

Syllabus for Biology 1003 - Spring 2022

To-Do Date: Jan 7 at 11:59pm

Course Identifying Information

 <p>POINT LOMA NAZARENE UNIVERSITY</p>	<p>Biology Department</p> <p>Introduction to Biology (BIO 1003 & 1003L)</p> <p>4 Units</p>
<p>Spring 2022</p>	

Course Information

<p>Lecture:</p> <p>MWF 12:15 - 1:10 pm in Taylor Hall 106</p>	<p>Instructor title and name:</p> <p>Professor Kerri Sevenbergen, M.S. (Prof. Seven) (Pronouns: Her, she, you)</p>
<p>Lab Section 1: W 2:45 - 5:15 pm in Sator Hall 105</p>	<p>Phone: 619-849-2603</p>
<p>Lab Section 2: F 2:45 - 5:15 pm in Sator Hall 105</p>	<p>Email: ksevenbe@pointloma.edu</p>
<p>Final Exam: Monday, May 4th @ 10:30 am-1 pm</p>	<p>Office Location: Rohr Science 152 (Access through RS 130 Office Suite Door)</p>
<p>Flexible Personal or Small Group Visiting Hours:</p> <p>By appointment and/or via Zoom</p>	<p>Personal or Small Group Office Visiting Hours Schedule:</p> <ul style="list-style-type: none">• Mondays 2 - 3 pm• Thursdays 1:30 - 2:30 pm

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

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

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.

Foundational Explorations 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 General Education 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 SPIRITUAL OUTCOME

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

"You should 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)

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:

Major Unifying Ideas in Biology

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.

1. **Demonstrate** an understanding of **major unifying ideas in biology** represented by STEMS. See above table.
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.*

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

REQUIRED TEXT AND COURSE MATERIALS

- **Belk & Borden Maier.** 2019. *Biology: Science for Life with Physiology*. (<https://www.pearson.com/store/p/biology-science-for-life-with-physiology/P100000890943>). 6th ed. Pearson. along with the **access code for MyLab and Mastering**. 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 subscription.** There is a trial period, if you wish to start there, but remember to purchase it after the trial is over.
- **Haarsma & Haarsma.** 2011. *Origins: Christian Perspectives on Creation, Evolution, and Intelligent Design* (<https://smile.amazon.com/Origins-Christian-Perspectives-Evolution-Intelligent/dp/159255573X/>). Faith Alive Christian Resources. 2nd ed. ISBN 9781592555734. (Make sure to get the newest edition. There is a **kindle version** (https://www.amazon.com/Origins-Christian-Perspectives-Evolution-Intelligent-ebook/dp/B00710Y026/ref=tmm_kin_swatch_0?encoding=UTF8&qid=&sr=) as well.) You may share a book with another student as long as both of you are able to read the chapters on time.
- (<https://store.macmillanlearning.com/us/product/iClicker2-student-remote/p/1498603041>) **iClicker2 Student Remote (with screen)** (<https://store.macmillanlearning.com/us/product/iClicker2-student-remote/p/1498603041>) for participation & self-assessment. ISBN 9781498603041. (Cheaper to purchase from iClicker site.) You may borrow one from another student for the semester (but **not** share) and register it in your name.
- **Laptop or iPad**
- **PLNU email address** (You are required to check your PLNU email address or Canvas mail at least once DAILY for class updates. Please do this even if you have other email accounts such as Yahoo.)

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** 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, **pleases plan roughly 10-11 hours per week into your schedule for this class.** Time estimations for assignments are also provided in the Canvas modules.

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.

Grade Percentages for Each Assignment Category

Midterm Exams (Cumulative)	20%
Lecture Participation & Assignments (iClicker points, Lecture Activities, Homework, Etc)	15%
Lecture Quizzes (Cumulative; Lowest score dropped)	10%
<i>Origins</i> book Quizzes & Assignments	10%
Final Exam (Cumulative)	20%
Laboratory Quizzes, Reports & Participation	25%
Total:	100%

Student grades will be posted in Canvas. It is important to **read the 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, 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:

Standard Grade Scale Based on Percentages

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

COURSE SCHEDULE AND ASSIGNMENTS

Note: Please use the Syllabus link in the left Canvas navigation pane 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.

