



Biology Department

Introduction to Biology (Biology 1003) Syllabus

(4 Units)

Fall 2024

“Whatever you do, work at it with all your heart, as working for the Lord.” (Colossians 3:23)

“Test all things; hold fast what is good.” (1 Thessalonians 5:21)

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| Instructor Title & Name: | Professor Kerri Sevenbergen, M.S. (You may call me Prof. Seven) (Pronouns: She, Her, Hers) |
| Lecture Time & Location: | MWF 11:00–11:55 am in Starkey B 100 |
| Lab Section Times & Location: | Lab Section 1: W 1–3:30 pm in Sator Hall 120 Lab Section 2: W 3:45–6:15 PM in Sator Hall 120 |
| Final Exam Day & Time: | Monday, December 16 @ 10:30am–1pm |
| Email: | ksevenbe@pointloma.edu |
| Phone: | 619-849-2603 (or x2603 on a campus phone) |
| Office Location: | Rohr Science 152 (Access via Biology Suite doors RS 130 or 180) |
| Office Hours: | Mondays 1:30-2:30 pm & by appt ; Zoom is also an option |

Office Visiting Hours: My office hours are **OPEN**, stop by anytime that I am not in Bio 1003 lecture or lab (individually or in small groups). If my door is open, I am either in my office, or will return soon. If I am unable to meet with you when you stop by, or you need to meet at a very specific time, we can schedule an appointment at your convenience. *Please don't hesitate to **stop in, call, or email me** for questions or to set up an appointment.*

My Commitment to You

I am here to help you in whatever way you need. Feel free to come to me with questions about the course, your life, your future, your career, or anything else that comes up. **You all matter greatly to me!**

PLNU Mission To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

General Education Mission

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

COURSE DESCRIPTION

- This course is one of the components of the Foundational Explorations Program at PLNU, under the category of "Exploring an Interdependent World." By including this course in a common educational experience for undergraduates, the faculty supports an introduction to the natural and social sciences as tools for exploring the world, with emphasis on collecting and interpreting empirical data for both theoretical and practical purposes.
- This course is designed to promote understanding of diverse subject areas in biology, both for the personal growth of each student, and to meet the California Multiple Subject Teaching Credential requirements for teaching K-8 for students who are pursuing a career in education.
- This course explores major themes in these subject areas as they relate to everyday life, ethical concerns, conservation issues, common alternate conceptions, and the convergence of science and faith.
- Course lecture and lab activities are designed to provide multiple opportunities for students to learn and to apply the major unifying ideas and to learn how scientific inquiry operates within the field of biology.
- The Biology 1003L laboratory is a co-requisite for Bio 1003 lecture. Students enrolled in Bio 1003 must be enrolled in Bio 1003L, and vice versa. If Bio 1003 is dropped, Bio 1003L must also be dropped.

COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a **4 unit class** (3 lecture units, 1 lab unit) delivered over 15 weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. For this course, students will spend an estimated 150 total hours meeting the course learning outcomes. Thus, ***please plan roughly 10-11 hours per week into your schedule for this class.*** Time estimations for assignments are also provided in the Canvas modules.

REQUIRED TEXTS AND EQUIPMENT

- **Belk & Borden Maier.** 2019. *Biology: Science for Life with Physiology*. 6th ed. Pearson. along with the **access code for MyLab and Mastering Biology**. There are various options for this. **Choose the one that works best for you that includes one of the versions of the textbook (paperback, loose leaf, or etext) and the Pearson Mastering Biology subscription.** There is a trial period, if you wish to start there, but remember to purchase it after the trial is over. Discounted pricing is available through the PLNU bookstore.
- **Haarsma & Haarsma.** 2011. *Origins: Christian Perspectives on Creation, Evolution, and Intelligent Design*, Faith Alive Christian Resources. 2nd ed. ISBN 9781592555734. (Make sure to get the **newest** edition. There is a [kindle version](#) as well.) You may share a book with another student as long as both of you are able to read the chapters on time.
- **iClicker2 Remote:** **Do NOT purchase a remote.** I have a class set of them that we will use.
- Laptop or iPad for some lecture or lab activities
- **PLNU email address** (You are **required to check your PLNU email address at least once DAILY** for class updates. Please do this even if you have other email accounts.)
- **#2 pencils**, which should be brought to **EVERY** quiz and exam.

