ITAWAMBA COMMUNITY COLLEGE
AGR 1313 – Plant Science
Syllabus

Course Description: An introductory course providing students with an overview of the basic biological principles, scientific relationships, and management practices of plants and their cultivation. The course will provide instruction in environmental, cultural, plant structure, chemistry, genetics, and development of plant production and utilization.

Credit Hours: Three semester hours

Textbook: McMahon, M and Anton Kofranek and Vincent Rubatzky. 2020. Plant Science. (Sixth Edition). Pearson Education Inc, Hoboken, N.J. ISBN: 9780135184820.

Instructor: Found in Modules under Instructor Information

Assignment	Point Value	Total Points	Percentage of Final Grade
Module Writing Assignments (12)	10	120	6%
Module Lecture Quizzes (12)	50	600	30%
Module Lab Quizzes (12)	25	300	15%
Proctored Mid-Term Exam (1)	500	500	25%
Final Exam (1)	500	500	25%
Total (38)		2,020	100%

Grading Scale

Letter Grade	Minimum Points Required for Letter Grade	Percentage of Total Points
A	1,798-2,020	90% – 100%
B	1,596-1,797	80% - 89%
C	1,394-1,595	70% - 79%
D	1,192-1,393	60% - 69%
F	0000-1,191	0% - 59%

Instructional Techniques

Weekly module assignments of textbook reading, watching, and listening to online video, and discussion of material from assignments.

The Mid-Term Exam will only be given at an ICC testing facility or at a certified proctored site. Please schedule your sitting as soon as possible and stay aware of college and course announcements as this requirement is subject to change due to the Covid-19 pandemic of 2020.

The Final Exam will be made available for you to take online from anywhere. It will be a non-proctored exam but will be timed.

Course Calendar and Due Dates

All course due dates are posted in the course Calendar. Always use the course Calendar in

Modules, and do not rely on the Canvas app calendar or To Do List.

Module Lecture Quizzes
Each week you will be required to complete a module lecture quiz on the material covered that week. Each lecture quiz is worth a total of 50 points. The lecture quiz questions will be True or False, Matching, or Short Answer. Links to access each quiz can be found at the bottom of each module overview.

Module Lab Quizzes
Each week you will be required to complete a module lab quiz on the material covered in that week. These lab quizzes will contain a differing number of questions, but each of these quizzes will be worth 25 points. The lab quiz questions will be True or False, Matching, or Short Answer. Links to access each quiz can be found at the bottom of each module overview.

Writing Assignments
Each week you will be required to complete a module writing assignment. These assignments will be 1 or 2 open ended questions relevant to the material covered that week. Each of these writing assignments is worth 10 points. Links to access each writing assignment can be found at the bottom of each module overview.

Late Assignments
Yes, you may turn in late assignments but turning in the assignment early is always preferred. However, each day your assignment is late, you lose a letter grade. If you have extenuating circumstances, reach out to me and we will discuss your situation.

Proctored Testing
This course requires two proctored exams, which are labeled Midterm Exam & Final Exam in Modules. Proctored exams are password protected and must be taken in a secure, observable environment. It is very important that you review ICC's Proctored Testing Information to learn more about your options for making proctored testing arrangements.

Note: It is the student's responsibility to know testing dates (posted on Calendar) and make arrangements to test prior to deadline.

Attendance Policy
Presence in the online classroom is determined by submitting assignments, you must complete at least **one** of the module assignments each week to be counted present. If you do not complete at least **one** module assignment, you will be counted absent for that week. Students will be automatically dropped once they accumulate their third absence.

Withdrawal Policy
1. Should withdrawal become necessary, **the student is responsible** for completing the paperwork to initiate the withdrawal process.
2. Until you receive an MSVCC confirmation email for withdrawal, you are enrolled in the class. A student will receive a W grade, if withdrawal officially occurs by the date of the last allowable absence.
3. If the student fails to initiate the paperwork before the last allowable absence,

he/she **will** receive the grade based upon the coursework completed.

Class Reinstatement

1. If you have been dropped from this course due to excessive absences and you want to continue in the course, you must seek reinstatement.
2. To begin this process, you must contact your instructor with this request.
3. Your instructor must forward the request with your attendance records to the Dean of Distance Learning Instruction for Itawamba Community College.

