

Department of Natural Sciences
 School of Science, Technology and Mathematics
 Dalton State College

Scheduled Meeting Times			
Type	Time	Days	Where
Class	10:50-12:05 am	TR	PEEPLS HALL 0111
Lab	8:30-10:20 am	T	PEEPLS HALL 0116

Instructor: Dr. Hussein Mohamed

Associate Professor of Plant Biology

Office: Sequoya Hall 237 **Office Phone:** 706-272-2196 **Cell Phone:** 510-255-1393

Email: hmohamed@daltonstate.edu

TANTATIVE IMPORTANT DATES

Should any changes occur, students will have adequate notice to adjust their schedules

Unit I – The World of Plants -----	Jan 10 – Jan 19
Unit II – Plant Structure, Growth, and development -----	Jan 24 – Feb 09
Unit III – Plant Life Cycle and Reproductive Structures -----	Feb 14 – Feb 23
Unit IV – Plant Metabolism and water Transport -----	Feb 28 – Mar 09
Unit V – Plant Breeding, Propagation, and Biotechnology -----	Mar 21 – Mar 30
Unit VI – Plant classification, Evolution, and Diversity -----	Apr 4 – Apr 18
Unit VII – Plant Ecology -----	Apr 20 – Apr 27

Lectures’ Exams Schedule

Lecture exam I (Unit I) - Online -----	Jan 28 – Jan 29
Lecture exam II (Unit I & II) - Online -----	Feb 18 – Feb 19
Lecture Exam III (Unit III & IV) - Online -----	Mar 18 – Mar 19

Lab’s Quizzes & Exams Schedule

Lab Quiz 1 -----	Jan 24
Lab Quiz 2 -----	Jan 31
Lab Quiz 3 -----	Feb 14
Lab Quiz 4 -----	Feb 21
Midterm Lab Exam -----	Feb 28
Lab Quiz 5 -----	Apr 04
Final Lab Exam -----	Apr 24

Final Exam (Units V; VI; and VII) (Tuesday: 10:30 AM – 12:30 PM) ----- In Class May 02

COURSE INSTRUCTOR’S OFFICE HOURS

Monday & Wednesday	10:30 AM – 12:30 PM
Tuesday	08:30 AM – 10:30 AM

Other times may be arranged by appointment, although you are welcome to stop by my office or lab at any time. Questions submitted via email will be responded to as promptly as possible.

Course Contents

General Botany provides an introduction to the study of the structure, reproduction, and physiology of plants. The course deals with life processes of plants: those include, among others, germination, growth, anatomy and differentiation, metabolism, photosynthesis, stress physiology, flowering, fruiting and plant natural products. The course provides also an introduction to molecular techniques used in plant biotechnology, and in vitro plant culture and multiplication. The course integrates different levels of organization from molecular to ecosystem function such as biotic interactions, herbivory and plant chemistry and the balance between growth and defense, up to the level of how to use plants as detectors.

Textbook: Stern's Introductory Plant Biology - Ed.13. McGraw Hill ISBN 0073369446

Lab Manual: No lab manual is required. Handouts will be provided.

Expected learning outcomes

General Course Objectives:

1. To help prepare students who wish to pursue upper division coursework in biology or biology-related fields.
2. To provide students with an opportunity to understand and appreciate the complexity and relationships of living systems.
3. To help students become better informed regarding the role of plants in the environment and the use of plants by humans.
4. To introduce students to the world of plants and to the fundamental concepts and processes that underlies their forms and functions.
5. To develop concepts regarding the factors leading to the great diversity among plants and the need to maintain this diversity.
6. To make students aware of changing technologies in science and the responsibilities and ethical decisions that comes with the use of various technologies.

After completing the course, students should be able to:

1. Acquire general knowledge about the morphology, anatomy, physiology, development, evolution, and ecology of plants to be used for everyday life and future careers;
2. Be able to differentiate among gymnosperms, monocotyledons, and dicotyledons and identify and know the common and scientific names of the most common plants on campus;
3. Become botany literate by knowing, understanding, and using the terminology associated with plant biology;
4. Use critical thinking in analyzing and recognizing the fundamental relationship between form and function in plants and in identifying relationships between plants and their environment;
5. Develop an appreciation for the diversity of plant life, understand the importance of plants on Earth and identify benefits that the study of botany has brought to human society
6. Perform good laboratory practices in plant biology and sterile in vitro plant culture.