*This course is part of our **course material delivery program, LomaBooks**. The bookstore will provide each student with a convenient package containing all required physical materials and all digitally delivered materials will be integrated into Canvas. You should have received an email from the bookstore confirming materials provided for each of your courses and asking you to select how you would like to receive any printed components (in-store pick up or home delivery). If you have not done so already, please confirm your fulfillment preference so the bookstore can prepare your materials.*

For more information about LomaBooks, please go: [HERE](#)

CANVAS NAVIGATION RULES

Canvas is your complete detailed guide for progressing through the course. The modules for this course represent the various biology topics we will be discussing this semester. The modules should be completed in order. Within each module, assignments should be completed starting with the first item in the module, and moving in order sequentially through the rest of the assignments.

Do NOT skip around or complete assignments out of order. **Please do NOT navigate solely by the Canvas To Do List or Canvas Calendar, which do not show all of the assignments within a module.** Each assignment/lecture builds on the previous assignments, and all are designed to enhance learning. **You will earn higher grades by moving through modules in the order presented in Canvas.** Students who jump around within the module do not do as well and often feel very confused about the material.

GENERAL EDUCATION LEARNING OUTCOME

Selected questions on the final exam will be used to assess General Education Learning Outcome 1d. Critical Thinking: Students will be able to examine, critique, and synthesize information in order to arrive at reasoned conclusions.

COURSE SPIRITUAL OUTCOME

I would like us to work together to create an atmosphere in this class that embodies the verses:

“You shall love your neighbor as yourself.” (Matthew 22:39)

“The stranger who dwells among you shall be to you as one born among you, and you shall love him as yourself; for you were strangers in the land of Egypt.” (Leviticus 19:34)

“Do nothing from selfish ambition or empty conceit, but in humility regard others as better than yourselves. Let each of you look not to your own interests but to the interests of others. Let the same mind be in you that was in Christ Jesus.” (Philippians 2:3-5)

To this end, **we will be thinking about how we can help each other succeed in this class and beyond, both academically and spiritually**, and how we can take responsibility for each other’s achievement

COURSE LEARNING OUTCOMES

By the end of this course, you will be able to

1. **demonstrate** an understanding of **major unifying ideas in biology** represented by

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| S | Living systems at all levels are interconnected and interacting. |
| T | Information is stored, transferred , and expressed at the cell, organ and system level. |
| E | The diversity of life changes over time (evolved) by processes of the environment acting on variation, and other types of genetic change. |
| M | Matter and energy are transformed within cells, organisms and ecosystems. |
| S | Basic units of structure define the function of living organisms and their components at all levels. |

2. **apply** the processes and methods of scientific inquiry (both hypothesis testing and discovery science) to address biological problems and to skeptically evaluate scientific information,
3. **recognize** the societal role and impact of biological research,
4. **use** basic laboratory equipment including graduated cylinders, microscopes, and scales to test hypotheses,
5. **prepare** graphs to present data, interpret data, and draw conclusions based on data.

ASSESSMENT AND GRADING

This course operates on an objective point system. Each exam and assignment is worth a maximum number of points. Points will be summed within their category and weighted according to the percentages shown in the chart below. The Bio 1003L laboratory is a co-requisite for Bio 1003. Your grade for Bio 1003 and Bio 1003L will be calculated together and the same grade applied to both.

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|---|-------------|
| Lecture Participation & Assignments (iClicker points, Lecture Activities, Homework Assignments, Professionalism, Etc) | 20% |
| Origins Book Assignments & Quizzes | 5% |
| Laboratory Assignments & Participation | 25% |
| Lecture Quizzes (Cumulative; Lowest score dropped) | 10% |
| Midterm Exams (Cumulative) | 20% |
| Final Exam (Cumulative) | 20% |
| Total = | 100% |

Student grades will be posted in Canvas. It is important to **read the Canvas assignments comments** posted in the grade book or attached to an assignment as these comments are intended to help students improve their work. Perfect attendance, punctuality, class participation, professionalism, and respectful behavior towards fellow students and the instructor throughout the semester will be looked upon highly and taken into account for borderline grades. Final grades will be posted within one week of the end of the class. Grades will be based on the following:

| A | | B | | C | | D | | F | |
|----------|--------|----------|-------|----------|-------|----------|-------|----------|--------------|
| A | 93-100 | B+ | 87-89 | C+ | 77-79 | D+ | 67-69 | F | Less than 59 |
| A- | 90-92 | B | 83-86 | C | 73-76 | D | 63-66 | | |
| | | B- | 80-82 | C- | 70-72 | D- | 60-62 | | |