Academic Honesty Policy

Itawamba Community College is committed to academic honesty and scholarly integrity. Cheating and plagiarism erode the educational and social values of the College and deprive students of knowledge, skills and character traits valued in the community.

Cheating is the act of deception by which a student misleadingly demonstrates that he/she has mastered information or skills on an academic exercise. Cheating includes, but is not necessarily limited to:

- submitting work that is not the student's own, including papers, assignments or exams
- supplying or receiving in any way unauthorized information for the preparation of a test, exam, or assignment
- communicating during a text/exam with the intent of copying from or supply information to another student
- taking a test/exam with the aid of cheat sheets, notes, or other unauthorized assistance
- improperly using technology including copying or receiving information from others, accessing computer files without authority, and altering records
- assisting any person committing an act of academic dishonesty.

Plagiarism is the representation of previously written, published or creative work as one's own. Examples include, but are not limited to:

- representing any scholarly work of others, such as musical compositions, computer programs, visual arts, as one's own
- offering as one's own work the words, ideas, or arguments of other persons without appropriate credit
- falsifying bibliographies.

First Offense: The student will receive a "0" for the assignment, test, project, etc. The student may not drop this grade.
Second Offense: The student will receive an "F" for the course.
Third Offense: The student will be suspended from the college for two calendar years.

Electronic Policy

Only authorized electronic devices are allowed in the classroom

Instructional Techniques

Weekly module assignments of textbook reading, watching and listening to video, and discussion of material from assignments.

Course Outline and Student Learning Objectives

eLearning Orientation Module

1. Comprehend and understand eLearning policies and procedures.
   NOTE: Access to the 12 course-modules will NOT be granted until the eLearning Module is completed.

Module 1 Chapters 1 and 14 – Plant Science Intro & Soil, Water, and Fertility Management

1. Discuss the role that plant science has played and continues to play in the world economy and culture.
2. Explain why modern plant scientists take into consideration production efficiency, economic viability, environmental compatibility, and social responsibility when researching the solution to a problem.
3. Describe the importance and principles of research in plant science.
4. Explain why and how land is prepared for growing plants.
5. Describe how improper soil handling degrades soil and how improper handling improves soil.
6. Explain the practices that improve degraded soil and prevent degradation and conserve soil.
7. Discuss the basic principles and components of irrigation and drainage.
8. Describe how plant nutrition is managed through fertility practices.

Module 2 Chapters 2 and 15 – Terrestrial Ecosystems & Integrated Management of Pests

1. Describe the fundamental importance and relationship of plants and other organisms in terrestrial ecosystems.
2. Describe the different biomes of the world, how they are created, and how they determine what plants grow there.
3. Explain the relationship between natural ecosystems and the ecosystems we create when we grow plants.
4. Explain what influences photosynthetic productivity in natural and cultivated ecosystems.
5. Discuss the impact that cultivating plants has on ecosystems.
6. Explain the foundational concepts of weed science, entomology, and plant pathology.
7. Discuss five major strategies for managing weeds, insects, and diseases and how they can be combined to develop an integrated plant health management (IPHM) program.

Module 3 Chapters 3 and 16 – Plants for Human Use & Considerations for Products, Harvest, Postharvest Handling and Marketing

1. Discuss why plants must be cultivated for human use.
2. Describe the many ways plants are needed and used by humans.
3. Describe how growing plants impacts our energy use and carbon footprint.
4. Discuss the factors to consider when doing a site analysis of the area where plants will be grown.
5. Explain the differences among traditional, organic, and sustainable production practices.
6. Describe how environmental factor management applies to growing plants.
7. Discuss the basic principles of harvesting.
8. Describe how quality changes after harvest.
9. Identify strategies to maintain quality after harvest.
10. Explain how the production of crops is linked with consumption through marketing and

transport.

Module 4 Chapters 4 and 17 – Climate and Agronomic Crops

1. Describe the factors that create climate.
2. Explain the interaction between climatic variables and how they vary from location to location.
3. Describe how climate factors influence plant growth and determine what plants can grow in an area.
4. Discuss what can be done to modify climate factors to improve crop growth.
5. Discuss the cultural practices common to nearly all field crops and the reasons behind those practices.
6. List the major field crops grown for food, fiber, fuel, and other industrial uses.
7. Describe the specific cultural practices used for growing many of those crops.

