Focused Skills** – ESL/N Levels 50-120SL
 - The change would mostly affect the ETUM List to distinguish the levels. Prefix

and course number would stay the same.

- According to hiring committees, the merits were different when considering adjunct faculty for foundational skills courses versus focus skills courses.
- Sara pointed out that some course titles were different between the outline and the Catalog. Grace would review and correct title data in Catalog to match COR.

2. "Associate in Science in Business, General" Revision – Tim Watt

- Request initiated from the counseling department; some athletic students were interested in the A.S. Business General degree to transfer to private universities.
- The local degree requires the local GE pattern, which is less requirements comparing to the transfer GE patterns.
- Gina pulled up the eLumen workflow and the Committee reviewed the requirements. Some members asked the revised requirements to be sent by email for further consideration.
- Kathleen asked whether the counselor know the number of athletic students who would be interested in getting this degree. Tim answered that he got the sense of "a lot of students" from the counselor. Counselors would like to see the revision pass approval before sending students down the path.

3. BIOL Major series – Tina Christensen

- Change from three-course major series to two-course major series
- See Exhibit I "Where do our students transfer to and their major BIOL Sequence".
- Comments from the Committee: student-centered approach; thorough research; the two-semester series would make COM a bit more competitive.
- Committee asked what prerequisite(s) would be for the two courses. The answer was BIOL 110 for both courses.
- Sara McKinnon asked any of the courses would be required for the Nursing Program. The answer was "No".

4. MMST Certificate – James Gonzalez

- Combined two certificates into one, called MMST - Web Design and Development Specialty.
- Added WE 298A in lieu of MMST 213A.
- Added GDES 112, MMST 143C and CIS 237 as electives for students who lean more to design.
- Comment: all look good.

5. Add a unit to COMP 220 – Jeff Yates

- Add three hours of lab per week to COMP 220.
- COMP 220 is the only course in COMP discipline that faculty do not have lab time with the students.
- Adding a lab component to the course would result in adding a unit to the course; AO would need to re-articulate the course to four-year institutions.
- Lab time would prepare students more for the Computer Sciences programs at four-year institutions.
- No schedule impact as the course generally schedules in the evening.
- Many CCCs and four-year universities have lab component for courses that are

similar to COMP 220.

- Students would do assignments during the lab time to practice skills and get just-in-time help from the instructor.
- Jeff presented the structure and design of how the lab would be. The PHYS department was on board for the addition.
- Grace asked whether it would be possible to change the current lecture course to a lecture/lab course without increasing student units. For example, change the current course (3 lecture hours per week) to 2 lecture hours and 3 lab hours per week. Jeff answered that it was possible. However, he was really trying to get the course aligned with the other courses in COMP, which were 3 hours lecture and 3 hours of lab.

6. ADT – Law, Public Policy and Society – Sara Malmquist-West

- Nancy Willet initially developed the degree in 2016, but it was not submitted.
- With the current grant possibility and CCCCO's push for pre-law pathway, this degree became more attractive.
- The degree would use all existing courses.
- 30 other CCCs offer this ADT.
- The Committee asked where to house the degree. The answer was either Political Sciences or Administrative Justice. Gina thought that Political Sciences made more sense because pre-law and UC-bound students would look under POLS.
- Lisa suggested all law students take a Drama course. She asked if any communication courses were on the ADT. Yes, there were two communication requirements in the Required Core.
- Double count: high double-count of GE credits from a wide range of GE areas.

Action:

1. Bob McCoy moved to approve the consent agenda items. Lisa Morse seconded the motion. Vote: all approved.
2. Sara McKinnon moved to add Discussion Items #1 to #4 and #6 in the next consent agenda and request more information regarding the AS Business General revision. Bob McCoy seconded the motion. Vote: all approved.

Meeting adjourned at 3:25pm.