Late Assignments: Assignments which are turned in late will be graded as follows: **2% reduction per day for the first week late, and 4% reduction per day for the 2nd week late. No homework or lecture assignments will be accepted after being 2 weeks late. Lab reports must be submitted before you leave the lab for the day, and no late submissions will be accepted.**

Professionalism modifier: In rare cases, grades may go up or down based on compliance with course policies and general class citizenship. Grades may change upward or downward by as much as one letter grade. Letter grades before the professionalism modifier will be assigned according to the scheme described above. In particular, being late to class, leaving class early, missing class altogether, refusing to participate in class, coming to class unprepared, turning in assignments late, and disrespectful behavior will result in loss of points in the appropriate grade category.

Note: Please use the Syllabus link in the Canvas navigation pane to find a link to a schedule of all assignments and their due dates. Please update your calendar now with the due dates for all major quizzes, exams, and assignments.

LEARNING OPPORTUNITIES AND ASSIGNMENTS

EXAMS AND QUIZZES

Students are expected to take the exams **on the day scheduled** unless they have a valid university-approved excuse cleared by me no later than the Friday preceding the exam. If there is an approved conflict you will be expected to take the exam **prior** to the scheduled time. Makeup exams may not be the same as the original and will generally be more difficult in nature. Unexcused missed quizzes and exams will result in a zero grade. **All exams and quizzes are cumulative**, and are typically multiple choice. I will supply chapter study guides on Canvas for each exam, which will aid in directing (but should not limit) your study efforts. You will be allowed to drop your lowest quiz score, but all exams count towards the final grade.

LABORATORY ASSIGNMENTS

Participation in laboratory experiments is **mandatory**, and **laboratory partners should each contribute equally to the required work for each lab assignment**. You are expected to **stay for the entire scheduled laboratory period until dismissed by the instructor**. We will often have a closing discussion towards the end of class. If you are late or do not stay for the entire lab period you will NOT get credit for missed portions of the lab reports, lab discussions or lab quizzes (can occur at the beginning, middle, or end of lab). Most often, laboratory reports are finished within the laboratory session and should be turned in at the end of that session, unless you are otherwise instructed by your laboratory professor. On occasion, you may be asked to work on a part of your lab assignment as pre-lab or post-lab homework.

MASTERING BIOLOGY ASSIGNMENTS

The Mastering Biology assignments, which were created by the publisher and authors of our textbook, are important for practicing the material individually, and illuminating areas that need more attention and studying. Roughly each week, there will be an online Mastering Biology assignment to be completed typically by the end of the week (but see concrete due dates in Canvas). You should always read the assigned textbook chapter(s) before working on the Mastering assignment for each module. While the initial assignment submission should be turned in on time, you are allowed multiple attempts so that you may improve your score if you wish. **Re-submissions do not need to be done by the original due date**; they just need to be done before finals week. I often draw from these questions for quizzes and exams. The MyLab and Mastering Biology subscription also provides wonderful study tools.

EDPUZZLE ASSIGNMENTS

The Edpuzzle program allows me to insert questions into a video to quiz students on the material in real time. Each week, there will be a few puzzle video assignments. Some will pertain to the material we are covering in lecture while some may be pre-lab or post-lab assignments. You should always read the assigned textbook chapter(s) or any assigned lab introduction documents before working on the corresponding Edpuzzle assignment for each module. If you are unsure of the answer for a question, **you can click Rewatch to review the last 20 seconds or so of the video**. I would highly suggest taking some notes during the videos that will assist you in learning the material, especially for answers that are incorrect that you wish to improve upon. **Edpuzzles may be retaken for a higher score, which can be done immediately if you don't leave the assignment window**. If you do close the assignment, it will no longer be automatic. You will then need to copy and paste the exact title of the Edpuzzle video you want to retry and email it to me. I will then reset it for you! **Retakes do not have to be completed by the original due date**. Just don't forget to do them if you ask me to reset them. :-)

ORIGINS BOOK ASSIGNMENTS

Throughout the semester, you will be assigned chapter readings from the Haarsma & Haarsma book, *Origins: Christian Perspectives on Creation, Evolution, and Intelligent Design*. We will have some class discussions about this book. It is a well-written sensitive book about how science, particularly evolution, and faith can both be blessings to Christians. There will be three in-depth, open book quizzes about these readings, during which you can use the book for reference. Although you may reference the book during the quizzes, you will need to have completed the assigned reading ahead of time, since the quizzes are timed. You will also be held responsible for the content on exams. I greatly encourage you to be faithful in reading this book, which will be a wonderful spiritual compliment to our discussions of scientific theories.