Module 5 Chapters 5 and 18 – Soils and Forage Crops

1. Discuss the concept that soil ecology is a complex system made up of many living and nonliving components.
2. Describe the components that make up a soil ecosystem and how they interact.
3. Describe the factors that influence soil formation and give soil its physical and chemical characteristics.
4. Describe the different types of forage and rangeland crops.
5. Explain the principles of hay and silage growing, harvesting, and storage.
6. Discuss rangeland ecology and the principles of rangeland management.
7. Describe the diverse uses of rangelands.

Module 6 Chapters 6 and 19 – Structure of Higher Plants and Vegetable Crops

1. Define the terminology that describes plant cells, tissues, and organs.
2. Explain the basic functions of plant cells, tissues, and organs.
3. Explain how some of the practices we use to grow plants are directed at specific tissues and organs.
4. Explain how vegetable production benefits society.
5. Discuss the differences among field, tunnel, and greenhouse vegetable production.
6. List the basic steps to successful vegetable production.
7. Describe the basic characteristics of the major vegetable crops.

Mid-Term Exam

- Will encompass Modules 1-6 and provide an opportunity for the student to display the knowledge gained from the first half of the course.

Module 7 Chapters 7 and 20 – Stages of Growth & Development and Temperate Fruit Crops

1. Know the difference between plant growth and plant development and understand ways to measure each.
2. Understand the factors that affect plant growth and development and what the effects are.
3. Understand how those factors can be manipulated to control plant growth and development.
4. Recognize the categories of plant hormones, understand their role in plant growth and development, and how they are used to control plant growth and development.

Module 8 Chapters 8 and 21 – Plant Chemistry & Tropical and Subtropical Fruits and Nuts

1. List the major biochemicals found in plants.
2. Explain how some of those chemicals are formed and some of their uses.
3. Describe how relatively few elements (carbon, hydrogen, oxygen, nitrogen, phosphorus, sulfur) are combined in nearly innumerable ways to create the structures or perform the functions required for plant growth and development.
4. Discuss the principal components of the tropical environment that differ from those of temperate environments, and how they influence the manner in which crop production is undertaken in the tropics and subtropics.
5. Explain the rationale for the adoption of diverse techniques and the manner in which these techniques are employed by small-landholder farmers to optimize crop production systems in diverse tropical environments.
6. Identify leading tropical fruit and nut species produced on both a large scale for export as well as in small settings near the home.

Module 9 Chapters 9 and 22 – Genetics & Nursery Production

1. Explain how the basic concepts of genetics relate to the production and utilization of plants.
2. Describe the common methods of plant breeding and sexual and asexual propagation.
3. Discuss how genetic engineering is used to introduce genetic traits into plants from unrelated or distantly related organisms.
4. List the factors that go into site and product selection for a nursery.
5. Explain the principles of field and container (including pot-in-pot) nursery crop production.
6. Discuss the importance of and the methods for testing media fertility for container production.

Module 10 Chapters 10 and 23 – Cultivated Plants and Floriculture

1. Explain how plants are named and classified.
2. Use the nomenclature and system of taxonomic classification to identify plants and their relationship to each other.
3. Explain how several crops originated and where they were domesticated.
4. Discuss the importance of saving germplasm from extinction and the global system created to preserve germplasm.
5. Describe the basic greenhouse structure and components.
6. Explain how the greenhouse environment is manipulated to regulate plant growth and development.
7. Discuss the principles of growing several greenhouse crops.

Module 11 Chapters 11 and 24 – Photosynthesis and Turfgrasses

1. Explain the importance of the carbon cycle to life on Earth.
2. Describe the process of photosynthesis and how radiant energy is converted to chemical energy.
3. Explain the process of respiration and how it releases the chemical energy from photosynthesis.
4. Discuss how the carbon cycle relates to practices used in growing plants.
5. Define the terms commonly used in turfgrass science.
6. Explain the principles for establishing and maintaining turfgrasses.
7. Describe the different types of turfgrass and the environmental and cultural requirements of each type.