Exhibit I: Where do our students transfer to and their major BIOL Sequence

	S22	F22	S23	F23	S24	F24	S25	F25	S26	F26	S27
DAYTIME	112C	112B	112A	112A	112B	112B	112A	112C	112A	112C	112B
DAYTIME				112C	112C				112B		
EVENING	112A	112C	112B			112A	112C	112B		112A	112C

Where do our biology students transfer to? Top 6 universities:

Data was pull from a transfer file that Holly Shafer ordered from the National Student Clearinghouse. She ran the number of students attending COM starting in Fall 2012 through Spring 2022 who either: Completed BIO112A and BIO112B, and/or completed BIOL112C, and subsequently enrolled in a 4-year institution. (The assumption is that these students were BIOLOGY majors but they could also be other majors such as bioengineering or biochemistry etc.)

Your top 6 transfer institutions (F12 to S22) using these criteria are as follows:

UNIVERSITY OF CALIFORNIA - BERKELEY (17)

UNIVERSITY OF CALIFORNIA-DAVIS (14)

SAN FRANCISCO STATE UNIVERSITY (13)

UNIVERSITY OF CALIFORNIA-SANTA CRUZ (13)

UNIVERSITY OF CALIFORNIA-SANTA BARBARA (12)

SONOMA STATE UNIVERSITY (7)

What Major's series do these Universities have:

1)UC Berkeley (They are on Semesters)

- a. Has a 2 semester Majors Bio sequence: Bio 1A/1AL (5 units) and Bio 1B (4 units)

Total of 9 units.

- b. Info about these courses:

Biology 1A: General Biology Lecture (3 units; [Syllabus](#))

Prerequisites: A grade of C- or better in Chemistry 1A and Chemistry 1AL or a 4 or 5 score on the Chem AP test; Chem 3A or 112A recommended.

General introduction to cell structure and function, molecular and organism genetics, animal development, form and function. Intended for biological sciences majors, but open to all qualified students. (F, SP, SU)

Biology 1AL: General Biology Laboratory (2 units; [Syllabus](#))

Prerequisites: Must be taken concurrently with Biology 1A. (F, SP, SU)

Biology 1B: General Biology (4 units, lecture and lab)

Course Description: This course is a general introduction to organismal diversity, ecology, and evolutionary biology. It is intended for students majoring in the biological sciences, but it is open to all qualified students. Students must take both Biology 1B and 1A/1AL to complete the General Biology sequence. Either course can be taken first or second.

Course Website: <http://ib.berkeley.edu/courses/bio1b/> This website contains lecture and lab schedules and contact information.

2)UC Davis (They are on Quarters not semesters)

- a. Our BIOL 112A + 112B gets credit for their BIS 002C (5 units)
- b. Our BIOL 112C gets credit for their BIO 002A (5 units)
- c. They have 3 courses (5 quarter units each which is the equivalent to **10 semester units**)

BIS 002A — Introduction to Biology: Essentials of Life on Earth (5 units)

Course Description: Essentials of life including sources and use of energy, information storage, responsiveness to natural selection and cellularity. Origin of life and influence of living things on the chemistry of the Earth. May be taught abroad.

Prerequisite(s): [CHE 002A](#) or [CHE 004A](#) or equivalent recommended.

Learning Activities: Lecture 3 hour(s), Discussion 2 hour(s).

Credit Limitation(s): Not open for credit to students who have completed BIS 001A with a grade of C- or better.

Grade Mode: Letter.

General Education: Science & Engineering (SE).

BIS 002B — Introduction to Biology: Principles of Ecology & Evolution (5 units)

Course Description: Introduction to basic principles of ecology and evolutionary biology, focusing on the fundamental mechanisms that generate and maintain biological diversity across scales ranging from molecules and genes to global processes and patterns. May be taught abroad.

Learning Activities: Lecture 3 hour(s), Discussion 1 hour(s), Laboratory 3 hour(s).

Credit Limitation(s): Not open for credit to students who have completed BIS 001B with a grade of C- or better.

Grade Mode: Letter.

General Education: Science & Engineering (SE); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL).

BIS 002C — Introduction to Biology: Biodiversity & the Tree of Life (5 units)

Course Description: Introduction to organismal diversity, using the phylogenetic tree of life as an organizing theme. Lectures and laboratories cover methods of phylogenetic reconstruction, current knowledge of the tree of life, and the evolution of life's most important and interesting innovations. May be taught abroad.

Prerequisite(s): BIS 001B C- or better or [BIS 002B](#) C- or better.

