IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2024**	Instructor Name:	**Peggy Brady**
Course Title & #:	**General Biology: Principles of Organismal Biology – Biol182**	Email:	peggy.brady@imperial.edu
CRN #:	**20408**	Webpage (optional):	**Canvas**
Classroom:	**2713**	Office #:	**2777**
Class Dates:	**2/12/24 – 06/07/24**	Office Hours:	**M: 9-10 am T: 11:30 -12:30 pm, W: 3-4 pm Th: 11:30-12:30 pm**
Class Days:	**T/Th**	Office Phone #:	**760-355-6202**
Class Times:	8:00 – 11:10 am	Emergency Contact:	peggy.brady@imperial.edu
Units:	4	Class Format/Modality:	Face-to-Face (On Ground)

Course Description

This is one of two entry-level courses designed for life science, biology, health care, and science education majors intending to transfer to four-year institutions. However, this course is open to all students. This course provides students an introduction to biology and the scientific method. Additionally, properties of life leading to genetic and biological diversity are studied. The course surveys evolutionary relationships, systematics, ecology, biological diversity, population regulation, and physiology of living organisms (Protista, Fungi, Plants, and Animals). Emphasis is on structure and function at the organismal level.(C-ID: BIOL 140, C-ID: BIOL 135 S w/BIOL 180 & BIOL 182) (CSU/UC)

Course Prerequisite(s) and/or Corequisite(s)

Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Illustrate an understanding of evolution through natural selection.

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Describe the biological characteristics of life, and demonstrate an understanding of cells, and levels of biological organization.
2. Understand the process of science and demonstrate an ability to test hypotheses.
3. Define biological evolution, and demonstrate an understanding of how genetic variation and natural selection influence biological diversity.

4. Define what plants are, and provide evidence of an understanding of plant evolution, development, structure, growth, reproduction, and selected physiological processes.
5. Describe what Fungi are, and provide evidence of an understanding of development, structure, growth, and reproduction within this phylum.
6. Define what Protists are, and provide evidence of an understanding of their characteristics, structure, diversity, and reproduction.
7. Demonstrate an understanding of animal diversity, ecology and evolutionary trends.
8. Demonstrate an understanding of animal form and function including physiological processes, development, and reproduction across phyla.
9. Demonstrate an understanding of animal nervous systems from the cellular level to integrated systems.
10. Demonstrate an understanding of the structure of muscles, and the sliding filament model theory.
11. Understand animal sensory systems.
12. Demonstrate an understanding of population growth and regulation.

Textbooks & Other Resources or Links

This class has two required books.
For Lab:

Biology Laboratory Manual
Edition: 13th
ISBN: 9781264137275
Author: Vodopich
Publisher: McGraw-Hill

This book is for sale at the IVC Bookstore. You will need a copy before your first lab. Physical or digital versions are both acceptable.

For Class:
Good news: your textbook for this class is available for free online! If you prefer, you can also get a print version at a very low cost.

Your book is available in web view and PDF for free. You can also choose to purchase on iBooks or get a print version via the campus bookstore or from OpenStax on Amazon.com.

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

Biology 2e from OpenStax, Print ISBN 1947172514, Digital ISBN 1947172522,
www.openstax.org/details/books/biology-2e

There are additional student resources available for this book as well and can be found on website listed above under “student resources”.

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Course Requirements and Instructional Methods

Class activities: This class will utilize lectures, videos, discussions, and other activities to aid your learning. You are expected to come to class having looked over the materials presented in the textbook. This will help you engage during the class. You have an obligation to the others in the class to participate in creating an excellent learning environment in our classroom.

Examples of learning activities you may see:

- Discussion of Questions/Videos/Other media
- Poll Questions using Poll Everywhere
- Online simulations or activities
- Case Studies
- Student led discussions of assigned topics
- Writing activities
- Brainstorming
- And Many More!

Lecture Exams: There will be 4 Lecture exams worth 100 points each (400 points total). Exams will happen at the end of class. Each exam will be given 70 minutes for completion with the exception of the final where you will have 90 minutes. These exams can include multiple choice, short answer, true/false, matching, and fill in the blank questions. You may be asked to read a passage and provide analysis based on your scientific understanding of the field. Figures from lecture and/or the textbook may appear. Be sure to bring a few writing utensils. Exams must be submitted in pen if the student wishes to request a regrade on a question.

