## BIOL 1407: Biology for Science Majors II Syllabus

### General Information

<table>
<thead>
<tr>
<th>College Name</th>
<th>North Lake College</th>
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<tbody>
<tr>
<td>Division</td>
<td>Mathematics and Natural Sciences</td>
</tr>
<tr>
<td>Semester/Term &amp; Year</td>
<td>2019 Spring</td>
</tr>
</tbody>
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### Instructor Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Cayce Ervin</th>
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<tbody>
<tr>
<td>DCCCD E-mail Address</td>
<td><a href="mailto:cervin@irvingisd.net">cervin@irvingisd.net</a></td>
</tr>
<tr>
<td>Telephone</td>
<td>972-600-6330</td>
</tr>
<tr>
<td>Room Number</td>
<td>426</td>
</tr>
<tr>
<td>Website(s)</td>
<td>eCampus <a href="http://ecampus.dcccd.edu">link</a> and North Lake College <a href="http://www.northlakecollege.edu">link</a></td>
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### Course Information

<table>
<thead>
<tr>
<th>Course Number</th>
<th>BIOL 1407</th>
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<tbody>
<tr>
<td>Section Number</td>
<td>73285</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>4</td>
</tr>
<tr>
<td>Class Meeting Time</td>
<td>M-F 11:18am-12:51pm</td>
</tr>
<tr>
<td>Course Title</td>
<td>Biology for Science Majors II</td>
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<tr>
<td>Course Description</td>
<td>Course Description: An introductory survey of current biological concepts for students majoring in the sciences. The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of these concepts. (3 Lec. 3 Lab.) Coordinating Board Academic Approval Number 2601015103</td>
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### Course Prerequisites

| Course Number | BIOL 1406 |

### Program Level Objectives

Biology 1407 develops the following objectives from the Texas Higher Education Coordinating Board: Communications (written and visual), critical thinking, empirical and quantitative skills.

### Measurable Student Learning Outcomes (SLOs)

#### Lecture Class Learning Outcomes:

Upon successful completion of this course, students will:

- Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
- Describe phylogenetic relationships and classification schemes.
- Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- Describe basic animal physiology and homeostasis as maintained by organ systems.
- Compare different sexual and asexual life cycles noting their adaptive advantages.
- Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

#### Laboratory Class Learning Outcomes:

This laboratory-based course accompanies Biology 1407, Biology for Science Majors II. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.
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Upon successful completion of this course, students will:

- Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
- Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
- Communicate effectively the results of scientific investigations.
- Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
- Distinguish between phylogenetic relationships and classification schemes.
- Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- Describe basic animal physiology and homeostasis as maintained by organ systems.
- Compare different sexual and asexual life cycles noting their adaptive advantages.
- Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

Course Outline

Exam 1 - Evolution
Chapter 22 Descent with Modification
Chapter 23 The Evolution of Populations
Chapter 24 The Origin of Species
Chapter 25 The History of Life on Earth
Chapter 26 Phylogeny and the Tree of Life

Exam 2 - Archaea, Bacteria, Protista, Fungi
Chapter 27 Bacteria and Archaea Diversity
Chapter 28 Protista Diversity
Chapter 31 Fungi Diversity

Exam 3 - Plants
Chapter 29 Bryophytes and Tracheophytes
Chapter 30 Gymnosperms and Angiosperms
Chapter 35 Plant Organization

Exam 4 - Animals
Chapter 40 Animal Organization and Regulation
Chapter 47 Animal Development
Chapter 51 Animal Behavior

Exam 5 - Ecology and Ecosystems
Chapter 52 Biomes
Chapter 53 Population Ecology
Chapter 54 Community Ecology
Chapter 55 Ecosystems
Chapter 56 Conservation Biology

Required or Recommended Materials

Lecture Materials
Text: Biology 11th edition
Author: Campbell/Reece
ISBN: 9780134093413
Copyright Year: 2016
Publisher: Pearson Learning Solutions

Computer Requirements: Please have the Microsoft Office Suite. A free copy of Microsoft Office is available to you while you are a DCCCD Student. Please use the following link Click HERE to access...
Evaluation Procedures

Lecture Evaluation (70%): Your lecture is based on a combination of lecture exams, journals, quizzes, surveys etc. — in reality whatever I give you in lecture could be part of your grade configuration. The table below will outline how your grade is calculated. Some important notes:

- Lab is not weighted the same as lecture. This means that you cannot use the MY GRADES section of blackboard to calculate your grade. Do not use MY GRADES section to calculate grades, but it is a good source to see how you did on individual items.
- Pay attention to due dates for quizzes and all other assignments. When an item expires, it will no longer be available to take.
- Additional graded items may be assigned during the semester, however this is unlikely.
- Lecture exams will be given in class and must be completed during the class period on the same day.
- You may propose an alternate location for testing; however, that must be done with approval and may take up to two weeks to complete. The instructor reserves the right of approval in all non-North Lake testing centers.
- Lecture exams are paper based and you will not need additional testing materials.
- Please see the course calendar for dates for the exams. There is flexibility built in to the course, but in order to promote the best learning experience, the dates for exams are final and non-negotiable. If you encounter a mitigating circumstance that prohibits you from completing your assignments on time you may appeal. Firstly it must be extensively documented. Second, if extra time is warranted, the attempt will not be eligible for curve, bonus, or retaking.
- Exams and assignments are to be completed on-time, without exception. Should unusual circumstances arise, regardless of their nature, they must be well documented, subject for interpretation, and extreme.
- Any exams that are time-stamped as occurring during your regularly scheduled lecture or lab period will be lowered on letter grade (unless prior arrangements or permissions are granted).

Exams and assignments are to be completed on-time, without exception. Should unusual circumstances arise, regardless of their nature, they must be well documented, subject for interpretation, and extreme.

SOME ADDITIONAL GRADING NOTES:

- Each quiz may be taken twice, with your grade the average of those two attempts. If you score lower on the 2nd attempt, it will lower your grade.

Bonus opportunities may be possible. Check announcements or ask about opportunities.

Laboratory Evaluation (30%): Your lab grade is embedded into the overall function of the lecture material. In BIOL 1407 there is a very strong connection between lab and lecture. Your lab instructor
has the right to modify this formula and add additional assignments as she/he sees fit. Please attend lab regularly and communicate with your laboratory instructor to determine your academic performance in that facet of the class.

**Total grade breakdown:**

- Exam 1 Evolution **100pts** Wednesday, January 30
- Exam 2 Lab exam over Microorganisms **100pts** Wednesday, February 13
- Exam 3 Lab exam over Plants **100pts** Wednesday, March 6
- Exam 4 Animals **100pts** Wednesday, April 3
- Exam 5 Ecology **100pts** Wednesday, May 1
- Timeline Project **100pts** due Friday, February 8
- Herbarium **100pts** due Friday, April 5
- Animal Field Guide **100pts** due Thursday, May 2
- Ecology Project **100pts** due Thursday, May 2
- *Online quizzes (4 at 25 pts each) **100pts** Jan 10, March 4, April 11, April 17
- Lab Assignments (4 at 25 pts each) **100pts** Jan 17, Jan 28, March 22-25, April 18

The lowest of these 11 Exams/Assignments will be dropped, resulting in 10 total Exams/Assignments totaling **1,000pts**. Online quiz grade cannot be dropped.

**Why are all the exams on Wednesdays?** Because sports and other school related spring activities are on Tuesdays, Thursdays and Fridays, which may interfere with class. I promised not to give a Monday exam again, so that leaves Wednesday. If there is a scheduling conflict, then please inform me as early as possible so I can work with you on it.

**Why are all the projects due on Fridays?** This allows me to grade projects over the weekend and frees up your weekend. Students have a tendency to spend their Sundays doing a project when it is due on Monday. Having projects due on Fridays allows us to utilize some Thursdays after exams as project work days.

**Calculating your final grade:** Your final class average will be calculated using your lecture grade and your lab grade. You may use the following formula to help you calculate your grade: 

\[
\text{Percentage} = \left( \frac{\text{points you earned in lecture}}{\text{total points available in lecture}} \right) \times 0.7 + \left( \frac{\text{points you earned lab}}{\text{total points available in lab}} \right) \times 0.3
\]

Please observe the order of operations when calculating your grade.

**Grading Scale**

- Lecture 70% + Lab 30% using the following scale:
  - 89.5-100=A
  - 79.5-89.4=B
  - 69.5-79.4=C
  - 59.5-69.4=D
  - 59.4 and below=F

**Exams and Assignments**

- **Lecture:**
  - **Exams** – as outlined above, there are three lecture exams that correspond to chapter content: Evolution, Animals and Ecology
  - **Quizzes** – all quizzes will be online for a total of 4 quizzes
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Projects – There will be 4 total projects: timeline project, herbarium, animal field guide and ecology project

Laboratory:
Exams – as outlined above, there are two laboratory exams that correspond to chapter content: Microorganisms and Plants

Laboratory Assignments – There will be 4 total laboratory assignments

Tenative Schedule: We will start before NLC begins because AP Testing takes away our last two weeks of NLC’s schedule.

