BIOL 1411: Introductory Botany
North Lake College

GENERAL INFORMATION
College Name: North Lake College
Division: Math Science
Semester/Term & Year: Spring/Summer 2019

INSTRUCTOR INFORMATION
Name: Matthew A. Dempsey, MS, EdD
Associate Dean of Math and Science
DCCCD E-mail Address: mdempsey@dcccd.edu or hawaii@dcccd.edu
Telephone: 972.273.3279 (Office) Cell available @ orientation.
Office Number: P-330
Skype: nlcbioprof
Twitter: nlchfs
Facebook: facebook.com/nlchfs fan page (not a personal account – this is for the class/alumni)
Website(s): http://ecampus.dcccd.edu http://www.northlakecollege.edu/hawaii http://youtube.com/nlchfs

COURSE INFORMATION
Course Number: BIOL 1411
Section Number: 73426
Credit Hours: 4
Class Meeting Time: Course and Program Orientation Friday March 24th, 2017 7PM in C244
Course Title: Introductory Botany
Course Description: This course introduces plant form and function. Topics ranging from the cell through organs are included. Emphasis is on the vascular plants, including the taxonomy and life cycles of major plant divisions. (3 Lec., 3 Lab.) Coordinating Board Academic Approval Number 2603015103
Prerequisites: One of the following must be met: (1) Developmental Reading 0093 AND Developmental Writing 0093; (2) English as a Second Language (ESOL) 2
Intellectual: This course reinforces all 6 of the Core Curriculum Intellectual Competencies defined
## Competencies

by the Texas Higher Education Coordinating Board.

**READING:** Reading at the college level means the ability to analyze and interpret a variety of printed materials—books, articles and documents. A core curriculum should offer students the opportunity to master both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

**WRITING:** Competency in writing is the ability to produce clear, correct and coherent prose adapted to purpose, occasion, and audience. Although correct grammar, spelling and punctuation are each a sine qua non in any composition, they do not automatically ensure that the composition itself makes sense or that the writer has much of anything to say. Students need to be familiar with the writing process including how to discover a topic and how to develop and organize it, how to phrase it effectively for their audience. These abilities can be acquired only through practice and reflection.

**SPEAKING:** Competence in speaking is the ability to communicate orally in clear, coherent and persuasive language appropriate to purpose, occasion and audience. Developing this competency includes acquiring poise and developing control of the language through experience in making presentations to small groups, to large groups and through the media.

**LISTENING:** Listening at the college level means the ability to analyze and interpret various forms of spoken communication.

**CRITICAL THINKING:** Critical thinking embraces methods of applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking, used to address an identified task.

**COMPUTER LITERACY:** Computer Literacy at the college level means the ability to use computer-based technology in communicating, solving problems and acquiring information. Core-educated students should have an understanding of the limits, problems and possibilities associated with the use of technology and should have the tools necessary to evaluate and learn new technologies as they become available.

<table>
<thead>
<tr>
<th>Specific Course Learning Outcomes</th>
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<tbody>
<tr>
<td>Students will master the concept of the cell as the structural and functional unit of life.</td>
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<tr>
<td>Students will master basic concepts of plant anatomy and function.</td>
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<tr>
<td>Students will understand the role of biological evolution and genetics to plant diversity.</td>
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<tr>
<td>Students will master basic concepts of cellular physiology such as cellular respiration and photosynthesis.</td>
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<tr>
<td>Students will understand the origin and diversity of plant life.</td>
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<tr>
<td>Students will master basic concepts of the impact photosynthetic plants and plant-like organisms have on the global ecosystem.</td>
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<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
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<tbody>
<tr>
<td><strong>BIOL 1411 General Botany (lecture)</strong></td>
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<tr>
<td>Learning Outcomes</td>
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<tr>
<td>Upon successful completion of this course, students will:</td>
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<tr>
<td>Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.</td>
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<tr>
<td>Describe the characteristics of life and the basic properties of substances needed for life.</td>
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<tr>
<td>Identify the principles of inheritance and solve classical genetic problems.</td>
</tr>
<tr>
<td>Describe phylogenetic relationships and classification schemes.</td>
</tr>
</tbody>
</table>
Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins. Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.
Describe the unity and diversity of plants and the evidence for evolution through natural selection.
Compare different sexual and asexual life cycles noting their adaptive advantages.

