

Tohono O'odham Community College Spring 2016



Syllabus: *ANR 130N*

Plant Science

Course Information

Course Prefix/Number: **ANR 130N**
Semester: **Fall 2016**

Plant Science is part of the curriculum for Tohono O'odham Agriculture and Natural Resource program Associate of Applied Science degree. The course is important to understand basic processes that govern wild and cultivated plant growth. This is a lab course that involves some hands-on work to provide a better understanding of these processes. As relevant, labs will focus on crops and woody plants traditionally grown on the Nation.

Credit Hours: **4 credits**

Course Title: **Plant Science**

Class Days/Times: **1:15 PM to 4 PM**

TTh (**Tuesdays and Thursdays**, aka TR)

Location: Meet at **Main Science Lab**

(Room 5 in main building of main campus)

Instructor Information

Dr. Melanie Lenart specializes in how plants and climate interact, from the local to global scale. As a scientist, she applies her understanding of natural ecosystems, permaculture and water harvesting to efforts to grow, process and market products involving sustainable agriculture. As a writer, she has written about environmental issues and sustainability for newspapers, magazines, websites, Extension publications and books.

Mr. Clifford Pablo joined TOCC in 2008 as the college's Student Learning Farm Manager and Extension agent. He has a lifetime of experience in modern and traditional agriculture and natural desert resources. In 1971, he helped found the San Xavier Coop Farm, located in the area he grew up farming with his grandfather in the village of Wa:k (San Xavier). He focuses on growing traditional crops using sustainable approaches.

Primary instructor : Dr. Melanie Lenart

E-mail: melenart@tocc.edu

Phone/Voice Mail: 520-465-6877 (mobile)

Auxiliary instructor : Mr. Clifford Pablo

Email: cfpablo@tocc.edu

Phone: 520-993-0314

Office location: Room 101 of faculty building.

Office hours: 4 to 5 p.m. on Thursdays, and by appointment as needed beyond this.

Important Phone Numbers

For short questions concerning subject matter or to schedule an appointment: 465-6877.

For general information about Tohono O'odham Community College: 383-8401.

Course Description

An introduction to the principles of plant growth, development, reproduction, and structure of vascular plants at the cellular, organism and ecosystem levels. This course will address plant growth in the context of climatic and environmental influences, with global and evolutionary patterns considered. Emphasis on traditional crops and woody plants of Southern Arizona. Plant Science 130N is recommended for TOCC TOANR students and fulfills 4 units of science for TOCC AA, AS, ABUS, AGS, and AAS majors.

The course will encourage the involvement of the Student Learning Farm manager in some hands-on activities, which will help establish a role for traditional approaches to promote plant growth in a variety of contexts. The course will also strengthen individuals, families and communities by helping to prepare students to grow their own healthy food and shade-providing plants.

After completion of the course students will be able to ...

1. Recognize the role of plants in space and time, and how they interact with animals, their environment, and climate.
2. Gain insights into how plants grow at the cellular, organism and ecosystem levels in the context of available resources.
3. Identify the components of roots, stems, leaves, and flowers, and understand how these components serve vegetative and reproductive growth and development.
4. Understand how plant growth relates to availability of resources, including water, nutrients, carbon dioxide, sunlight, and suitable weather.
5. Understand the role of major and minor nutrients in plant development.
6. Learn effective plant propagation methods, and apply some of these methods to grow plants with useful products (such as food and fiber) or services (such as shade and habitat).

Tohono O'odham Community College Spring 2016

Course Structure

Class will meet in the Science Lab on main campus. In general, each week will cover a different topic. Some lab work will occur in the Science Lab, along with lectures and exercises. At least a few labs will involve hands-on work involving planting and caring for plants. If travel to the West Campus Student Learning Farm is needed, transportation will be provided and the time frame will fall into the regular schedule.

Course Assessment

Students will be evaluated based on the system in the table below. Assessment feedback will be provided informally on an ongoing basis, and formally in response to written exercises. Students will have an opportunity to share feedback on their course experience through an anonymous mid-course survey and final course evaluation.

Texts and Materials

Students will use an i-pad to do online research and to access supplemental reading materials as needed. Some handouts may be provided in class.

Evaluation:	Points:	Percent of Total Points:
Participation and Attendance (Includes some in-class exercises, but some work could be counted separately below.)	540 points (20 points each for 27 sessions)	54%
Field Trip(s) and/or hands-on work. Schedule TBD, with student availability in mind. October 22 is a likely date for a field trip.	100 points	10%
Quizzes/Exams. Two to three exams will focus on material covered. Quizzes are likely along the way to assist with this.	150 points	15%
Labs, homework and exercises. Point values of these assignments will be indicated when distributed to students.	160 points	16%
Final Presentation related to growing and reproducing plants.	50 points	5%
Total	1,000 points	100%

Himdag Cultural Component

Tohono O'odham traditions and cultural beliefs will be discussed as relevant to course topics, and only as appropriate to the Tohono O'odham Nation's traditional standards for sharing information as determined by the Himdag Committee.

Proposed Course Outline

- I Role of plants in O'odham life
- II Plants in space and time (ecology and evolution)
- III Plant growth and development
- IV Monocots and dicots
- V Plant cells
- VI Plant tissues
- VII Roots
- VIII Stems
- IX Leaves
- XI Flowers, fruit and seeds
- XI Sexual and asexual reproduction
- XII Plant propagation
- XIII Photosynthesis, respiration and transpiration
- XIV Plant nutrients
- XV Soil and water management/conservation

Please note that the topics are not necessarily in the order in which they will be covered. Also, the course is not limited to these topics. We will take advantage of events (harvesting prickly pear fruit and crops, participating in campus or local activities, etc.) as opportunity arises. We may adjust our schedule to do this.