January:
M7-NO SCHOOL
T8-Syllabus, Ch 22 Descent with Modification
W9-Ch 22 Descent with modification
R10-Ch 22 Descent with modification and online quiz
F11-Ch 23 Evolution of Populations

M14-Ch 23 Evolution of Populations
T15-Ch 24.1 & 24.2 Speciation
W16(semester finals)-Hardy Weinberg lab assignment
R17-NO 4th pd
F18-NO SCHOOL

M21-NO SCHOOL
T22-Ch 25.1-25.4 History of the Earth
W23-Ch 25.1-25.4 History of the Earth
R24-Ch 25.1-25.4 History of the Earth
F25-Ch 26.1 Taxonomy, timeline project assigned

M28-Dichotomous Key lab assignment
T29-exam review/catch up day
W30-Evolution Exam
R31-Ch 27.1, 27.3-5 Bacteria & Archaea
February:
F1-Ch 27.1, 27.3-5 Bacteria a& Archaea-I will likely be at HOSA

M4-Ch 28 Protists
T5-Microorganism lab
W6-Microorganism lab
R7-Ch 31 Fungi
F8-Ch 31 Fungi, Timeline Project due

M11-Fungi lab
T12-exam review/catch up day
W13-Microorganism Lab Exam (Practical exam)
R14-Ch 29 Plants Colonize Land, Herbarium project introduced
F15-Ch 29 Plants Colonize Land

M18-NO SCHOOL
T19-Ch 29 Plants Colonize Land
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- **W20**: Plant lab 1
- **R21**: Ch 30 Seed Plants
- **F22**: Ch 30 Seed Plants
- **M25**: Ch 35.1,3,4 Plant Organization
- **T26**: Ch 35.1,3,4 Plant Organization
- **W27**: Plant lab 2
- **R28**: Flower dissection lab
  - March
- **F1**: Herbarium work day
- **M4**: Plant online quiz
- **T5**: exam review/catch up day
- **W6**: Plant Lab Exam (practical exam)
- **R7**: project work day
- **F8**: NO SCHOOL
- **M11-M18**: NO SCHOOL, SPRING BREAK
- **T19**: Ch 40 Animal Organization, Animal Field Guide project introduced
- **W20**: Ch 40 Homeostasis
- **R21**: Animal assignment, substitute teacher
- **F22**: Animal assignment, substitute teacher
- **M25**: Ch 47 Animal Development
- **T26**: Ch 47 Animal Development
- **W27**: SAT for juniors, project work day for seniors
- **R28**: Ch 51 Animal Behavior
- **F28**: Ch 51 Animal Behavior
  - April
- **M1**: Ch 51 Animal Behavior
- **T2**: exam review/catch up day
- **W3**: Animal Exam
- **R4**: Herbarium final work day
- **F5**: Ch 52 Biomes, Herbarium due, Ecology project introduced
- **M8**: Ch 52 Biomes
- **T9**: Ch 52 Biomes
- **W10**: Ch 53.1,3,5 Population Dynamics
- **R11**: Ch 53.1,3,5 Population Dynamics, online quiz
- **F12**: Ch 54.1,2 Predation & Food Webs
- **M15**: Ch 54.1,2 Predation & Food Webs
- **T16**: Ch 55.1,3 Trophic Levels & Energy
- **W17**: Ecosystems online quiz, fig 55.14 Cycles
- **R18**: Fig 55.14 Cycles assignment
- **F19**: NO SCHOOL
- **M22**: Ch 55.5 Bioremediation
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T23-Ch 56.1 Diversity & Threats
W24-Ch 56.3 Natural Reserves
R25-Ch 56.4 Humans Ruining the Planet
F26-project work day

M29-exam review/catch up day
T30-exam review/catch up day

May
W1-Ecology Exam
R2-project work day, animal project and ecology project due today

Should we get off the schedule, it will continue in the order listed above, regardless of date.
Note: Please keep up with the work in a timely manner. You may be prompted during the semester if you are not keeping up.