**BIOL 1411 General Botany (lab)**

**Learning Outcomes**

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.
- Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.
- Describe the characteristics of life and the basic properties of substances needed for life.
- Identify the principles of inheritance and solve classical genetic problems.
- Describe phylogenetic relationships and classification schemes.
- Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
- Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.
- Describe the unity and diversity of plants and the evidence for evolution through natural selection.
- Compare different sexual and asexual life cycles noting their adaptive advantages.
- Describe the reasoning processes applied to scientific investigations and thinking.

**Course Outline**

**Unit 1 – Plant Morphology and Physiology**

1. Introduction to Plants – Why are plants important?
2. Basic Plant Anatomy and Morphology
3. Plant Cells
4. Plant Tissues
5. Aboveground Plant Organs – Stems and Leaves
6. Belowground Plant Organs - Roots
7. Connection to BIOL 2406 via “Strangers in Paradise”

**Unit 2 – Plant Reproduction**

1. Fruits
2. Flowers
3. Seeds
4. Germination

**Unit 3 – Plant Physiology**
1. Photosynthesis
2. Respiration
3. Secondary Metabolites
4. Cell Division and Reproductive Cells
5. Water Movement
6. Chemical Warfare in Plants

**Unit 4 – Plant Diversity**
1. Evolutionary Relationships in Plants
2. Non Vascular Plants - Bryophytes
3. Ferns and Fern Allies - Tracheophytes
4. Cone Producing Plants - Gymnosperms
5. Flowering Plants – Angiosperms
6. Aquatic Plants

**Unit 5 – Plant Ecology**
1. Invasive Species
2. Ethnobotany
3. Extinction and Conservation

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**Required or Recommended Materials**

**Required:** HFS 2017 Handbook and Field Guide VOLUME 6, Dempsey, Doggett, Jenkins, Kubicek, Turley, and Millwood. A PDF will be provided for you, the manual will be printed before we depart. Binding or hole punching the manual (whichever method you like) will be up to the individual student.

**Recommended:** Campbell Biology 11th Edition or older - Pearson Biology
- Other optional guidebooks will be recommended during orientation -

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**ISBN for Textbook**

**Required Lecture Text ISBN:** TBA
**Recommended Lecture Text**  **CAMPBELL 11th EDITION:** 9780134093413

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**Evaluation Procedures**

For this course, as a part of the Hawaiian Field Studies Program, you will be evaluated through various methods. Your grade will be assessed from a combination of traditional lecture exams, lab exams with identification, essays, collections, projects, quizzes and other assignments. Like our work in the field, much of this is subject to the experience itself; and will have some flexibility. Please pay attention to your email for the program as announcements will give a more accurate picture of due dates. Lecture exams and lab exams from the pre-trip and post-trip portion of the class will be given in the testing center at North Lake College’s central campus and must be completed before the deadline expires. In all cases, all work must be done for this program before the **FRIDAY BEFORE DEPARTURE.** Exam re-takes may be available, please take note of announcements. Post-trip exams, and projects must all be completed before
the final exam. The final will be given the Saturday after we arrive home. You may take it early, however, you may not take it late.

Evaluation*

<table>
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<tr>
<th>Evaluation Category</th>
<th>Points</th>
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<tbody>
<tr>
<td>Lecture Exams (4)</td>
<td>100pts each</td>
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<tr>
<td>Lab Assignments (5)</td>
<td>100pts each</td>
</tr>
<tr>
<td>Plant Physiology Power Point</td>
<td>50pts</td>
</tr>
<tr>
<td>Canoe Plant Power Point</td>
<td>50pts</td>
</tr>
<tr>
<td>Hawaiian Plant ID Exam</td>
<td>100pts</td>
</tr>
<tr>
<td>Participation, Quiz Average, and Attendance (Bonus)</td>
<td>100pts</td>
</tr>
<tr>
<td>Notebook</td>
<td>100pts</td>
</tr>
<tr>
<td>Virtual Plant Collection Embedded in Photo Book</td>
<td>100pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100pts</td>
</tr>
<tr>
<td>YOUR GRADE = Your points / 1500</td>
<td>TOTAL 1,500</td>
</tr>
</tbody>
</table>

Your final grade will be given as a percentage of total points achieved divided by the total points available.