Learning Activities: Lecture 4 hour(s), Laboratory 3 hour(s).

Credit Limitation(s): Not open for credit to students who have completed BIS 001C with a grade of C- or better.

Grade Mode: Letter.

General Education: Science & Engineering (SE); Oral Skills (OL); Quantitative Literacy

(QL); Scientific Literacy (SL); Visual Literacy (VL).

3) San Francisco State University (They are on Semesters)

- a. Has a 2-semester Majors Bio sequence: Bio 230 (5 units) and Bio 240 (5 units) **Total of 10 units.**
- b. Info about these courses:

BIOL 230 Introductory Biology I (Units: 5)

Prerequisites: Restricted to Biology and Biochemistry majors and minors, Kinesiology majors, and Environmental Studies: Natural Resources Management and Conservation majors.

Fundamentals of biology including chemical basis of life, cell structure, bioenergetics, plant and animal physiology, and genetics. Lecture, 3 units; laboratory, 2 units. Extra fee required.

BIOL 240 Introductory Biology II (Units: 5)

Prerequisite: BIOL 230* with a grade of C- or better.

Fundamentals of biology including gene expression, development, evolution, ecology, and the diversity of microbes, plants, and animals. Lecture, 3 units; laboratory, 1 unit. Extra fee required.

4) UC Santa Cruz (on Quarters)

- a. Our BIOL 112A + 112B gets credit for their BIOE 20B (5 Q units)
- b. Our BIOL 112C gets credit for their BIOL 20A (5 Q units)
- c. They also have a BIOL 20L (lab that goes with their BIOE20B)
- d. They have 3 courses (5+5+2 quarter units =12 Q units is the equivalent to **8 semester units**)

BIOL 20A Cell and Molecular Biology

Introduction to biochemistry, cell biology, molecular biology, and genetics.

Requirements Prerequisite(s): [CHEM 1A](#) or [CHEM 4A](#).

Credits 5 Quarter Offered Fall, Winter, Spring

BIOE 20B Development and Physiology

Topics in morphology, physiology, development, genetics, and endocrinology selected to exemplify current issues and perspectives in organismic biology.

Requirements Prerequisite(s): BIOL 20A.

Credits 5 Quarter Offered Fall, Winter, Spring, Summer

BIOL 20L Experimental Biology Laboratory

Provides biology majors with the theory and practice of experimental biology. A wide range of concepts and techniques used in the modern laboratory are included in the exercises.

Designed to satisfy the introductory biology lab requirement of many medical and professional schools.

Requirements Prerequisite(s): BIOL 20A and previous or concurrent enrollment in BIOE 20B.
Credits 2 Quarter Offered Fall, Winter, Spring, Summer

BIOL 20A - Cell and Molecular Biology (5.00)	← BIOL 112C - Majors' Biology: Molecules, Cells, Prokaryotes and Genetics (5.00)
BIOE 20B - Development and Physiology (5.00)	← <div>BIOL 112A - Majors' Biology: Animals, Protozoa, Evolution and Classification (5.00) --- And --- BIOL 112B - Majors' Biology: Plants, Algae, Fungi and Ecology (5.00)</div>

5)UC Santa Barbara (on Quarter system)

<div><div>MCDB 1A - Introductory Biology I (4.00)</div><div>--- And ---</div><div>EEMB 2 - Introductory Biology II - Ecology and Evolution (3.00)</div></div>	←	<div><div>BIOL 112A - Majors' Biology: Animals, Protozoa, Evolution and Classification (5.00)</div><div>--- And ---</div><div>BIOL 112B - Majors' Biology: Plants, Algae, Fungi and Ecology (5.00)</div><div>--- And ---</div><div>BIOL 112C - Majors' Biology: Molecules, Cells, Prokaryotes and Genetics (5.00)</div></div>
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6)Sonoma State University (On semesters. 2 courses, each 4 units)

BIOL 130 - Introductory Cell Biology and Genetics

BIOL 130 - Introductory Cell Biology and Genetics

Unit(s): 4 Lecture: 3 hours Laboratory: 3 hours

One of two courses in the lower-division series required of biology majors. Provides an introduction to structure, molecular processes and physiology of cells, as well as mechanisms of inheritance and evolution.

