Course Information

INSTRUCTOR INFORMATION
Instructor: Dr. Paul Narguizian
Office Location: ASCB 323C
Telephone: 818.343.2054
Email: pnargui@calstatela.edu
Office Hours: Thursdays, 12:00 AM – 1:00 PM
Class Days/Time: Monday/Wednesday / 10:00 – 10:50 AM (lecture section: 01)
Prerequisites: None

INSTRUCTOR: SUNJay JAYACHANDRAN, PHD
EMAIL: SJAYACH@EXCHANGE.CALSTATELA.EDU
TEL: 626-379-1997
OFFICE HRS. MW 11-12

Laboratory Instructor(s) Information:
90417-02 M Panasyan, Tigran
90419-04 M Keushkerian, Maral
90421-06 W Keushkerian, Maral
90423-08 W Keushkerian, Maral

Tigran Panasyan; email: tpanasy@calstatela.edu
Maral Keushkerian; email: mkeushk2@calstatela.edu

COURSE DESCRIPTION
This is an introductory biology course for non-majors with an emphasis on the process of science and principles common to all domains of life; topics include metabolism, inheritance, evolution, organismal structure and function. Lecture 2 hours, laboratory 3 hours. No credit toward Biology major or minor. This course satisfies the B2 (life science) lower division general education requirement.

The course will focus on unifying themes such as energy and information flow through biological systems, which integrate processes across multiple scales, from single cells and organisms to species and ecosystems. Following this approach, we will emphasize the commonality of plant and animal evolutionary solutions to shared challenges (e.g., energy acquisition, water and temperature balance, reproduction, receiving and
Instructor reserves the right to alter and/or amend the syllabus throughout the quarter as necessary. Thus, the course will emphasize critical thinking by asking you to carefully consider the nature of the scientific evidence discussed, and the integrity of public statements on this topic.

**Course Objectives/Outcomes**

Upon successful completion of this course, students will be able to:

1. Apply scientific reasoning and evaluate evidence to reach a conclusion (this includes applying the scientific method, demonstrating understanding of living and non-living aspects of the world you live in, of human cultural and scientific endeavors, and the structures and institutions that frame human interactions).
2. Compare plant and animal solutions to similar fundamental life challenges.
3. Describe levels of organization and related functions in among various organisms.
4. Identify the characteristics and basic needs of living organisms and ecosystems.
5. Explain the processes of growth and development in individuals and populations.
6. Design and critically assess the scientific investigations they perform.
7. Demonstrate critical thinking skills.
8. Collect, interpret and present information (this includes demonstrating effective oral and written communication, thinking logically, creatively and critically, applying quantitative reason and skills to solve problems, and using technology effectively to gather and communicate information).

Specific Learning Objectives for BIOL 1010

1. Examine the relationship between the nature of science (NOS) and interpreting the biodiversity of life on Earth.
2. Identify and describe the properties of life.
3. Describe the levels of organization among living things.
4. Explain the flow of energy among organisms.
5. Explain how energy is utilized and transferred among organisms.
6. Analyze various metabolic pathways.
7. Discuss how enzymes function as molecular catalysts.
8. Describe what evolution is, the evidence for it, and how it operates resulting in changes in organismal structure and function.
9. Analyze the major kinds of interactions between organisms, and between organisms and their environment.
10. Explain the evolutionary and ecological basis of these interactions including, but not necessarily limited to, cost/benefit tradeoffs, sexual selection, and altruism.
11. Translate the potential benefits and consequences of conservation biology.
12. Evaluate how the actions of humans can destabilize interactions.
13. Evaluate media (e.g. newspaper stories) with a keener appreciation of the science behind the story.

**Required Course Materials:**
Instructor reserves the right to alter and/or amend the syllabus throughout the quarter as necessary.

Required Textbook: *Concepts of Biology* (available for free, online, by OpenStax: http://cnx.org/contents/s8Hh0oOc@9.10:Pj8cW7X1@4/Introduction

Other Readings
ALL other additional reading materials, articles, multimedia, and videos will be provided by the instructor on the MOODLE course site for you to review.