*This is subject to alteration** Please see blackboard for the latest version of the assessment.

*It is possible that the Plant Anatomy and Physiology exam may be broken into two exams. See class for detail.

Bonus points are possible, and will added to lowest quiz score by default. Check announcements or ask about opportunities.

Grading Scale

Your final grade will be a combination of both lecture and lab.

- 90-100=A
- 80-89=B
- 70-79=C
- 60-69=D
- 59 and below=F

Exams and Assignments

Pre-Trip Exams Due the Friday BEFORE Departure to Hawaii.
<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
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<tbody>
<tr>
<td>Plant Press and Lab Hand-Ins</td>
<td>Varies</td>
</tr>
<tr>
<td>Hawaiian Plant ID Exam</td>
<td>Online – Must get a 100% before going to Hawaii!</td>
</tr>
<tr>
<td>Participation, Quiz Average, and Attendance (Bonus)</td>
<td>TBA Pre and In Trip</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Take-home essay due before July 11th.</td>
</tr>
<tr>
<td>Field guide AKA Notebook</td>
<td>To be checked before departing Hawaii</td>
</tr>
<tr>
<td>Digital Plant Collection</td>
<td>Due embedded in photo book. Supplementary information due at the time of submission.</td>
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**Attendance Policy**
Lecture attendance is required and will be assessed as part of the misc category of your lecture grade. All responsibility for completing the assignments is that of the student. Attendance will be affected in a field course by participation in activities.

**INSTITUTIONAL POLICIES**

**ADA Statement**
If you are a student with a disability and/or special needs who requires accommodations, please contact the college Disability Services Office.

**AMERICANS WITH DISABILITIES ACT COMPLIANCE**
(Study Abroad For Students With Disabilities)

In accordance with the “Americans with Disabilities Act,” and Section 504 of the Rehabilitation Act of 1973, North Lake College Study Abroad makes every effort to ensure that students with disabilities can participate successfully in study abroad programs.

Please be aware that we cannot guarantee that facilities or support services will be available at each location abroad in the same range and quality as on the NLC campus.

We cannot alter architecture, transportation, or laws in other countries. We can, however, rely on the expertise of the Disability Services Office (DSO) to make an individual assessment of need as it relates to a student’s interest and current support systems, and the availability of accommodations overseas.

**Religious Holidays**
Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to take a make-up examination or complete an assignment within a reasonable time after the absence.

**Academic Honesty**
Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges. Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and
collusion.

As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. More information is available at https://www1.dcccd.edu/catalog/ss/code.cfm.

Personal Policy on Academic Dishonesty
If you are suspected of cheating: Zero on the assignment.
If you are caught cheating: Zero for the course. This also may result in you being removed from the program at your own expense.

<table>
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<tr>
<th>Withdrawal Policy (with drop date)</th>
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<tbody>
<tr>
<td>If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office by (semester's drop date). Failure to do so will result in your receiving a performance grade, usually an &quot;F.&quot; If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a &quot;W&quot; (Withdraw) in each class dropped.</td>
</tr>
</tbody>
</table>

As this course is a field course and a connected program, if you drop the course while we are in the field you will be sent home at your own expense. All students are expected to take ALL of the courses in the program, so this pertains to the entire program of courses. Drop one, you will be excused from the program at your own expense.

**STOP BEFORE YOU DROP**
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than six courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated six non-exempt drops, you cannot drop any other courses with a “W.” Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: https://www1.dcccd.edu/coursedrops

*Dropping the courses for this program will make the student ineligible for travel.*

<table>
<thead>
<tr>
<th>Repeating this Course</th>
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<tbody>
<tr>
<td>Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. This class may not be repeated for the third or subsequent time without paying the additional tuition. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 semester. More information is available at: <a href="https://www1.dcccd.edu/catalog/ss/oep/third_attempt.cfm">https://www1.dcccd.edu/catalog/ss/oep/third_attempt.cfm</a>.</td>
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<tr>
<th>Financial Aid</th>
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<tr>
<td>Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject</td>
</tr>
</tbody>
</table>
You must attend and participate in your on-campus or online course(s) in order to receive federal financial aid. Your instructor is required by law to validate your attendance in your on-campus or online course in order for you to receive financial aid. You must participate in an academic related activity pertaining to the course such as but not limited to the following examples:

- initiating contact with your instructor to ask a question about the academic subject studied in the course;
- submitting an academic assignment;
- taking an exam;
- completing an interactive tutorial;
- participating in computer-assisted instruction;
- attending a study group that is assigned by the instructor;
- or participating in an online discussion about academic matters relating to the course.

In an online class, simply logging in is not sufficient by itself to demonstrate academic attendance. You must demonstrate that you are participating in your online class and are engaged in an academically related activity such as in the examples described above.

The instructor reserves the right to amend this syllabus as necessary.

**CLASSROOM POLICIES**

**E-Mail Policy**

Email: mdempsey@dcccd.edu  
Skype: nlcbioprof

You can expect a 24hr turn around for your email during the business week (assuming I am not also experiencing a technical difficulty). You can expect a 48hr turn around on the weekends, again technology permitting. If you do not hear back from me in a timely manner, please call 972-273-3279 (my office phone), perhaps the internet is broken.

Please, as with all communications in class, keep it classy and respectful.

Discussion Board responses, emails, and all other correspondence among faculty and students enrolled in this class are expected to conform to the level of conduct that would be expected in a regular classroom. Students should feel free to express disagreement with the instructor and other students but it must be done in a manner which is not verbally abusive, threatening, or harassing. Communication among students is encouraged but must end if one of the parties requests that it be terminated.

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.
Violation of these guidelines may result in disciplinary action against the offending student. This action can include termination of the student's participation in the class and a grade of F.

With Skype, please feel free to disable your video feed.

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<tr>
<th>Classroom Policy</th>
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<tr>
<td>When it comes to classroom policy, I will cover it in the first lecture. I do, however, want to say that anything that violates the student code of conduct, or disrupts the class/learning environment will not be tolerated.</td>
</tr>
<tr>
<td>OFFICE HOUR POLICY: My day job, even though it is on-campus, needs to be considered as an unavailable time for me. Please email me for an appointment. I will be available some nights and online, however, my 8-5 job needs to be considered off-limits.</td>
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<tr>
<th>Science Learning Center</th>
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<tr>
<td>The Science Learning Center (SLC) provides student services in the following subjects (majors and non-majors): Biology, Botany, Microbiology, Anatomy and Physiology, Chemistry, Geology, Physics and Ecology.</td>
</tr>
<tr>
<td>The center is located in P-333 &amp; P-334 and offers various resources all of which are free to the students. The SLC 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 SLC 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 center, just ask a tutor.</td>
</tr>
<tr>
<td>Please sign in and out. This data helps us keep the center stocked, running, and most of all, free of charge!</td>
</tr>
<tr>
<td>Summer Hours of operation – M-R 2PM – 7PM</td>
</tr>
<tr>
<td>Contact information</td>
</tr>
<tr>
<td>Center Phone: 972-273-3273</td>
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SAGE DIPLOMA
AKA the Green Diploma

Think Green!
## Green Diploma

The green diploma is a graduation distinction awarded for the successful completion of designated “green” courses. The curriculum for green courses includes assignments and teaching methodology focused on the triple bottom line of society, economy, and environment. Faculty members pledge to go paperless and reduce each course's environmental impact. Students who earn the Green Diploma wear a green cord at graduation to recognize their achievement.

### Requirements for earning the Green Diploma

- 15 college credit hours of "green" coursework
- grade average of "C" or better
- at least one class from each category of sustainability: environmental, economic, social

"Green" courses are offered in a variety of programs, and course availability varies by semester. [View the complete green catalog](#) (PDF).

This course satisfies four hours of the green diploma in the credit of sustainable environment.

### Service Learning

This class is also being offered at a SERVICE LEARNING COURSE. This means that participation in a service learning project will take place. Each student will receive credit for service learning (approximately 15hrs) and will receive a certificate upon completion of the course.