GE Category: Satisfies GE, category B2 and GE lab requirement.

Typically Offered Fall & Spring

Recommended Concurrent enrollment in CHEM 115A is recommended.

Grading: GRD

BIOL 131 - Biological Diversity and Ecology

Unit(s): 4 Lecture: 3 hours Laboratory: 3 hours

One of two courses in the lower-division series required for biology majors. Introduces the extraordinary diversity of life, evolutionary relationships between groups of organisms, and principles of ecology.

GE Category: Satisfies GE category B2 and GE lab requirement.

Typically Offered Fall & Spring

Grading: GRD

BIOL 131 - Biological Diversity and Ecology

SRJC and Napa Valley College has the 3-semester sequence of Bio Major courses.

*Other Community Colleges around here that have 2 semester Majors series
(Note: DeAnza, Foothill and Lake Tahoe Community Colleges are on Quarters.)*

City College of San Francisco:

2 semester series, Each course 5 units. **Total of 10 units.**

Bio 110a and Bio 110b

CRN	SEC	TYPE	DAYS	TIMES	DATES	LOCATION	CAMPUS	INSTRUCTOR
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BIO 100A: General Biology**5.0**

PREREQ: CHEM 101A Recommended Prep: (BIO 11 or 1 yr. HS Biology) and ENGL 88 or ESL 188 or readiness for college-level English.

70158	001	Hyb	TR	01:10-02:00PM	08/17-12/20	SCIE 315	Ocean	Nixon
			TR	02:10-04:00PM	08/17-12/20	SCIE 315		
				Hours Arr	08/17-12/20			

BIO 100A CRN 70158 Section 001 is a 17.5-week course that begins on August 17. This course is HYBRID with an asynchronous online lecture and in-person laboratory. The in-person lab meets every Tuesday and Thursday from 1:10 - 4:00 pm on Ocean Campus. Students will also complete coursework in Canvas, which must be accessed using a laptop or desktop computer. For more information, please go to <https://sites.google.com/mail.ccsf.edu/nixon/home> or email Dr. Nixon at snixon@ccsf.edu.

70160	003	Hyb	TR	04:10-05:00PM	08/17-12/20	SCIE 315	Ocean	Brown
			TR	05:10-07:00PM	08/17-12/20	SCIE 315		
				Hours Arr	08/17-12/20			

BIO 100A CRN 70160 Section 003 is a 17.5-week course that begins on August 17. This course is HYBRID with an asynchronous online lecture and in-person laboratory. The in-person lab meets every Tuesday and Thursday from 4:10 - 7:00 pm on Ocean Campus. Students will also complete coursework in Canvas, which must be accessed using a laptop or desktop computer. For more information, please go to <https://sites.google.com/mail.ccsf.edu/nixon/home> or email Dr. Nixon at snixon@ccsf.edu.

BIO 100B: General Biology**5.0**

Recommended Prep: ENGL 88 or ESL 188 or readiness for college-level English.

70161	Y01	Onl	TR	Hours Arr	08/17-12/20		Ocean	Traut
				10:10-01:00PM	08/17-12/20	SCIE 322		

BIO 100b requires in-person meetings and the use of Canvas. In-person laboratory meetings will take place on Tuesdays and Thursdays from 10:10am - 1:00pm at the Ocean Campus. Students will also complete coursework in Canvas, which must be accessed using an Internet enabled device. Please refer to the course website for more information: <https://sites.google.com/mail.ccsf.edu/bio-100b/home>

70162	Y02	Onl	TR	01:10-04:00PM	08/17-12/20	SCIE 322	Ocean	Woo
				Hours Arr	08/17-12/20			

BIO 100b requires in-person meetings and the use of Canvas. In-person laboratory meetings will take place on Tuesdays and Thursdays from 1:10am - 4:00pm at the Ocean Campus. Students will also complete coursework in Canvas, which must be accessed using an Internet enabled device. Please refer to the course website for more information: <https://sites.google.com/mail.ccsf.edu/bio-100b/home>

Canada Community College (San Mateo CC district):

2 semester Majors course. Each 5 units each. **Total of 10 units.**

BIOL 225 Biology Of Organisms

Designed for biology majors, this course focuses on principles of evolutionary theory, classification of organisms, and their phylogenetic relationships. Emphasis is on physiology and structures of representative plants and animals. Topics include development, behavioral biology, ecology, and population genetics.