Lab Exams: There will be 1 lab exam worth 100 points. It will be given during the laboratory time. You will have the entire time to complete them, but you may not need the entire lab period. These exams can include multiple choice, short answer, true/false, fill in the blank, and practical (application) questions. For some questions you may need to complete a task (such as take measurements) to answer the question.

There will be no makeup exams, except for extreme circumstances (ex. illness, emergency). If you have a valid and documentable reason for missing an exam it is your responsibility to inform me (the instructor) within 48 hours of the missed exam and provide documentation for the day of the exam. This must be done by email. Exceptions to this 48 hour timeline will only be allowed in cases where the student was incapacitated for this time (ex. Hospitalization). Without this you will be unable to make up the exam and will a grade of 0 will be entered into the gradebook. The makeup exam will be scheduled as soon as reasonably possible, typically within 1 week of the original exam. Failure to show up for the makeup will be treated the same way as missing the original exam day.

Lab worksheets: There will be 12 lab worksheets worth 25 points each (300 points total). Lab worksheets are due at the end of lab. Your lab group will be responsible for submitting your worksheet every week. You are responsible for making sure everyone's name is on the worksheet. Students must stay in lab until everyone in their lab group has completed the entire lab. Leaving before your lab group is done will result in a 0 for that lab assignment. The lab groups must also clean their lab area before leaving to receive full points for their lab assignments (up to 20% of points for the entire assignment can be deducted if the group leaves a messy lab station). These assignments cannot be made up because lab rooms are set up only for the day of the lab. Students may have one missed lab excused without documentation. Additional missed labs will require valid documentation to be excused from the assignment. This documentation must be provided by email within 48 hours of the missed lab. Exceptions to this 48 hour timeline will only be allowed in cases where the student was incapacitated for this time (ex. Hospitalization).

Mini project: There will be 1 mini project worth 50 points. This project will be assigned and completed during lab. See schedule.

Lab Research Project: Lab groups will complete a literature review research project in the laboratory section of the class. Students will come up with a complex question relating to Evolution by natural selection for one of the groups of organisms covered in the course and complete a literature review to try and answer their question. A presentation will be given during Week 16 to communicate their findings with the rest of the class. This presentation is worth 100 points. A rubric will be provided on Canvas during the second half of the course. All students must attended presentation day and stay through the presentations of their peers.

Participation Self-Assessments: There will be 5 self-assessments worth 10 points each (50 points total). These will be due every few weeks. They will be online and will be submitted through Canvas. Please be honest when filling out the assessments.

Spelling and grammar (within reason) count on all written assignments. If spelling or grammar impede my ability to understand your answer you will lose points.

Extra Credit: I often give extra credit in the form bonus questions on exams. These are never guaranteed. If I choose to do so, everyone will receive the same opportunities to earn the extra points.

Late Work: I do not accept late work without documentation.

Course Grading Based on Course Objectives

4 class exams - 100 points each
1 lab exam - 100 points
1 lab research Project – 100 points
1 mini project - 50 points
12 Lab worksheets - 25 points each
5 participation self-assessments - 10 points each

Total: 1000 points

Grade Breakdown:

- **A** 900 - 1000 points
- **B** 800 - 899 points
- **C** 700 - 799 points
- **D** 600 - 699 points
- **F** 0 - 599 points

Should I feel a grade adjustment is called for based upon the distribution of point totals across the entire class, I will adjust this grading scheme. However, anyone receiving ≥90% of all points is guaranteed at least an A, ≥80% of all points at least a B, and ≥70% of all points at least a C. The grade cutoffs might fall below these levels but will not be raised above them.

At the end of the term many students tend to email me asking me to round their grade. Decisions on grade adjustments, as per the policy above, are done once I can see the distribution of grades for the entire class. If any adjustments are made, they will be applied to all students in the course. Emailing me will not change your final grade. Because of this, I ask that you please refrain from emailing about grade adjustments.

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Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.
There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.
 Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
 Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.
 Reusing work submitted in previous courses. I expect all work done in my courses to be original work on the student. A student is not permitted to reuse work done in previous courses (whether done in another course entirely or if the student is retaking this course).
Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service; (f) using work from a previous course and submitting it for credit.