Module 12 Chapters 12 and 25 – Water Relations and Landscape Plants

1. Describe the forces that move and hold water in the soil.
2. Describe the forces that move water from the soil into and through the plant and into the air.
3. Explain the function of water in plants.
4. List the environmental characteristics that affect the growth of trees, shrubs, and herbaceous plants.
5. Describe how to choose and care for trees, shrubs, and herbaceous plants.
6. Discuss the proper planting of trees, shrubs, and herbaceous plants.
7. Explain proper maintenance of trees, shrubs, and herbaceous plants.
8. List the names and characteristics of some of the common landscape plants.

Final Exam

Will encompass Modules 7-12 and provide an opportunity for the student to display the knowledge gained from the second half of the course.

Gender-Based Misconduct

Itawamba Community College is committed to providing an environment free from gender-based discrimination and misconduct. Itawamba Community College will not tolerate gender-based misconduct of any kind. For more information, please visit http://www.iccms.edu/Portals/0/Docs/Information/Publications/StudentGuide.pdf

On-Campus Services

The College will provide options for interim and ongoing support to students who have experienced any form of gender-based misconduct. These options include, but are not limited to, changes in residential assignments, classroom or employment, no-contact orders, and/or academic support. These services may be accessed through the following offices:

-
  -
    - Director of the Tupelo Campus, Student Support Center, Tupelo/Belden, 662.620.5015
    - Director of Housing, David C. Cole Student Services Building, Fulton, 662.862.8232
    - Dean of Students/Title IX Coordinator, David C. Cole Student Services Building, Fulton, Tupelo/Fulton/Belden, 662.862.8271

Campus Police

-
  -
    - Fulton Campus Police, Student Activities Center, 662.862.8300 or 662.687.2750
    - Tupelo Campus Police, Student Services Building, 662.620.5300 or 662.687.2751

- Belden Center Police, Belden Center, 662.407.1570 or 662.687.2752

Off-Campus Services

Additional services such as counseling and medical exams may be accessed off-campus. Referrals may be made by the above-listed offices. If a student wishes for his/her identity and details of the incident be kept confidential, off-campus victims' services and medical services providers can maintain confidentiality.

-
  -
    - SAFE (24-hour/confidential) 1.800.527.7233
    - North Mississippi Medical Center (Tupelo) 662.377.3000
    - Fulton Medical Clinic 662.862.5200

If there is an emergency or to seek criminal remedy, contact 911 or:

-
  -
    - Fulton Police Department 662.862.2299
    - Itawamba County Sheriff's Office 662.862.5575
    - Tupelo Police Department 662.841.6491
    - Lee County Sheriff's Office 662.841.9040

For more information on gender-based misconduct, see Board Policy JCA-R.

Supportive Services

Itawamba Community College's Office of Supportive Services provides services to individuals who are members of special populations. Under the Carl D. Perkins Vocational and Technical Education Act of 1998, special populations include

- Individuals with disabilities;
- Individuals from economically disadvantaged families, including foster children;
- Individuals preparing for nontraditional training and employment;
- Single parents (teens and adults), including single pregnant females;
- Displaced homemakers; and
- Individuals with barriers to educational achievement, including individuals with limited English proficiency.

The Office of Supportive Services coordinators serve as liaisons between instructors, students, and school officials; facilitate student learning, and assist students with the transition from school to work.

Americans with Disabilities Act

In accordance with section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA), a student with a documented disability may apply to the Office of Supportive and Disability Services for accommodations. Assistance and information on the Fulton Campus may be obtained in the Student Services Building (662.862.8173) or on the Tupelo Campus, Student Support Building (662.620.5314).

Itawamba Community College is an equal opportunity institution. The College strictly prohibits discrimination in its educational programs and activities, employment practices and admissions processes on the basis of race, color, national origin, sex, disability, age, religion, ethnicity, pregnancy, sexual orientation, gender identity, genetic information, status as a U.S. veteran or other status protected by applicable law. For more information, contact the Vice President of Student Services, 602 West Hill Street, Fulton, MS 38843, 662.862.8271, or email TitleIXCoordinator@iccms.edu.