Subject Matter

Unit I – The World of Plants

1. The importance of plants
2. Plant characteristics and diversity
3. Plants and people
 - a. Ethnobotany and economic botany
 - b. The origin of agriculture
 - c. Naturel plant products

Unit II – Plant Structure, Growth, and development

1. The primary plant body
2. Morphological features of plant body: Vegetative organs: root, stem, and leaf
3. Basic types of plant cells
 - a. Meristematic tissues
 - b. Parenchyma, collenchyma, and sclerenchyma cells
 - c. Vascular tissues
 - d. Secondary growth in plants

Unit III – Plant Life Cycle and Reproductive Structures

1. Meiosis and alternation of generations
2. Cone and flower structure
3. Fruit structure
4. Seed structure
5. Seed germination

Unit IV – Plant Metabolism and water Transport

1. Photosynthesis
2. Respiration
3. Water and its movement through the plant
4. Transport of minerals and solutes from soil to roots, stems, and leaves

Unit V – Plant Breeding, Propagation, and Biotechnology

1. From Mendel to gene expression
2. Hybridization and traditional plant breeding
3. Plant genetic engineering and genetically modified crops

Unit VI – Plant classification, Evolution, and Diversity

1. Nonvascular plants (Bryophytes)
2. The seedless vascular plants
3. The seed-nonflowering plants (Gymnosperms)
4. The seed-flowering plants (Angiosperms)

Unit VII – Plant Ecology

1. Plants and the dynamics of communities and ecosystems
2. Human impacts and conservation biology

Tentative Laboratory Schedule

While changes to the syllabus after the start of the course are uncommon, the Professor reserves the right to adjust the course schedule including modifying dates associated with topics, readings, and assignments. If any changes are made to your syllabus, you will have adequate notice to adjust your schedule. Should any changes occur, they will be dictated by student needs and professional determination that you will benefit from the change.

Date	Lab	Activity	Lab Report Due
01/17/17	Lab 1	Morphology of plants: examine morphological features of different plant types	01/24/17
01/24/17	Lab 2	Plant cells: Onion leaf epidermis; Elodea leaf; potato tuber cells; tomato epidermis; and Asparagus tuber cells Lab Quiz 1: Morphology of Plants	01/31/17
01/31/17	Lab 3	Anatomy of stems: Fundamental tissues; ground tissues; vascular tissues; and woody stems vs. herbaceous stem tissues in Cross and longitudinal sections. Lab Quiz 2: Plant Cells	02/07/17
02/07/17	Lab 4	Anatomy of stems: Eudicot and Monocot stems	02/14/17
02/14/17	Lab 5	Anatomy of leaves: External and internal features of monocot and eudicot leaves; and leaves adaptations to extreme environments. Lab Quiz 3: Anatomy of stems	02/21/17
02/21/17	Lab 6	Anatomy of roots: Regions of growth in a root; Eudicot vs. monocot roots Lab Quiz 4: Anatomy of leaves	02/28/17
02/28/17	Lab Exam: Compare and contrast the morphological and anatomical features in eudicot and monocot plants		
03/07/17	Lab 7	Photosynthesis: Pigment Chromatography. Measuring photosynthesis	
03/14/17	No Lab	Spring Break	
03/21/17	Lab 8	Diffusion and Osmosis	03/28/17
03/28/17	Lab 9	Classification and Systematics: Nonvascular plants (mosses gametophyte and sporophyte). Seedless vascular plants (lycophyte and pteridophyta). Lab Quiz 5: Photosynthesis	04/04/17
04/04/17	Lab 10	Classification and Systematics: Seed-nonflowering plants (Gymnosperms).	04/11/17
04/11/17	Lab 11	Classification and Systematics: Seed-flowering plants (Angiosperms)	04/18/17
04/18/17	Lab 12	Angiosperms Fruit types: Fleshy fruits; dry dehiscent fruits; dry indehiscent fruits	04/25/17
04/25/17	Final Lab Exam (Classification and Systematics)		