SEMESTER CONVERSION
As you are aware, CSULA will be converting to semesters during fall, 2016. If you will be here during the conversion, you will need to complete an Individualized Advisement Plan (IAP) per your major requirements. Please see your academic advisor to complete your plan.

Course Structure
Classes meet face-to-face twice a week, and you will also access an online platform using the Cal State LA learning management system called MOODLE [https://moodle.calstatela.edu] frequently to reinforce concepts covered in class. I will ask you to think at high cognitive levels beyond basic memorization of facts, and how to apply what you learn in this class to choices you make in your life.

Computer Requirements
You will need to have access to Word, Adobe PDF, and PowerPoint to complete reading and written assignments.

You will need to have an up-to-date browser, operating system and some additional software on your computer to take this class. Check the ITS Helpdesk Student Resources page for instructions. Some of the documents in this course will be available to you in PDF form. You will need download and install Adobe Acrobat Reader software on your computer.

Assignments and Grading Policy
Assessments are based on a detailed grading rubric developed for this course:

Grading Criteria / Points Possible:

Course Grading: Final grades will be based on the following combination of assignments:

100 points – Discussion Forum Posts
100 points – Midterm Exam I
100 points – Midterm Exam II
100 points – Midterm Exam III
200 points – Comprehensive Final Exam
600 points – Laboratory Exercises and Quizzes
Total Course = 1200 points

Grading Scale: You will receive a single grade for the lecture and lab portions of the course. Letter grades will be determined based on the grading scale below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimum Percent</th>
<th>Total points (out of 600 possible)</th>
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<tbody>
<tr>
<td>A</td>
<td>92</td>
<td>1098-1200</td>
</tr>
<tr>
<td>A-</td>
<td>90</td>
<td>1074-1096</td>
</tr>
<tr>
<td>B+</td>
<td>88</td>
<td>990-1072</td>
</tr>
<tr>
<td>B</td>
<td>82</td>
<td>966-988</td>
</tr>
<tr>
<td>B-</td>
<td>80</td>
<td>954-964</td>
</tr>
<tr>
<td>C+</td>
<td>78</td>
<td>930-952</td>
</tr>
<tr>
<td>C</td>
<td>72</td>
<td>858-928</td>
</tr>
<tr>
<td>C-</td>
<td>70</td>
<td>834-856</td>
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<tr>
<td>D+</td>
<td>68</td>
<td>810-832</td>
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<td>D</td>
<td>62</td>
<td>738-748</td>
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<tr>
<td>D-</td>
<td>60</td>
<td>714-736</td>
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<tr>
<td>F</td>
<td>&lt;60</td>
<td>&lt;712</td>
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</tbody>
</table>

4. Policy: Everything submitted as an assignment, project, or discussion post must be original work. References to resource materials are expected and proper citation is required. Assignments are due on the dates specified. Late submissions will not be accepted.

Rubrics

I will be using Rubrics in all of the assignments in order to provide you with specific and descriptive criteria to evaluate your work. Please submit all assignments in MS Word format (using a .doc. or .docx file extension).

Grades

You can view your grades using the GRADES button in the course navigation links. Please check your grades regularly to make certain that I have received all your assignments. If you have a question about a grade, email me at pnarquiel@calstatela.edu. Please do not post your personal concerns in a discussion forum.

Course Communication

Interaction with Instructor

Instructor reserves the right to alter and/or amend the syllabus throughout the quarter as necessary.
The Instructor will make every effort to communicate frequently with students through announcements and postings within the Moodle site. Post any questions or comments you have about the course content and/or requirements in the Announcements forum. Questions of a more personal nature can be sent to the Instructor via email to pnarqui@calstatela.edu.

As a student, you should expect to receive assignment feedback and responses to postings within 48 hours. The Instructor will post an announcement alerting the students if he or she will be unavailable for more than a day.