Units: 5, Degree Credit, Letter Grade Only

- **Lecture hours/semester:** 48-54
- **Lab hours/semester:** 96-108
- **Homework hours/semester:** 96-108

Prerequisites: MATH 120 or MATH 123 (offered at CSM or Skyline), or appropriate score on the College Placement Test or other multiple measures assessment.

Corequisites: None

Recommended: Eligibility for ENGL 100.

AA/AS Degree Requirements: Area B2, B3; Math Competency

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 140; BIOL 135 S (both BIOL 225 + 230)

BIOL 230 Cell and Molecular Biology

This course is designed for biology majors and is an introduction to life functions at the cellular and molecular levels. Students learn about cellular structure and the macromolecular architecture of the cell, the functional processes of cellular energetics, metabolic regulation, photochemical activities, reproduction, molecular and Mendelian genetics, regulation of gene expression, and methods of recombinant DNA technology.

Units: 5, Degree Credit, Letter Grade Only

- **Lecture hours/semester:** 48-54
- **Lab hours/semester:** 96-108
- **Homework hours/semester:** 96-108

Prerequisites: CHEM 210 and BIOL 210, or 215 (offered at Skyline College), or 220 (offered at College of San Mateo), or 225.

Corequisites: None

AA/AS Degree Requirements:Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 190; BIOL 135 S (both BIOL 225 + 230)

Berkely City College/Peralta

2 semester Majors course. Each 5 units each. **Total of 10 units**

BIOLOGY

**** 1A GENERAL BIOLOGY**

Introduction to general biology

PREREQUISITE: CHEM 1A

40036 Lab 9:30-12:20 PM MW Yang BCC522 Berkeley

Lec 8:00-9:15 AM MW Yang BCC423 Berkeley

40445 Lab 3:00-5:50 PM MW Yang BCC522 Berkeley

This is a Hybrid Class. Lec 3 hrs/wk online; Lab MW 3:00 p.m. - 5:50 p.m., BCC 522. This class has both required in-person meetings and required online meetings. Students must be available to meet in-person for the days/hours listed for this section and may be required to log into their course site multiple times a week to complete the online learning activities as directed. To access Peralta e-mail and Canvas, please visit <https://web.peralta.edu/portal/>. Cost Cutter Alert: This course section uses only zero-cost course materials. Course materials are provided digitally free of charge. Printed materials are sometimes available for purchase.

Lec 1:30-2:45 PM MW Yeh BCC216 Berkeley

**** 1B GENERAL BIOLOGY**

Continuation of BIOL 1A

PREREQUISITE: BIOL 1A

40128 Lab 9:30-12:20 PM TTh DeHaan BCC513 Berkeley

Lec 8:00-9:15 AM TTh DeHaan BCC421 Berkeley

BIOL

5 UNITS

5 UNITS

Merit college (Peralta):

2 semester Majors course. Each 5 units each. **Total of 10 units**

5 units Anatomy, Physiology, and Microbiology

Course Number: BIOL 1A

General Biology

Units: 5

Class: 3 hours lecture, 6 hours laboratory (GR or P/NP)

Pre-requisite: Chem 1A

Acceptable for credit: CSU, UC

Description: Introduction to general biology: Cell structure and function, metabolism, molecular and organismal genetics, and animal physiology. 0401.00

AA/AS GE Area 1; CSU GE Breadth Area B2, B3; IGETC Area 5B, 5C C-ID: BIOL 135S (with BIOL 1B), BIOL 190

Course Number: BIOL 1B

General Biology

Units: 5

Class: 3 hours lecture, 6 hours laboratory (GR or P/NP)

Pre-requisite: Biol 1A

Acceptable for credit: CSU, UC

Description: Continuation of BIOL 1A: Origin of life, evolution, classification, plant structure and function, and ecology. 0401.00

AA/AS GE Area 1; CSU GE Breadth Area B2, B3; IGETC Area 5B, 5C C-ID: BIOL 135S (with BIOL 1A), BIOL 140