INSTRUCTIONAL METHODS (INCLUDING EXAMINATION POLICIES):

ATTENDANCE POLICY:

Attendance is required. You are expected to be in class on time and stay until class is dismissed. *Not all of the information given in a chapter of the book will be covered. Details of pertinent information will be given in the lectures. Therefore, it is important to attend class and take notes.* Attendance will be taken every class period. Absence from class, even for legitimate reasons, has an impact on your overall learning and sharing of information in class. *If you are absent for any reason, it is expected that you get notes and handouts from a classmate.* Class absences will negatively impact overall grade in the course.

COURSE EVALUATION:

Course evaluation will be based on homework assignments, short writing assignments, and exams. Final grades will be based on the total points obtained at the end of the semester out of the total available points. A grading curve will be applied if **absolutely** necessary and only at the end of the semester.

GRADING SYSTEM:

A	B	C	D	F
90 -100%	80-89%	70 – 79%	60 – 69%	<60%

GRADE BREAKDOWN:

Component	%
Lecture Exams (3x10% each)	30
Comprehensive Final Exam	20
Lecture Assignments	15
Lab Quizzes/reports	20
Lab Final Exam	15
Total	100

EXAMS AND QUIZZES:

Exams and quizzes will consist of multiple choice and short answer questions. Exams and quizzes dates will be announced at least one class period in advance.

EXTRA CREDIT

No extra credit will be available.

MAKE-UPS:

The student shall be allowed to make up any work missed during the time he/she is off campus representing DSC in an official capacity. He/she shall discuss what will be missed with the instructor and make arrangements to make up any assignments, tests, presentations, etc. that were scheduled on that date.

Make-ups for exams will be allowed for reasonable and verifiable excuses. Examples of reasonable excuses are: medical emergency, family death, illness that requires doctor's care. I will not allow a make-up for any unreasonable excuse.

DROP/WITHDRAWAL POLICY:

Students wishing to withdraw from the course may do so without penalty until the mid-point of the semester, and a grade of **W** will be assigned. After that point, withdrawal without penalty is permitted only in cases of extreme hardship as determined by the Vice President for Academic Affairs; otherwise a grade of **WF** will be issued. (At Dalton State College, the Hardship Withdrawal process requires students to withdraw from all classes at the college.) The proper form for dropping a course is the **Schedule Adjustment Form**, which can be obtained at the Enrollment Services Office in Westcott Hall. The Schedule Adjustment Form must be submitted to the Enrollment Services Office. Students who disappear, completing neither the official withdrawal procedure nor the course work, will receive the grade of **F**.

This instructor will not withdraw students from the class. Withdrawal from any Dalton State College classes is a student responsibility.

COMPLETE WITHDRAWAL STATEMENT:

The proper form for withdrawing from all classes at the college after the official drop/add period but before the published withdrawal date is the **Schedule Adjustment Form**. *All students must* meet with a staff member at the Office of Academic Resources in the Pope Student Center to initiate the withdrawal process. After meeting with the staff member, students will then finalize the withdrawal process in the Enrollment Services Office.

ETHICAL CONDUCT

Academic Dishonesty: Cheating and plagiarism are a part of the Dalton State Code of Student Conduct, which can be found in its most updated form at <http://daltoncampuslife.com/student-conduct/>. ANY assistance provided or given in any way toward work in a class constitutes cheating, unless such behavior is authorized by your instructor. Additionally, any use of the ideas or words of others should be noted, or this will constitute plagiarism. For more details on what Dalton State considers to be Academic Dishonesty, please review the Code of Student Conduct. Instructors will assign grades based on classroom performance. Additional sanctions may be provided as a learning experience from the Student Conduct process. Borrowing another students' work or collaborating on an assignment not designated as collaborative is unacceptable. Furthermore, presenting work that was completed for another class, while not plagiarism technically, is not the same as presenting original work, and is therefore unacceptable.