Attendance Policy

Lecture and Laboratory Attendance: Students should login and check e-campus at least once a week. This will be monitored and assessed. Attendance is required on exam and lab days. If attendance in lab or on e-campus is not meeting expectations the instructor may modify the syllabus to include a point value for attendance.
The last day to drop this class with a “W” is April 7th.

Institutional Policies

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<thead>
<tr>
<th>Institutional Policies Link</th>
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Classroom Policies

E-mail Policy:
E-mail will be checked daily and you can expect about a 24hr turn around on all emails during the work week. I check my email for the last time Friday at noon, and you can expect all weekend emails to be answered the following Monday. Knowing that I will not check my email over the weekend, please consolidate your ideas. I would cringe to see an inbox with multiple emails from a single user. Certain e-mail subjects will be ignored. Per FERPA guidelines I cannot discuss your grades over email. I will also not respond to any emails that ask for an “extra day” or “extra time.” The district has a very tight SPAM filter, and if you do not feel like your email is being addressed in a timely manner, come see me. Please keep all communications respectful and classy.

Students will not send unsolicited email espousing a cause, religion, or activity to other class participants and will not add other class participants to any listserves or other entity which distributes unwanted email or material.

Tutoring:
While I do have tutoring hours, those may change as different school functions arise. Please talk to me if you need help so we can arrange a time for tutoring.

End of Class Procedures:
When this class ends, it ends. When the final exam deadline passes, grades can no longer be changed and the course will be removed from blackboard. I do this so I can configure the grades properly. If you wish to preserve anything from the course, you should make sure that you have downloaded your gradebook or any materials before that day.

My Academic Dishonesty Policy:
I will not tolerate cheating. If you are caught plagiarizing, cheating on exams, or other manners or cheating, my penalty is failure in the entire course. Not just an F on the assignment, you will fail the course.

Quiz Policy:
When you take a quiz, it does not tell you what you got right and what you got wrong. This is intentional. Like a good science experiment, we run the process and then we get results. Interpreting the results is the cornerstone of the scientific process. We often don’t know what went right and what went wrong. The science, is sorting this out. You will get the hang of it. With the quizzes I encourage you to collaborate with others, talk through the answers, and learn. When you reaffirm you got something right, you have taken the guesswork out of future responses. When you research something you thought you got right, but in-fact got wrong, you truly learn. Lastly, when you research a question you got completely wrong, you are uncovering areas you may need to study further.

Certification of Attendance Policy:
You must log in on Blackboard during the first week of school to certify your attendance in the class. This means that you showed up to class and knew you were supposed to be in this class. This is a requirement for North Lake College. There will be an online quiz during the first week to ensure you log in.

Computer Glitch Policy:
You may encounter a computer glitch while you are taking a quiz. This happens. I empathize, it happens to me all the time. So here is what you do. Make sure you have documented the glitch. Secondly, save your documentation. Please do not ask for quiz resets as I will not be resetting quizzes over the semester. Usually I can see that the glitch has occurred because it looks like the quiz was abandoned – I will delete two glitch quizzes per student over the semester. If you think somehow quiz glitches have altered your final grade, you may present
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Items for your consideration
I would like you to look at the following items for your consideration.

- Science Center Tutoring
- The Summer Hawaiian Field Studies
- SAGE Scholars

ADDITIONAL STUFF

Science Center Tutoring

The Science Center (SC) provides student services in the following subjects (majors and non-majors): biology, botany, microbiology, anatomy and physiology, chemistry, organic chemistry, geology, physics, nutrition and ecology. The center is located in P-333, P-334 and P-340; offering various resources all of which are free to the students. The SC features tutors, software, videos, CDROM’s, internet, models, places to study quietly, places for group work, and other materials to assist in science classes. In order to access resources of the SC a North Lake College ID Card is required. The subject specific schedule of tutors is updated every semester and is located at the front of the SC.

When students attend SC we ask that they sign in and out. These data help us keep the center stocked, running, and most of all, free of charge! We have been known to award bonus points for attendance. If your grade is on the bubble – we will examine your participation in the SC and determine how hard you have worked! They also have online tutors available.

**Hours of operation:**
Spring/Fall semester: M - R 9 am to 7 pm, F & Sa 9 am – 3 pm
Maymester and Wintermester: M – R 2 pm – 6 pm
Summer I & II: M – R 2 pm – 7 pm

**Center Phone:** 972-273-3273  
**Center Email:** sciencecenter333@gmail.com  
Manager: Amanda Mello and Coordinator: George Eluvathingal

Summer Hawaiian Field Studies
The Hawaiian Islands are a paradise rich with magnificent hotels, sandy beaches, brilliant sunsets and some of the best recreational and relaxation spots on earth. Beyond the tourist attractions, though sometimes one and the same, lies a natural wonder of botanical rarities, explosive geological features and themes of evolution, adaptation, conservation and extinction. Born from the sea floor in a continuous chain of volcanoes, the Hawaiian Islands exist today as a window into biological and geological processes that tell the story of life on earth.