GENERAL WRITTEN ASSIGNMENTS GUIDELINES

Please note that ALL written assignments, such as lab reports and in-lecture assignments that require detailed explanations, must contain PROPER, FULL sentences unless otherwise indicated. Where possible, assignments should be typed. This is part of functioning as a professional. All assignments are to be **submitted by the beginning of the class session when they are due**—including assignments posted in Canvas.

IClicker USE FOR PARTICIPATION AND ATTENDANCE

I use iClicker2 Remotes for participation points and for real-time assessment for both you and me. **Students who arrive to class on time will receive an extra credit point when clicking in at the beginning of class. Clicking at least once during the lecture or lab session will show that you were present at least for that portion of the class.** I have a set of iClicker remotes, which I will assign to each student. **You should pick up your remote at the beginning of class and return it to my container before you leave. If you do not return your remote, you will be charged for a replacement. Please do not use another student's iClicker for them.** You may only enter submissions on your assigned iClicker remote.

I lecture in a semi-discussion style manner. Thus, I hope that everyone will be willing to participate in the discussion through small group activities, and asking and answering questions. I realize that this is a large class, and therefore it is hard to directly participate all the time, particularly if you tend to be shy. Thus, I employ the use of iClicker2 Remotes and will have questions throughout the course that you must answer using this app. **Generally I am looking for thoughtful participation. You will receive 1 point participation credit each time you answer the iClicker questions, regardless of whether or not you give the correct answer. However, to encourage thoughtful active learning, I will give 0.5 extra credit points for correct answers.** You should read assigned readings before lecture so that you can participate effectively, to be able to answer iClicker questions that may be based on the reading, and for your own learning benefit. It has been demonstrated numerous times and in numerous ways, that reading ahead of attending the lecture greatly enhances your understanding of the material, even if you didn't understand everything as you were reading it.

COURSE AND PLNU POLICIES:

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the [Traditional Undergraduate Records: Final Exam Schedules](#) site, and is listed on the first page of this syllabus. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, NO requests for alternative final examinations will be granted. Please mark the date of the final exam on your calendar today!

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU & BIOLOGY 1003 ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See [Academic Policies](#) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

You should arrive to class on time, which means at least 5 minutes early!! Tardiness is extremely disruptive and disrespectful to both the instructor and your fellow students. Given the fact that our class is after chapel, you have plenty of time to make it to class at least 5 minutes early. **Plan accordingly for the challenging parking on campus, and build that time into your schedule if you are a commuter. Please be respectful in this! Full attendance on any day assumes that you are present for the whole class.** University Excused absences must be discussed with me ahead of time. Lab absences cannot be made up unless previously arranged. It highly benefits your grade to attend all lectures and labs and to be on time!!!

In order to create the best learning environment possible, the mutual respect and willing participation of every student is essential. All students should work in groups when asked to do so. In lecture, you may be asked to work in groups of your choice, or I may assign groups. In lab, I often assign lab partners and groups. I often shuffle the groups on occasion during the semester. **You may be surprised how much you can learn from one another, especially from people who you may not have known previously and have a different background from you.**

We will do a lot of group work in this class, and I encourage you to learn from the diversity of your classmates. However, when you work together, each member of the group should be contributing to the final product, and each person must hand in their own homework. Each assignment must be written in your own words, and no electronic files should be exchanged. Work together, contribute to the final product, and don't copy another person's work.

Although this is a Christian institution and one would hope that there are no instances of academic dishonesty, **this class has a zero tolerance policy for academic dishonesty.** Cheating or plagiarizing will result in an automatic failure of the assignment and referral to the Dean of Academic Affairs. In addition, if you use someone else's ideas, you will not get the benefit of figuring the assignment out on your own, which will greatly decrease your chance of success on the exams. Talking with a neighbor or using a cell phone during an exam or quiz is not allowed and may result in a zero grade for that assignment.