CANVAS NAVIGATION RULES

Canvas is your complete detailed guide for progressing through the course. Each week is a module that 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.

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 misses will result in a zero grade.

All exams and quizzes are cumulative, and are typically all 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.

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 [Class Schedules](http://www.pointloma.edu/experience/academics/class-schedules) (<http://www.pointloma.edu/experience/academics/class-schedules>) site, and is listed on the first page of this syllabus. NO requests for early examinations or alternative days will be approved. Please mark the date of the final exam on your calendar today!

WRITTEN ASSIGNMENTS AND INCOMPLETE OR LATE ASSIGNMENTS

Please note that ALL written assignments, such as lab reports, must contain PROPER, FULL sentences, and legibility, proper spelling and grammar are a must. Where possible, assignments should be typed. This is part of functioning as a professional. All assignments are to be **submitted/turned in by the beginning of the class session when they are due**—including assignments posted in Canvas.

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 work as pre-lab or post-lab homework.

ORIGINS BOOK ASSIGNMENTS

Throughout the semester, you will be assigned chapter readings and homework 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 one in-depth, open book quiz about this reading, during which you can use your homework and the book for reference, and you will be held responsible for the content on exams as well. I greatly encourage you to be faithful in reading this book, which will be a wonderful spiritual compliment to our discussions of scientific theories.

PLNU 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](https://catalog.pointloma.edu/content.php?catoid=46&navoid=2650#Class_Attendance) (https://catalog.pointloma.edu/content.php?catoid=46&navoid=2650#Class_Attendance) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Biology 1003 Attendance/Participation Policies

The following policies are specific to Biology 1003. **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. It is your responsibility to remember to bring your remote to every class for both participation and attendance. Should you forget your remote, or it isn't working, it is your responsibility to sign in on the paper attendance sheet before you leave class in order to be considered present for the class.

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 am requiring the iClicker2 Remotes and will have questions throughout the course that you must answer using this app. **Generally I am looking for thought and 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. Everyone must have their own iClicker Remote registered with your student ID number.

You should arrive to class on time!! Tardiness is extremely disruptive and disrespectful to both the instructor and your fellow students. **Please be respectful! Full attendance on any day assumes that you are present for the whole class.** Certain absences may be excused, but must be discussed with me ahead of time or require a doctor's or Wellness Center note. 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 may 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.**

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](https://help.pointloma.edu/TDCClient/1808/Portal/KB/ArticleDet?ID=108349) [_\(https://help.pointloma.edu/TDCClient/1808/Portal/KB/ArticleDet?ID=108349\)](https://help.pointloma.edu/TDCClient/1808/Portal/KB/ArticleDet?ID=108349) 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 [_\(mailto:student-tech-request@pointloma.edu\)](mailto: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, and 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.

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 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. Faculty should follow, and students may appeal, using the procedure in the university Catalog. See [Academic Policies](https://catalog.pointloma.edu/content.php?catoid=41&navoid=2435#Academic_Honesty) [_ \(https://catalog.pointloma.edu/content.php?catoid=41&navoid=2435#Academic_Honesty\)](https://catalog.pointloma.edu/content.php?catoid=41&navoid=2435#Academic_Honesty) 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.**

We will do a lot of group work in this class, and I encourage you to learn from the diversity of your classrooms. **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 someone else'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.

PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the **Educational Access Center (EAC)**, located in the Bond Academic Center. (EAC@pointloma.edu or 619-849-2486). The EAC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the EAC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The EAC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that EAC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

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](https://www.pointloma.edu/offices/spiritual-) [_ \(https://www.pointloma.edu/offices/spiritual-](https://www.pointloma.edu/offices/spiritual-)

[development](#)).

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](https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures) (<https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures>) to view which states allow online (distance education) outside of California.

STRATEGIES FOR DOING WELL IN BIOLOGY 1003

- **Complete 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.
- 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 chapter summaries and applicable questions in learning the basics and analyzing and applying the basics at the end of the chapters. These are the kinds of questions that will be in the exams.
- 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 (http://www.pointloma.edu/Tutorial_Services.htm).
- 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.**
- **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—remember that! 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