Policies and expectations

Course Policies Requirements

- 1) Attend class regularly, arriving on time. This is particularly important on days involving hands-on work.
- 2) Complete in-class and out-of-class assignments, including laboratories, and submit to the instructor in a timely fashion. Points will be lost for handing in materials late.
- 3) Attend field trips and any other outings as required.
- 4) Do a final presentation based on a topic selected by you but subject to instructor approval.

Attendance

This course includes hands-on work as well as academic rigor, and much of your learning will be done in class and laboratories. Participation and Attendance counts for just over half of the grade, with points given for attending and also sometimes for work done in class. However, keep in mind that this translates to a potential problem if you don't attend class. This is not a course where you can show up to take exams and expect to pass. If you do have a real emergency of a good cultural reason to miss class, please alert me in advance of the class if possible.

You are expected to arrive to class on time and actively participate during each class period. Points can be taken off for tardiness. Transport to a different location and class activities often begin at the start of class and may be missed if you do not arrive to class on time. In some cases, you may have time in class to work on assignments.

You may request to be excused from class for religious observances and cultural practices, for

Tohono O'odham Community College Spring 2016

illness, for travel, or for personal or family emergency. If you will be absent or have been absent, please notify the instructor as soon as possible. See above for email and phone contact information. Text messages are fine, as long as the student includes his or her name in the text message. Unless the nature of the emergency precludes it, students should inform the instructor of absences BEFORE they occur.

If you miss all or a portion of a class, then you are solely responsible for obtaining missed class material from the instructor or fellow students. In some cases, missed assignments can be made up, but it is up to the student to inquire about whether this is possible for any classes they miss. Points will be lost for handing in assignments late, and individual assignments will only be accepted up to the time they are handed back or covered in class.

Four consecutive, unexcused absences may result in an administrative withdrawal.

Make-up policy

Late assignments that can be made up will be accepted but will be penalized 25%. At the instructor's discretion, extra credit opportunities and optional activities may be provided.

Academic Integrity

Violations of scholastic ethics are considered serious offenses by Tohono O'odham Community College, the Student Services Department, and by your instructor. Students may consult the TOCC Student Handbook sections on student code of conduct, on scholastic ethics and on the grade appeal procedure. Copies are available at Tohono O'odham Community College.

All work done for this class must be your own. In some cases (as indicated in class), you may discuss assignments with other class members, but the final product must clearly be your own, described in your own words. You may use work from books and other materials if it is properly cited. Copying from a book without proper reference or from a person under any circumstances will result in an "F" for the assignment, and at the instructor's discretion, possibly an "F" for the course.

ADA Compliance

Tohono O'odham Community College strives to comply with the provisions of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you have a learning problem, physical disability, or medical illness that requires you to have any special arrangements, please inform your instructor at the beginning of the semester so your academic performance will not suffer because of the disability or handicap.

Classroom Behavior

- Because of insurance limitations, non-registered visitors are not allowed at class sessions or on field trips.
- Possession of drugs, alcohol or firearms on college property is illegal.
- Food and beverages are allowed in classrooms.
- Pets, pagers and other electronic devices that distract students are NOT allowed in classrooms. Telephones should be turned off during class, unless the instructor is allowing students to use their tools (calculator, internet access).
- Students creating disturbances that interfere with the conduct of the class or the learning of others will be asked to leave.

Course Feedback

All assignments will be graded and returned to the students promptly, typically within a week after the assignment is closed for handing in. E-mail and phone messages will be returned within two days. A student or the instructor may request a student conference at any time during the semester. Quarterly grade reports will be provided to each student, either in person or via the electronic system of Canvas.

Tohono O'odham Community College Spring 2016

Instructor Withdrawals

Students who have missed four consecutive classes, not submitted any assignments by the 45th day census report due on March 4, 2016, are assumed NOT to be participating in the class and will be withdrawn.

Student Withdrawals

Students may withdraw from class at any time during the first two-thirds of the semester without instructor permission and without incurring any grade penalty. However, there may be financial repercussions if you are receiving financial aid. Please be sure to withdraw yourself by March 31, 2016, if you do not expect to complete the class; otherwise you may receive an "F" grade.

Incomplete (I) Grade

"I" grades are not awarded automatically. The student must request an Incomplete ("I") from the instructor who will judge the student's ability to complete the course on his or her own. Generally the student must have completed over 80% of the course requirements with at least a "C" grade to have the opportunity to take an incomplete.

An "I" requires a written contract between the student and the instructor listing work to be completed as well as how and when the work will be done. If the work is not completed within the contract period, the "I" grade automatically reverts to an "F." "I" grades will not be re-evaluated during the final two weeks of the semester when class activities are normally at their most intense. The practice of taking an incomplete is not recommended, because in most cases an "incomplete" will become an "F."

Special Withdrawal (Y) Grade

The "Y" grade is an administrative withdrawal given at the instructor's option when no other grade is deemed appropriate. Your instructor must file a form stating the specific rationale for awarding this grade. "Y" grades are discouraged since they often affect students negatively. Your instructor will not award a "Y" grade without a strong reason.

Final Grades

Students will receive a grade transcript from the college mailed to the address given with registration materials at the end of the semester when all grades have been recorded.

SPECIAL NOTE TO STUDENT:

For privacy and security reasons, instructors are advised **NOT** to give grades over the telephone. Grades will only be emailed with written permission from the student. Your instructor will make every attempt to follow the above procedures and schedules, but they may be changed in the event of extenuating circumstances.

Students submitting assignments through the mail or by email are advised to make copies for their own protection. If you move during the semester, please file a change of address form with the Student Services Office, and inform your instructor.

GOOD LUCK!