Course Policies

Attendance:

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See the General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette:

It is everyone's responsibility to create a fair, welcoming, productive, and collaborative learning environment. It falls on each of us to make sure the learning environment of our classroom is free from unnecessary distractions, personal attacks, and other disrespectful behavior. It is in your best interests and in the best interests of your fellow classmates to engage in each lesson to help us all achieve the learning goals set forth in the syllabus. Distracting and/or inappropriate behavior will be met with a warning and, if continued, will result in you being asked to leave the classroom until you are ready to engage with the material again.

Classroom Rules:

- No food or drink allowed during lab periods.
- Cell phones must be on silent and put away during the entire class period. Failure to do so will result in you being asked to leave. Cell phones are a distraction to you, me, and the other students in the class. If you need to take or make a call, please get up and return to class when you are done.
- No talking during lecture or other presentation portions of the class. It is distracting to everyone. If you have a question please raise your hand and I will happily address it. Students who continue to disrupt class after a warning will be asked to leave. Disciplinary procedures will be followed as outlined in the General Catalog.
- Due to college rules, no one who is not enrolled in the class may attend.

Additional Lab Safety Requirements:

Absolutely no food or drink (including water). If you need to drink water or eat you may step out and rejoin the class when you are done.

Wear closed toe shoes and other protective clothing. This is for your own safety.

Email Policy:

I will respond to emails within 1 business day. If a full business day has passed, send a follow-up email. Saturdays and Sundays are not business days. I do try to answer emails on the weekend, but I cannot guarantee them.

Tips to Help you Succeed!

1. Make sure you come on time to all lectures and labs! Arriving late or missing a class for any reason (excused or unexcused) can cause you to miss lecture and lab material, and will only put you at a disadvantage in this class.
2. Make sure you know what will be happening each day for class! Keep the class schedule handy.
3. Skim through or read the chapter before coming to lecture, and lab activities before coming to lab. You will have a general feel for the subject matter, which will help your understanding of the material during lecture. You will also be more prepared to do the lab activity, and you can perform it better, quicker, and will be able to easily understand what is happening in the lab.
4. Pay attention during lectures! I will say things during lecture that are not written on the PowerPoint slides or the board that will be on the exams. Make sure you take good notes during class. Don't just mindlessly write down word-for-word what is on the slides.
Listen to what I have to say, and take notes on that also!
5. Study, study, study! I will not attempt to tell you how much time you need to set aside for studying, as different students will require different amounts of time to meet their goals. Ideally, you should study in an area where there are no distractions (television, radio, computers, iPods, other people, etc.). However, you should also spend time studying in groups. Nothing makes you learn the material better than having to explain it to someone else!
6. Don't cram! It's better to spend some time each week studying as compared to saving it all until the night before the exam (research really backs this up).

7. It is not enough just to memorize facts! On the exams, you will be responsible for using the information learned and applying it to new situations. You need to understand what these facts mean!

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.
If you are experiencing illness (physical or mental) the health center is here for you! They can be found here: https://www.imperial.edu/student-support/student-health-center/
Notes from the health center are one form of documentation accepted for excused absences. Remember they must excuse you from the day you missed the exam/lab to be accepted.

Anticipated Class Schedule/Calendar

Week	Lecture Topic & Associated Textbook Reading	Lab Topic and Associated Lab Manual text
Week 1 Feb 12-16	Course Orientation; What is an Organism? Chapter 1 - The Scientific Study of Life – Scientific Method Chapter 2 - The Chemical Foundation of Life	Lab Safety and Expectations – page xiii Measurements in Biology – Procedure 2.1, 2.3, 2.5 - 2.6 Scientific Method – Procedure 1.1-1.3
Week 2 Feb 19-23	Chapter 3 – Biological Macromolecules Chapter 4 – Cell Structure	The Microscope – Procedure 3.1-3.3, 3.5 Cells – Procedure 4.1, 4.8
Week 3 Feb 26 – March 1	Chapter 5.1-5.3 – Structure and Function of Plasma membrane Chapter 6.1; 6.4 – Metabolism and ATP Chapter 7.1-7.4 – Cellular Respiration **Participation Self-Assessment 1 Due Tuesday by 11:59 pm**	Diffusion and Osmosis – Procedure 9.1-9.5
Week 4 March 4-8	Chapter 8 Photosynthesis Chapter 10 Cell Reproduction	Cell Reproduction – Procedure 14.1-14.4
Week 5 March 11-15	Chapter 21 – Viruses **Lecture Exam 1 (Weeks 1-4)**	Mini project: Science writing and the scientific method
Week 6 March 18-22	Chapter 18 – Evolution and the Origin of Species Chapter 19 – The Evolution of Populations Chapter 20 – Phylogenies and the History of Life **Participation Self-Assessment 2 Due Tuesday by 11:59 pm**	Evolution – Procedure 18.1-18.4
Week 7 March 25-29	Chapter 22 – Prokaryotes: Bacteria and Archaea Chapter 23 – Protists	Protist Diversity Lab – Procedure 25.1, 25.3; 26.1, 26.6
Spring Break	NO CLASS	No class
Week 8 April 8-12	Chapter 25 – Seedless Plants Chapter 26 – Seed Plants Chapter 30 – Plant Form and Physiology	Plant Diversity Lab – Procedure 28.4, 30.1, 31.1