Diablo Valley College:

2 semester majors sequence. 5 units each. **Total of 10 units**

Title: BIOSC-130 - Principles of Cellular and Molecular Biology, 5 units

Prerequisite: CHEM-120 or equivalent Advisory: College-level reading and writing are expected. BIOSC-101 or BIOSC-102 or equivalents

Course Description

BIOSC-130

UC/CSU

This course is formed around the universal biological processes of all organismal life with an emphasis on the cellular level of organization and is intended for biology majors or other students with an in-depth interest in the biological sciences. Topics include principles of biomolecules, prokaryotic and eukaryotic cellular morphology and ultrastructure, biochemical pathways (photosynthesis and cellular respiration), enzymes, cellular communication and reproduction, classical and molecular genetics, gene control, embryology, immunology, and selected topics of animal physiology emphasizing homeostatic control mechanisms. The laboratory component focuses on methodologies necessary for analyzing molecular, cellular and genetic problems like microscopy, spectrophotometry, graphing and statistical analysis, as well as recombinant DNA technologies. C-ID BIOL 190, BIOSC-130+BIOSC-131= C-ID BIOL 135S, CSU, UC

Title: BIOSC-131 - Principles of Organismal Biology, Evolution and Ecology, 5 Units

Prerequisite: CHEM-120 (may be taken concurrently) or equivalent Advisory: College-level reading and writing are expected. BIOSC-101 or 102 or BIOSC-130 or equivalents

Course Description

BIOSC-131

SC

UC/CSU

This course is formed around three main biological principles: evolution, unity/diversity of life, and ecology and is intended for biology majors or other students with an in-depth interest in the biological sciences. The focus is on universal biological processes with emphasis on the whole organism and higher levels of organization. Evidence and mechanisms of evolution and speciation; evolutionary history and diversity of life; structure, function and evolutionary adaptations of organisms (including plants, fungi, animals, and unicellular organisms); general, population and community ecology; ecosystems and environmental concerns are covered. In laboratory, students will explore these themes with hands-on observations, dissections, laboratory activities and field exercises. BIOSC-130+BIOSC-131=C-ID BIOL 135S, CSU, UC

State Center Community College District: Locations: Madera

Community College, Oakhurst Community College Ctr

<https://selfservice.scccd.edu/Student/Courses/Search?subjects=BIOL>

BIOL-11A BIOL-SCI MAJORS I (5 Credits)

In the first course of a **two semester sequence of general biology for science majors**, students will study the chemistry of life, cellular structure, cellular metabolism- including photosynthesis, aerobic and anaerobic respiration, cellular communication, cellular division and its regulation, Mendelian genetics, biotechnology, and evolution. This course is intended for Science Majors and pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors.

PREREQUISITES: Chemistry 1A and Mathematics 103 or 3A or 5A or equivalent. **ADVISORIES:** English 1A or 1AH, Biology 10 & 10L or high school Biology. (A, CSU-GE, UC, I) (C-ID BIOL 190) (CID BIOL 135S BIOL 11A + BIOL 11B) Must be completed prior to taking this course.

Locations: Madera Community College, Oakhurst Community College Ctr,

BIOL-11B BIOL-SCI MAJORS II (5 Credits)

This course is the second course of a two-semester sequence of general biology for science majors. Students will study the origins of life, the evolutionary history of biodiversity, plant form and function, animal form and function, and ecology. This course is intended for science majors and pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors.

PREREQUISITES: Biology 11A and Mathematics 103. **ADVISORIES:** Eligibility for English 1A. (A, CSU-GE, UC, I) (C-ID BIOL 140) (C-ID 135S BIOL 11A + BIOL 11B) - Must be completed prior to taking this course.