Email Policy

I will respond to a received email no later than close of work on the next day. I will post an announcement alerting you if I will be unavailable for more than a day. It is your responsibility to check your email daily for updates and announcements. Excessive emails impact both the professor and the student. Please make sure you have a legitimate reason for emailing.

I will email you about:
• Questions arising from difficulty in understanding course content.
• Requests for feedback on a graded assignment.
• Private issues.

I will not respond to email about:
• Questions that are answered in the course information.
• Lacks a subject line clearly stating the purpose of the email.
• Raises an inappropriate question.

Questions:
In online courses it is normal to have many questions about things that relate to the course, such as clarification about assignments, course materials, or assessments. Please post these in the Frequently Asked Questions forum.

My Teaching Philosophy:
My teaching philosophy is grounded in high expectations, accountability, and belief in appropriate behavior conducive to learning. Five principles guide my teaching philosophy:
1. All students can become lifelong learners.
2. Significant change requires significant commitment and time.
3. Struggle is a necessary and important part of life.
4. Students must accept responsibility for their learning progress.
5. I will never do for students what students can do for themselves.

That said, I will work hard and use multiple ways of learning to help you succeed in this course. Hopefully we’ll also have a few laughs as we go along.
Participation and Attendance:
Please arrive to class on time and ready to learn. I expect all students to attend every class session. There is plenty of research that shows final grades are positively correlated with attendance. To this end you will be able to earn classroom activity points in every class meeting, but cannot make them up if you are absent. Thus, if you miss more than two class meetings, your final grade will be negatively affected! Assignments are due at the start of class (or on your way out if we did it in class). You will talk and work frequently in small groups, and sometimes present your ideas to the entire class. Most importantly, please do not disrupt the learning environment, rights, and property of others. Of course, all gadgets not conducive to learning in the course, such as cell phones/music devices/etc. should be turned off during class. Be honest, hold yourself accountable for your actions, and hold me accountable for mine.

Respectful Classroom Atmosphere:
This class is a “judgment-free zone” at all times. This means that when you disagree with somebody’s opinion on a subject, you do not have the right to sling insults, raise your voice, or criticize them. I most certainly encourage disagreement on controversial topics and conversations are livelier if people do disagree on a subject. However, polite civil disagreement and outright hostility are two very different things. I will not tolerate hostility in the classroom, and anyone participating in this behavior will be escorted out of the room and not allowed to return for the rest of the class period.

Evolution:
“Respect for data, comfort in faith.” Someone much wiser than me told me this a long time ago, and it stayed with me. If you can live by the aforementioned quote then you’ll be fine in this class. Evolution and natural selection are central tenets of biology and will be critical aspects of this course, openly discussed and referred to frequently.

Math:
Every biologist uses math and statistics. In this course you will use some math as it applies to biology. This mostly includes making and interpreting graphs, but may also include calculating averages and variation around an average. I will help you and there will be chances to practice. NOTE: a calculator is good for this class.

Discussion Forums:
Each week begins on Monday morning. You will be required to post one original thread on Moodle by Thursday at 11:55pm and respond to one other. You have until 11:55pm on Sunday evening to complete the discussions on the assignment for the week it’s due. Within 48 – 72 hours of a discussion’s end, I will review all student responses and post a response as part of Announcements.

You will be assessed on the content, appropriateness, length, and how well the post is written (grammar and punctuation). See the rubric below. I expect at least 2-3 thoughtful
and well written paragraphs. You may find it useful to write your post on Word, which can assist with spellcheck, and then cut and paste it into Moodle. The points earned by each student will be posted to the online gradebook no later than one week after the discussion ends.

All students have the right to express their own opinions and every other student must respect this right. Any student posting a comment disrespectful of this right will be asked to leave the discussion, and a grade of 0 will be recorded.