ARTIFICIAL INTELLIGENCE POLICY

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc) to generate ideas, but the use of AI tools to generate content that will end up in **any graded assignments in this course is NOT permitted**, especially on the *Origins* book assignments. Unauthorized use of these AI tools will be treated as plagiarism.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. **Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose.** Violations of university academic honesty include cheating, plagiarism, falsification, aiding the academic dishonesty of others, or malicious misuse of university resources.

NOTE: Violations of academic honesty also **include using notes or any other materials from previous offerings of this course, providing course materials from this semester to future students of this course, copying from or providing to other students any portion of course assignments (sharing files), signing in for class (via a sign-in sheet or iClicker) under a name other than your own, using another student's iClicker for them, or allowing other students to use your iClicker for you.**

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. The EAC makes accommodations available to professors at the student's request.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any special accommodations.

USE OF TECHNOLOGY

In order to be successful in an active learning environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information. Additionally, students are required to have headphone speakers compatible with their computer available to use. If a student is in need of technological resources please contact student-tech-request@pointloma.edu.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your classwork.

Unauthorized use of a cell phones or any other electronic device during class on any assignment without express permission or instruction to do so, especially on quizzes or exams, is grounds for failure of that assignment. **Please, NO texting during class or lab, as it distracts both you and the people working with you on group activities.**

LAPTOP POLICY

Laptops will be used weekly in lab. In the classroom, however, laptops tend to interfere with your education and can serve as a distraction for your neighbors. Numerous studies (some highlighted here) have confirmed that classroom laptop use can be detrimental to learning. For this reason, I do not allow the use of laptops or other electronic devices in the classroom, except for very specific activities of my design.

1. Laptops and other electronic devices enable more than just note-taking, introducing numerous distractions (web-surfing, homework for other classes, social media, etc.) for you and your neighbors. You may think that you can multitask, but studies show you can't. [Multitasking while studying: Divided attention and technological gadgets impair learning and memory.](#)
2. As already mentioned, using your laptop in class can be less than neighborly. Your classmates' grades can also suffer due to the distracting pull of the laptop. [Laptop multitasking hinders classroom learning for both users and nearby peers - ScienceDirect](#)
3. Writing is a more effective way of learning material than is typing. With typing, each letter is pretty much the same thing for the brain. Writing, however, uses different muscle groups with each word and encourages the brain to integrate material during the writing process. Typing may be easy and fast, but by making the brain passive, it discourages learning. [Attention, Students: Put Your Laptops Away](#)
4. Using electronic devices in class also impairs long-term retention, with one study suggesting that cellphone use in class can lower one's grade by half a letter grade. [In-class cellphone and laptop use lowers exam scores, a new study shows](#)

PLNU RECORDING NOTIFICATION

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel. Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

LANGUAGE AND BELONGING

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced a bias incident regarding language, you can find more information on reporting and resources at www.pointloma.edu/bias.

CONTENT WARNING

I acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive various types of information. In BIO1003/BIO1003L, all of the class content, including that which may be intellectually or emotionally challenging, has been intentionally curated to achieve the learning goals for this course. The decision to include such material is not taken lightly. These topics include discussions of bioethics, biotechnology, evolution, and the influence of biology and the environment on behavior, fertility, and gender. We will also discuss several diseases which may have affected you or your loved ones. If you encounter a topic that is intellectually challenging for you, it can manifest in feelings of discomfort and upset. In response, I encourage you to come talk to me or your friends or family about it. Class topics are discussed for the sole purpose of expanding your intellectual engagement with Biology topics, and I will wholeheartedly support you throughout your learning in this course.

TRIGGER WARNING

I acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive various types of information. In BIO1003/BIO1003L, we will cover a variety of topics, some of which you may find triggering. These topics include discussions of bioethics, biotechnology, evolution, the influence of biology and the environment on behavior, fertility, and gender, and diseases which may have affected you or your loved ones. The experience of being triggered versus intellectually challenged is different. The main difference is that an individual must have experienced trauma to experience being triggered, whereas an intellectual challenge has nothing to do with trauma. If you are a trauma survivor and encounter a topic in this class that is triggering for you, you may feel overwhelmed or panicked and find it difficult to concentrate. In response, I encourage you to take the necessary steps for your emotional safety. This may include leaving class while the topic is discussed or talking to a therapist at the Counseling Center. Should you choose to sit out on discussion of a certain topic, know that you are still responsible for the material; but we can discuss if there are other methods for accessing that material, and for assessing your learning on that material. Class topics are discussed for the sole purpose of expanding your intellectual engagement with Biology topics, and I will wholeheartedly support you throughout your learning in this course.