Join us in the Hawaiian islands with the opportunity to study in this unique environment and earn 16 college credit hours!

Mahalo nui loa (thank you)

If you are interested in taking science to the next level, hands-on, join me and the rest of the Hawaiian Field Studies crew this summer. Program basic information is as follows:

**2019 SUMMER HAWAII PROGRAM INFORMATION**

*this trip is still in the district approval process*

**BASIC INFORMATION**

16 College Credit Hours  
Travel to the Kona side and Hilo sides of the Big Island of Hawaii  
Travel Dates for the 2019 trip: estimated 6/18 – 6/28 (Updated as of 8/3/2018)*

**PERKS (Besides 16 credit hours and two weeks in Hawaii)**

4hrs of the SAGE Scholars – Society
8hrs of the SAGE Scholars – Environment
Service Learning Certificates: 15 hrs. of ecological restoration and community service
Free use of a SLR Digital Camera prior to and during the field studies.
Custom field guide and yearbook video.

**STEPS TO JOIN**

1. E-mail the program to be added to the list  hawaii@dccc.edu
2. Submit a $750 deposit (check, mail, or credit card) Deposit is refundable until classes fill or when the program begins in March 22nd.

**PRE-TRIP SESSIONS:**

Orientation Night (friends and family welcome) – Friday March 22nd  7PM at North Lake
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Weekend 1:
Saturday 3/23 @ North Lake College  
Sunday 3/24 @ The Friends of Coppell Nature Park

Weekend 2:
April TBA

Weekend 3:
May TBA

Weekend 4:
June TBA

More detailed information regarding orientation and final pre-trip class schedule will be given in email announcements. Blackboard collaborate sessions will take place to support the courses.

PAYMENT INFORMATION

All fees due by May 1st, 2019.

Student Fee $TBD, Approximately $1500 (the $750 + the appropriate balance
Hawaii Flight - $900 to $1100* DFW to HNL – Rates vary – Student’s book
Tuition - $944* for in county residents. (Out of county may be eligible for in-district rates)
For complete fee explanations, due dates and up to date information, email or call.

*Subject to change. The approximate amount for the trip should run approximately $2,500.
Please note that only the student fee deposit and tuition are refundable (up until the first day of class). All other fees are NOT refundable. More detailed information will be added as it becomes available.

COURSES

BIOL 1411 4hrs - Intro Botany – Dempsey
BIOL 2406 4hrs - Environmental Biology – Dempsey
GEOL 1401 3hrs - Earth Science – Kubicek
ARTS 2356 - Digital Photography - Jenkins
PHED 1164 - Walking for Fitness - Sommers
Total - 16 Credit Hours**.

**Students must enroll in all courses to participate in the program.
Accepting deposits now, until the trip fills. After filling the first three vans, a waiting list will be established and new students added six at a time. 24 Students MAX.

CONTACT INFORMATION

E-Mail: hawaii@dcccd.edu
Phone: 972-273-3279
Twitter: @nlchfs
Facebook: www.facebook.com/nlchfs
Instagram: @nlchfs
Also note that this program is subject to cancellation if enrollment does not meet a specific quota or other circumstances arise.
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SAGE SCHOLARS
This class is being taught as part of the SAGE Scholars Program. This does not entail any additional work on your behalf. Upon successful completion of this course.

The SAGE (Sustainability Awareness & Global Education) Scholars Program is a college-wide program to globalize and green any associate degree at North Lake College. The SAGE Scholars Program recognizes students who have completed volunteer service activities and coursework with assignments focused on real world issues in the global society, world economy, and physical environment. SAGE Scholar Graduates receive an Honorary Green Cord for graduation regalia.

SAGE Scholar Requirements:
- Any Associate Degree available at North Lake College
- Earn a 'C' or better in 12.0 credit hours of approved SAGE courses and instructors
- At least 3.0 credits in each of the four areas: Global Citizenship, Sustainable Economy, Sustainable Environment, Sustainable Society
- 20 volunteer hours by the time of graduation (Service Learning volunteer options)