Three suggestions to help you be successful:
1. Base your discussion posts on an authoritative source.
2. Get to the point! The longer posts seem to generate the least enthusiasm among the other learners. If needed, chunk your posts into multiple, reader-friendly posts.
3. Get some initial ideas into the discussion within the first few days of the discussions. Then, continue to add throughout the week.

**Netiquette**
When posting on the discussion boards and chat rooms it is important to understand how to interact with one another online, *netiquette*. You can read more about the rules of netiquette at [15 Rules of Netiquette for Online Discussion Boards](#)

**Virtual Office Hours**
N/A

**Turnaround/Feedback**
During the week (M-F) I will check *Frequently Asked Questions* and monitor the discussion board several times a day. If you have a concern and send me an email message, you can expect a response within two days.

**Helpful Student Resources**

**Technical Resources**
Information on CSULA technical support resources for students: [Technical Support](#)

**Student Support Services**
Information on CSULA student support resources for students: [Student Services](#)

**Academic Support Services**
Information on CSULA academic support resources for students: [Academic Support](#)

**Moodle Mentor Site**
Information for students on how to be a successful online student and how to use Moodle: [Moodle Mentor](#) (Moodle Tutorials)
Course & University Policies
Student Handbook
Information on student rights and responsibilities, academic honesty, standards of conduct, etc., can be found in Schedule of Classes for the current quarter visit the Cal State LA Schedule of Classes Information under Policies and Procedures.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Students should be aware of the current deadlines and penalties for adding and dropping classes by visiting the GET home page. (Registrar news and information)

Americans with Disabilities Act (ADA)
Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation. For more information visit the Office for Students with Disabilities home page. http://web.calstatela.edu/univ/osd/atlc.php.

Academic Honesty/Student Conduct

This link contains the Cal State LA Policies and Procedures on Academic Honesty: http://ecatalog.calstatela.edu/content.php?catoid=12&navoid=842

Academic Honesty: Many incidents of plagiarism result from students’ lack of understanding about what constitutes plagiarism. However, you are expected to familiarize yourself with Cal State L.A.’s policy on plagiarism. All work you submit must be your own scholarly and creative efforts. Cal State L.A. plagiarism as follows: “At Cal State L. A., plagiarism is defined as the act of using ideas, words, or work of another person or persons as if they were one’s own, without giving proper credit to the original sources.”

Student Conduct: http://ecatalog.calstatela.edu/content.php?catoid=12&navoid=843

Course Outline/Schedule of Assignments:

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC(S)</th>
<th>Read/Due:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug. 22</td>
<td>Intro, what is biology and the nature of science (to vaccinate or not to vaccinate?)</td>
<td>Chapter 1, watch video on “Learning how to Learn in Biology” and “the Nature of Science (NOS)”</td>
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<tr>
<td></td>
<td>Aug. 24</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Aug 29</td>
<td>Defining life, chemical building blocks, water (evidence from space)</td>
<td>Chapter 2</td>
<td></td>
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<tr>
<td></td>
<td>Aug 31</td>
<td>Cellular basis of life, membranes and transport (wonder drug)</td>
<td>Chapter 3</td>
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<td>3</td>
<td>Sept 5</td>
<td>Labor Day Holiday; <em>University closed</em></td>
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<td></td>
<td>Sept 7</td>
<td>Energy and enzymes (power foods); Energy flow and photosynthesis (mighty microbes)</td>
<td>Chapter 4 (Intro., 4.1 – 4.2), Chapter 5; <em>Discussion Post #1 DUE!</em></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sept 12</td>
<td>Metabolism and nutrition (We’re #2!); Energy and respiration (Supersize Me)</td>
<td>Chapter 4 (4.3 – 4.5)</td>
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<td></td>
<td>Sept 14</td>
<td><strong>MIDTERM #1 (Nature of science, food, cells)</strong></td>
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<tr>
<td>5</td>
<td>Sept 19</td>
<td>DNA structure &amp; function (DNA will set you free)</td>
<td>Chapter 9 (Intro., 9.1 – 9.2)</td>
<td></td>
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<td></td>
<td>Sept 21</td>
<td>Cell division &amp; mitosis (paramedic plants)</td>
<td>Chapter 6 (Intro., 6.1 and 6.2); Chapter 14 (Intro., and 14.1)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sept 26</td>
<td>Genetic mutations &amp; cancer (fighting fate)</td>
<td>Chapter 6 (6.3 – 6.4)</td>
<td></td>
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<tr>
<td></td>
<td>Sept 28</td>
<td>Single gene inheritance &amp; meiosis (shuffling a deck of cards)</td>
<td>Chapter 7 (Intro., 7.1 – 7.2); <em>Discussion Post #2 DUE!</em></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Oct 3</td>
<td>Complex inheritance (sex and depression)</td>
<td>Chapter 7 (7.3)</td>
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<tr>
<td></td>
<td>Oct 5</td>
<td>Genes to proteins (transgenic organisms)</td>
<td>Chapter 9 (9.3 – 9.5)</td>
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<tr>
<td>8</td>
<td>Oct 10</td>
<td>Biotechnology</td>
<td>Chapter 10 (Intro., and 10.1)</td>
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<td></td>
<td>Oct 12</td>
<td>Stem cells &amp; cell differentiation (grow your own)</td>
<td>Chapter 10 (10.2 – 10.3)</td>
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<tr>
<td>9</td>
<td>Oct 17</td>
<td><strong>MIDTERM #2 (Sex, genetics, biotechnology)</strong></td>
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<td></td>
<td>Oct 19</td>
<td>Darwin's big idea &amp; evidence for evolution (fish with fingers)</td>
<td>Chapter 11 (Intro., and 11.1)</td>
<td></td>
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<tr>
<td>10</td>
<td>Oct 25</td>
<td>How populations evolve (bugs that resist bugs)</td>
<td>Chapter 11 (11.2 – 11.4)</td>
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<td></td>
<td>Oct 26</td>
<td>Common misconceptions about Evolution!</td>
<td>Chapter 11 (11.5); <em>Discussion #3 DUE!</em></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Oct 31</td>
<td>Darwin meets genetics, species (evolution in the fast lane)</td>
<td>Special Topic (not in book)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nov 2</td>
<td>Evolution of biological diversity (the first bird)</td>
<td>Special Topic (not in book)</td>
<td></td>
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<tr>
<td>12</td>
<td>Nov 7</td>
<td>Origin of life, chemical evolution (the biogenesis paradox)</td>
<td>Geologic Time</td>
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<tr>
<td></td>
<td>Nov 9</td>
<td>Human evolution (redefining race)</td>
<td>Chapter 15 (15.6); <em>Discussion #4 DUE!</em></td>
<td></td>
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<tr>
<td>13</td>
<td>Nov 14</td>
<td><strong>Midterm #3 (Evolution)</strong></td>
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<tr>
<td></td>
<td>Nov 16</td>
<td>Animal behavior (the beast in you)</td>
<td><em>Special topic not in text</em></td>
<td></td>
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<tr>
<td>14</td>
<td>Nov 21</td>
<td>Population Biology (on the tracks of moose and wolves)</td>
<td>Chapter 19</td>
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<tr>
<td></td>
<td>Nov 23</td>
<td>Student Day Holiday; <em>no classes in session</em></td>
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<tr>
<td>15</td>
<td>Nov 28</td>
<td>Community ecology (what's happening to the honeybees?)</td>
<td>Chapter 20</td>
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<tr>
<td></td>
<td>Nov 30</td>
<td>Human impacts (Amazon on fire)</td>
<td>Chapter 21; <em>Discussion #5 DUE!</em></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Dec 5</td>
<td>Human impacts (Amazon on fire); Good news for a change (army of one)</td>
<td>Chapter 21</td>
<td></td>
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<tr>
<td></td>
<td>Dec 9</td>
<td><strong>FINAL EXAM 9:10 – 11:10 AM</strong></td>
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</table>

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