SEXUAL MISCONDUCT AND DISCRIMINATION

Point Loma Nazarene University faculty are committed to helping create a safe learning environment for all students. If you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that help and support are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, it is required to disclose information about such misconduct to the Title IX Office. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix.

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#).

STRATEGIES FOR DOING WELL IN BIOLOGY 1003

- **Complete the assigned reading and other pre-class assignments before each class for both lecture and lab.** Sometimes this is a whole chapter or a combination of pieces from one or more. There also may be video clips or pre-class quizzes designed to prime your brain for learning during class. Come prepared to class (e.g., homework ready, assigned reading done, wearing appropriate outdoor clothing for field trips, etc.), especially to lab sessions.
- Show up on time to lecture/lab and take good notes. Remember to bring any required materials or handouts with you to class.
- Make sure that you understand the meaning and **application** of all the terms shown in bold within the textbook reading and any extra terms or definitions I've introduced in lecture. Make sure that you do not merely memorize information, but that you **understand the underlying concepts and how they connect with other topics we have covered**.
- Check that you understand what is being shown in the diagrams that we discuss. **Without looking at your lecture notes, try to explain what is happening in a particular diagram** to a friend or tutor.
- Good review tools are the textbook chapter summaries and applicable questions in learning the basics and analyzing and applying the basics at the end of the chapters. It is also wise to review iClicker lecture questions and do well on Mastering assignments. **These are the kinds of questions that will be in the exams.** Also, Mastering Biology has a **Study Area** that can be used for practice and self-assessment before an upcoming quiz or exam. Scores on these practice study modules do not enter the gradebook; thus, you will not see a link for them within Canvas. **In order to access the Study Area, while in our Canvas course, click on the Access Pearson link in the Navigation pane, and then click on the Open Pearson button. On the MyLab and Mastering button page, scroll through the Student Links until you find the Study Area link,** and then choose from the available textbook chapters.
- There is no fault in seeking study help. **Dedicated students take advantage of all avenues of learning.** There are many places to gain assistance or study skills: your peers, me, tutors at the University Tutorial Center, or sites like http://www.pointloma.edu/Tutorial_Services.htm.

- **Don't wait until the last minute to study for quizzes and exams.** Study your notes and read your text and other materials frequently, not just before exams. Make a commitment to spend at least 60 minutes studying each day, and the exams will be easier.
- My expectation is that, on whatever you are asked to do in this class, you will do your very best. Your positive attitude and respect for everyone else in the classroom are very important! If you take seriously these expectations and give it your best shot, you're going to have a great time in this course, and you will contribute to a positive experience for other students as well.
- Ask questions, email me, set up a zoom meeting, call me!! I am here to help. I do not say this lightly. I love helping students understand biology, which is a passion of mine.