Week	Lecture Topic & Associated Textbook Reading	Lab Topic and Associated Lab Manual text
Week 9 April 15-19	Chapter 24 – Fungi **Lecture Exam 2 (Weeks 5-8)** **Participation Self-Assessment 3 Due Tuesday by 11:59 pm**	Fungi Diversity Lab – Procedures TBD Lab project Introduction and Group Formation – Determining a Question
Week 10 April 22-26	Chapter 27 – Introduction to Animal Diversity	**Lab Exam (Weeks 1-9)**
Week 11 April 29–May 3	Chapter 28 – Invertebrates Chapter 29 - Vertebrates	Animal Diversity Lab – Procedure 36.2, 37.1, 40.1
Week 12 May 6-10	Chapter 33 – Animal Body: Basic Form and Function Chapter 40 – The circulatory system **Participation Self-Assessment 4 Due Tuesday by 11:59 pm**	Lab project Literature Search – What is peer reviewed literature and where to find it?
Week 13 May 13-17	Chapter 35- Nervous System Chapter 36 – Sensory Systems **Lecture Exam 3 (Weeks 9-12)**	Human Biology – Sensory Perception – Procedure 46.1 – 46.4, 46.7, 46.12
Week 14 May 20-24	Chapter 38 – Musculoskeletal Systems Chapter 44 – Ecology and the Biosphere	Human Evolution – Skeletal System – Skull Examination – Procedure 19.1-19.4
Week 15 May 27-31	Chapter 45 – Population and Community Ecology Chapter 47 – Conservation Biology and Biodiversity **Participation Self-Assessment 5 Due Tuesday by 11:59 pm**	Lab Project Good Science Communication and Creation of your Presentation
Week 16 June 3-7	**Lecture Final Exam 4 (Weeks 13-15 + Lab weeks 11 – 15)**	**Lab Project Presentations**

*****Subject to change without prior notice*****

Instructor Introduction

Hello! It's so wonderful to meet you! I know sometimes instructors can seem intimidating so I want to take some space to introduce myself and showcase that I'm just another person you will be interacting with.

My name is Peggy. You can call me Peggy, Dr. Brady, Professor Brady, Dr. Peggy, Professor Peggy, whichever of these you are most comfortable with! It has been my privilege to be involved in undergraduate education for the last 6 years. During my time in graduate school, I've been involved in classes ranging from general biology to disease ecology from systematics to comparative anatomy! I studied at UC Santa Cruz where I received my Bachelor of Science degree in General Biology. After that, I attended CSU Sacramento and obtained a Master of Science degree in Ecology, Evolution, and Conservation Biology. It was at CSU Sacramento that I developed a love for teaching science. Finally, I attended UC Riverside where I earned a PhD in Evolution, Ecology, and

Organismal Biology. Over my time in graduate school, I've conducted research centered on kin selection in fruit flies and mammalian phylogenetics. I'm happy to discuss any of these experiences with you or answer questions you may have about higher education in biology. My office hours are a great time for these kinds of questions. I'm looking forward to meeting all of you soon!

This is a picture of me standing next to Max Mastodon! Max is a Pacific Mastodon who is typically on display at the Western Science Center in Hemet CA. He has his own twitter page @MaxMastodon if you want to learn more about this fossil!