2 semester CC courses that transfer to UCB, UCD, SFSU and SSU:

SF city college: Bio 110A and Bio 110B

UCB:

To: University of California, Berkeley 2022-2023 General Catalog, Semester	From: City College of San Francisco 2022-2023 General Catalog, Semester
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Biology

BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00) BIOLOGY 1AL - General Biology Laboratory (2.00)	← BIO 100A - General Biology (5.00)
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BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)	← BIO 100B - General Biology (5.00)

UCD:

To: University of California, Davis 2022-2023 General Catalog, Quarter	From: City College of San Francisco 2022-2023 General Catalog, Semester
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Biological Sciences

BIS 002A - Introduction to Biology: Essentials of Life on Earth (5.00)	← BIO 100A - General Biology (5.00)
BIS 002B - Introduction to Biology: Principles of Ecology & Evolution (5.00)	← BIO 100B - General Biology (5.00)
BIS 002C - Introduction to Biology: Biodiversity & the Tree of Life (5.00)	← BIO 100B - General Biology (5.00)
BIS 002D - Introduction to Biology: Principles of Cell Biology & Physiology (3.00)	← No Course Articulated

SFSU:

To: San Francisco State University 2022-2023 General Catalog, Semester	From: City College of San Francisco 2022-2023 General Catalog, Semester
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BIOL 230 - Introductory Biology I (5.00)	← BIO 100A - General Biology (5.00)
BIOL 231 - Advising for Success as a Biology Major (1.00)	← No Course Articulated
BIOL 240 - Introductory Biology II (5.00)	← BIO 100B - General Biology (5.00)

SSU:

To: Sonoma State University 2022-2023 General Catalog, Semester	From: City College of San Francisco 2022-2023 General Catalog, Semester
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<div><div>BIOL 130 - Introduction Cell Biology and Genetics (4.00)</div><div>--- And ---</div><div>BIOL 131 - Biology Diversity and Ecology (4.00)</div></div>	←	<div><div>BIO 100A - General Biology (5.00)</div><div>--- And ---</div><div>BIO 100B - General Biology (5.00)</div></div>
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Berkely city college (Peralta district): Bio 1A and Bio 1B

UCB:

To: University of California, Berkeley
2022-2023 General Catalog, Semester

From: Berkeley City College
2022-2023 General Catalog, Semester

Biology

BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00)

--- And ---

BIOLOGY 1AL - General Biology Laboratory (2.00)

← **BIOL 1A** - General Biology (5.00)

BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)

← **BIOL 1B** - General Biology (5.00)

UCD:

To: University of California, Davis
2022-2023 General Catalog, Quarter

From: Berkeley City College
2022-2023 General Catalog, Semester

Biological Sciences

BIS 002A - Introduction to Biology: Essentials of Life on Earth (5.00)

← **BIOL 1A** - General Biology (5.00)

BIS 002B - Introduction to Biology: Principles of Ecology & Evolution (5.00)

← **BIOL 1B** - General Biology (5.00)

BIS 002C - Introduction to Biology: Biodiversity & the Tree of Life (5.00)

←

BIOL 1A - General Biology (5.00)

--- And ---

BIOL 1B - General Biology (5.00)

- Complete entire sequence at same institution prior to transfer

BIS 002D - Introduction to Biology: Principles of Cell Biology & Physiology (3.00)

← No Course Articulated

SFSU:

For General Biology (BA)

BIOL 230 - Introductory Biology I (5.00)

--- And ---

BIOL 240 - Introductory Biology II (5.00)

- If the entire sequence is not completed prior to transfer, students must consult the department advisor prior to enrollment

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BIOL 1A - General Biology (5.00)

--- And ---

BIOL 1B - General Biology (5.00)

For Cell and Molecular Biology (BS)

BIOL 230 - Introductory Biology I (5.00)

--- And ---

BIOL 240 - Introductory Biology II (5.00)

- If the entire sequence is not completed prior to transfer, students must consult the department advisor prior to enrollment

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BIOL 1A - General Biology (5.00)

--- And ---

BIOL 1B - General Biology (5.00)

SSU:

To: Sonoma State University
2022-2023 General Catalog, Semester

From: Berkeley City College
2022-2023 General Catalog, Semester

BIOL 130 - Introduction Cell Biology and Genetics (4.00)

← **BIOL 1A** - General Biology (5.00)

BIOL 131 - Biology Diversity and Ecology (4.00)

← **BIOL 1B** - General Biology (5.00)

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Canada college (San Mateo CC district): Bio 225 and Bio 230

UCB:

To: University of California, Berkeley 2022-2023 General Catalog, Semester	From: Canada College 2022-2023 General Catalog, Semester
BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00) --- And --- BIOLOGY 1AL - General Biology Laboratory (2.00) --- And --- BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)	BIOL 225 - Biology of Organisms (5.00) --- And --- BIOL 230 - Cell and Molecular Biology (5.00)

UCD:

To: University of California, Davis 2022-2023 General Catalog, Quarter	From: Canada College 2022-2023 General Catalog, Semester
BIS 002A - Introduction to Biology: Essentials of Life on Earth (5.00)	← BIOL 230 - Cell and Molecular Biology (5.00)
BIS 002B - Introduction to Biology: Principles of Ecology & Evolution (5.00)	← BIOL 225 - Biology of Organisms (5.00)
BIS 002C - Introduction to Biology: Biodiversity & the Tree of Life (5.00)	← BIOL 225 - Biology of Organisms (5.00)
BIS 002D - Introduction to Biology: Principles of Cell Biology & Physiology (3.00)	← No Course Articulated

SFSU:

To: San Francisco State University 2022-2023 General Catalog, Semester	From: Canada College 2022-2023 General Catalog, Semester
BIOL 230 - Introductory Biology I (5.00)	← BIOL 230 - Cell and Molecular Biology (5.00)
BIOL 231 - Advising for Success as a Biology Major (1.00)	← No Course Articulated
BIOL 240 - Introductory Biology II (5.00)	← BIOL 225 - Biology of Organisms (5.00)

SSU:

To: Sonoma State University 2022-2023 General Catalog, Semester	From: Canada College 2022-2023 General Catalog, Semester
BIOL 130 - Introduction Cell Biology and Genetics (4.00)	← BIOL 230 - Cell and Molecular Biology (5.00)
BIOL 131 - Biology Diversity and Ecology (4.00)	← BIOL 225 - Biology of Organisms (5.00)

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Diablo Valley College (Contra Costa CC district): BIOSC 130 and BIOSC 131

UCB:

To: University of California, Berkeley 2022-2023 General Catalog, Semester	From: Diablo Valley College 2022-2023 General Catalog, Semester
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BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00) --- And --- BIOLOGY 1AL - General Biology Laboratory (2.00)	← BIOSC 130 - Principles of Cellular and Molecular Biology (5.00)
BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)	← BIOSC 131 - Principles of Organismal Biology, Evolution, and Ecology (5.00)

UCD:

To: University of California, Davis 2022-2023 General Catalog, Quarter	From: Diablo Valley College 2022-2023 General Catalog, Semester
BIS 002A - Introduction to Biology: Essentials of Life on Earth (5.00)	← BIOSC 130 - Principles of Cellular and Molecular Biology (5.00)
BIS 002B - Introduction to Biology: Principles of Ecology & Evolution (5.00)	← BIOSC 131 - Principles of Organismal Biology, Evolution, and Ecology (5.00)
BIS 002C - Introduction to Biology: Biodiversity & the Tree of Life (5.00)	← BIOSC 131 - Principles of Organismal Biology, Evolution, and Ecology (5.00)
BIS 002D - Introduction to Biology: Principles of Cell Biology & Physiology (3.00)	← No Course Articulated

SFSU:

To: San Francisco State University 2022-2023 General Catalog, Semester	From: Diablo Valley College 2022-2023 General Catalog, Semester
BIOL 230 - Introductory Biology I (5.00)	← BIOSC 130 - Principles of Cellular and Molecular Biology (5.00)
BIOL 231 - Advising for Success as a Biology Major (1.00)	← No Course Articulated
BIOL 240 - Introductory Biology II (5.00)	← BIOSC 131 - Principles of Organismal Biology, Evolution, and Ecology (5.00)

SSU:

To: Sonoma State University 2022-2023 General Catalog, Semester	From: Diablo Valley College 2022-2023 General Catalog, Semester
BIOL 130 - Introduction Cell Biology and Genetics (4.00) --- And --- BIOL 131 - Biology Diversity and Ecology (4.00)	BIOSC 130 - Principles of Cellular and Molecular Biology (5.00) --- And --- BIOSC 131 - Principles of Organismal Biology, Evolution, and Ecology (5.00)