God bless, and enjoy biology!
Prof. Seven

BIO 1003 FA24 Course Schedule

| Week | Day | Date | Lecture Topic / Assignment | Textbook Reading (Complete before class) | Lab Activities |
|------|-----|--------|---|---|--|
| 1 | M | Sep-02 | Labor Day Holiday (No Classes) | Syllabus and Lab Safety Contract & Associated Quizzes | * Syllabus Intro ; Characteristics of Living Things * Lab : Louis Pasteur Experiment (Part 1) |
| | W | Sep-04 | Intro to Scientific Method | Ch 1 pg 2-7 | |
| | F | Sep-06 | Intro to Scientific Method | Ch 1 pg 7-15 | |
| 2 | M | Sep-09 | Intro to Scientific Method | Ch 1 pg 16-29 | * Lab : Intro to Macromolecules |
| | W | Sep-11 | Basic Chemistry for Biology | Ch 2 pg 30-37 | |
| | F | Sep-13 | Macromolecules of Life | Ch 2 pg 37-48 | |
| 3 | M | Sep-16 | Macromolecules of Life | Ch 3 pg 49-57 | * Lab : Enzyme Activity & Denaturation |
| | W | Sep-18 | Macromolecules of Life | Ch 4 pg 69-72 | |
| | F | Sep-20 | Macromolecules of Life | Ch 3 pg 49-57 | |
| 4 | M | Sep-23 | QUIZ #1 ; Nutrition | Ch 3 pg 49-57 | * Lab : Louis Pasteur Experiment (Part 2) * Lab : Cell Structure and Microscopes |
| | W | Sep-25 | Cell Membrane Structure & Function | Ch 3 pg 57-64 | |
| | F | Sep-27 | Transport Across Cell Membranes | Ch 3 pg 64-68 | |
| 5 | M | Sep-30 | Transport Across Membranes | Ch 3 pg 64-68 | * Lab : Diffusion & Osmosis |
| | W | Oct-02 | Transport Across Cell Membranes | Ch 3 pg 64-68 | |
| | F | Oct-04 | ATP & Cellular Respiration | Ch 4 pg 69-74 | |
| 6 | M | Oct-07 | QUIZ #2 ; Cellular Respiration | Ch 4 pg 75-77 | * Lab : Tissues & The Digestive System Before lab, read Chapters 18 & 19.1 Bring textbook to lab. |
| | W | Oct-09 | Cellular Respiration | Ch 4 pg 77-85 | |
| | F | Oct-11 | Photosynthesis & Vascular Plant Structure | Ch 25 | |
| 7 | M | Oct-14 | ***** MIDTERM EXAM #1 ***** | --- | * Lab : Photosynthesis Leaf Disk Assay |
| | W | Oct-16 | Photosynthesis | Ch 5 pg 93-99 | |
| | F | Oct-18 | Photosynthesis & Plant Adaptations | Ch 5 pg 99-106 | |
| 8 | M | Oct-21 | DNA Structure, Function, & Technology | Ch 6 pg 107-112; Ch 9.3 | * Lab : DNA Structure & Mitosis (Ch 6) |
| | W | Oct-23 | Cell Cycle & Mitosis | Ch 6 pg 113-119 | |
| | F | Oct-25 | Fall Break (No Classes) | --- | |
| 9 | M | Oct-28 | Mitosis & Cancer | Ch 11 pg 206-215 | * Lab : Meiosis & Human Reproduction Before lab, read Chapters 7 & 23. |
| | W | Oct-30 | Meiosis | Ch 7 pg 124-131 | |
| | F | Nov-01 | Meiosis & Human Reproduction | Ch 7 pg 132-140 | |
| 10 | M | Nov-04 | QUIZ #3 ; Meiosis & Chromosome Abnormalities | Ch 23 | * Lab : Natural Selection (Ch 12) |
| | W | Nov-06 | Genetics | Ch 8 | |
| | F | Nov-08 | Genetics | Ch 9 | |
| 11 | M | Nov-11 | ***** MIDTERM EXAM #2 ***** | --- | * Lab : Biodiversity & Evolutionary Trees Before lab, read Ch 14. |
| | W | Nov-13 | Genetics | Ch 9 | |
| | F | Nov-15 | Genetics | Ch 9 | |
| 12 | M | Nov-18 | Protein Synthesis | Ch 10 pg 183-191 | * Lab : Animal Skull & Hominid Skull Analysis Before lab, read Ch 13.2 |
| | W | Nov-20 | Protein Synthesis | Ch 10 pg 183-191 | |
| | F | Nov-22 | Protein Synthesis & Gene Technology | Ch 10 pg 191-205 | |
| 13 | M | Nov-25 | Quiz # 4 ; Intro to Evolution | Ch 11 pg 206-215 | Thanksgiving Recess - No Lab |
| | W | Nov-27 | Thanksgiving Recess (No Classes) | -- | |
| | F | Nov-29 | Thanksgiving Recess (No Classes) | -- | |
| 14 | M | Dec-02 | Evidence for Evolution | Ch 11 | * Lab : Conserving Biodiversity: (Ch 16) Intro to Ecosystems – Ecospheres |
| | W | Dec-04 | Natural Selection | Ch 12 | |
| | F | Dec-06 | Speciation | Ch 13 | |
| 15 | M | Dec-09 | QUIZ #5 ; Ecosystems & Ecology | Ch 16 pg 341-349 | * Lab : Canyon Field Trip Dress for the great outdoors! |
| | W | Dec-11 | Ecosystems & Ecology | Ch 16 pg 351-358 | |
| | F | Dec-13 | Ecosystems & Ecology | Ch 16 pg 359-372 | |
| 16 | M | Dec-16 | Final Exam: 10:30 am to 1 pm | | Finals Week - No Lab |