Classroom Behavior: Dalton State is committed to respect via the Roadrunner Respect pledge. To learn more, please visit <http://daltoncampuslife.com/roadrunner-respect/>.

“I pledge to show my fellow Roadrunner students, faculty, staff, and administration respect by treating others the way they want to be treated and by thinking about others first before making decisions that might affect them”.

OFFICIALLY APPROVED DSC GROUPS AND ACTIVITIES

When students are engaged in officially approved Dalton State groups or activities that require them to participate in events off campus during school days, they shall be treated similarly to any faculty or staff member acting in that same capacity. Thus, just as faculty and staff have excused absences from their regular work schedules, students shall be excused from class without penalty if they are off campus representing Dalton State College in an approved, official capacity during their regular class time. Examples include presenting a paper or otherwise participating in a conference, attending a University System student affairs event, participating in intercollegiate competition (athletic or academic), participating in an approved field trip, etc.

The student needs to provide the following information to the instructor prior to the date when he/she will be absent from class:

- Notification of the event (in the case of athletics, students should provide each instructor a schedule of away events at the beginning of the semester or as soon as possible after the schedule is available);
- estimated time of departure from and return to campus (for example, if a student has an away game in the evening and will not be leaving campus until 3:00, he/she will not be excused from classes prior to that time on that day; similarly, if the event is in the morning and the student will be returning to campus during the day, he/she is expected to attend any class scheduled after the return trip); and
- contact information for the person or organization sponsoring/authorizing the student's participation in the event.

DISABILITY SUPPORT SERVICES

Students with disabilities or special needs are encouraged to contact **Disability Support Services**. In order to make an appointment or to obtain information on the process for qualifying for accommodations, the **student** should visit the Disability Support Services Library Guide at <http://www.libguides.daltonstate.edu/Disability> or contact the Coordinator of Disability Support Services:

Andrea Roberson, Coordinator Pope Student Center, lower level 706/272-2524
aroberson@daltonstate.edu <http://libguides.daltonstate.edu/c.php?g=24716&p=149667>

Workforce Innovations Opportunity Act: Questions regarding students receiving financial assistance through the Workforce Innovations Opportunity Act should be directed to 706- 295-6840.

TITLE IX INFORMATION:***Sex Discrimination, Harassment, & Assault***

Sexual harassment is unwelcome, gender-based verbal or physical conduct that is sufficiently severe, persistent or pervasive that it has the effect of interfering with, denying or limiting someone's ability to participate in or benefit from the college's educational program and/or activities, and is based on power differential (quid pro quo), the creation of a hostile environment, or retaliation.

Sexual misconduct is a form of sexual harassment prohibited by Title IX. Sexual misconduct refers to "physical sexual acts perpetrated against a person's will or where a person is incapable of giving consent due to the victim's use of drugs or alcohol. An individual also may be unable to give consent due to an intellectual or other disability." Sexual misconduct includes dating violence, domestic violence, rape, sexual assault, sexual battery, stalking, and sexual coercion.

Reporting Options**Call 911 if you are in an emergency situation****Dalton State Public Safety (this report is not confidential)**

Tech Building- Upper Level - 706-272-4461 Online Sexual Assault Report - <https://dynamicforms.ngwebsolutions.com/ShowForm.aspx?RequestedDynamicFormTemplate=3fe5724c-a8bd-4a31-9c25-1a3d35110a51>

If you would like to report to Dalton State Administration: (this report is not confidential)

Report Title IX complaint online - http://daltonstate.edu/campus_life/student-conduct_bout.cms

Report Student-on-Student Title IX complaint in person: Brittnee Lee, Office of Student Life
Coordinator for Student Responsibility & Service/ Deputy Title IX Coordinator
Pope 113
balee@daltonstate.edu, 706-272-2999

Report Title IX complaint involving Faculty or Staff in person: Faith Miller, Human Resources
Director of Human Resource/ Title IX Coordinator Memorial 122
fmiller@daltonstate.edu 706-272-2034

If you would like to talk with someone confidentially:

Dalton State Counseling & Career Services
Academic Resources. Lower Pope. 706-272-4429
counseling@daltonstate.edu
<http://libguides.daltonstate.edu/Counseling>