Franklin Community High School

Plant and Soil Science

AGRI 105

Course Expectation:

It is my goal as a teacher to create a challenging learning environment where my students will be able to learn through a variety of teaching methods. Through my classes I want to increase my student's knowledge of Plant and Soil Science while also teaching valuable life skills that will be applicable in any chosen career field.

All school handbook policies and rules for grading scale, language, drink/snacks, dress codes, tardiness, discipline, technology policy and all other issues apply in this classroom.

Instructor Information:

Ms. Alicia Geesey   Ivy Tech Email: ageesey@ivytech.edu
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Onsite Campus Location:
Franklin Community High School
Room F122
2600 Cumberland Drive
Franklin, IN 46131
Campus Affiliated: Ivy Tech Columbus

Required Text and Materials:

Chromebook
Folder
Writing Utensil

Course Outline of Record

Course Title: Plant and Soil Science
Course Number: AGRI 105
Prerequisites: None
School: Advanced Manufacturing, Engineering & Applied Science
Program: Agriculture
Credit Hours: 3
Contact Hours: Lecture 3

Catalog Description:

An introduction to plant biology and soil science that provides students with opportunities to participate in a variety of activities including laboratory and field work. Coursework includes hands-on learning activities that encourage students to investigate areas of plant and soil science. Students are introduced to the following areas of plant and soil science: plant growth, reproduction and propagation, photosynthesis and respiration, diseases and pests of plants and their management, biotechnology, the basic components and types of soil, soil tillage, and conservation.

Major Course Learning:

Upon successful completion of this course the student will be expected to:

1. Apply knowledge of plant classification, plant anatomy and plant physiology to the production and management of plants.
2. Prepare and implement a plant management plan that addresses the influence of environmental factors, nutrients and soil on plant growth.
3. Establish management practices for field, greenhouse production.
4. Establish production and maintenance practices for field and greenhouse production.
5. Integrate an environmentally sound pest management system for healthy plant production.
6. Apply methods of plant propagation for plant reproduction.
7. Examine the scope of career opportunities in and the importance of agriculture to the economy.

Activities and Tentative Course Schedule:

Semester 1

Class Meeting	Topic	Assignments	Exams
Week 1	Introduction to Plant Science	Activity 1.1.1 Plant Business, Activity 1.1.2 Agriscience Notebooks,	
Week 2	Introduction to Plant Science	Activity 1.1.3 Surrounded by Plants,Project 1.1.4 Producers Management Guide	Lesson 1.1 Check for Understanding
Week 3	Soil Properties and Quality	Activity 2.1.1 Testing the Feel for Soil,	

		Activity 2.1.2 Adding Structure	
Week 4	Soil Properties and Quality	Activity 2.1.3 Soil Bugs, Activity 2.1.4 The Sponge Effect, Activity 2.1.5 Organic Matter's Influence	Lesson 2.1 Check for Understanding
Week 5	Soil pH and Salinity	Activity 2.2.1 What is the pH problem?, Activity 2.2.2 Correction of a pH Problem, Activity 2.2.3 Salty Soil	Lesson 2.2 Check for Understanding
Week 6	Potting Soil and Artificial Growing Media	Activity 3.1.1 Sorting out Potting Soil, Activity 3.1.2 Calculating Needs	Lesson 3.1 Check for Understanding
Week 7	Hydroponic Systems and Production	Activity 3.2.1 Hydroponically Thinking, Activity 3.2.2 Getting the Dirt on Hydroponics, Project 3.2.3 If You Build It, They will Grow	Lesson 3.2 Check for Understanding
Week 8	Hydroponic Systems and Production	Activity 6.1.2 Detecting Nutrient Problems	
Week 9	Cell Parts and Function	Project 4.1.1 Cell Analogy Collage, Activity 4.1.2 Examining Cell Structure	
Week 10	Cell Parts and Function	Activity 4.1.3 Bound Together, Activity 4.1.4 Cellular Respiration	Lesson 4.1 Check for Understanding

Week 11	Root Parts and Function	Activity 4.2.1 Show Me What You Know, Activity 4.2.2 Root Exam, Activity 4.2.3 Root Cell Differentiation, Activity 4.2.4 Just Passing Through	Lesson 4.2 Check for Understanding
Week 12	Stems Parts and Function	Activity 4.3.1 Examining Stems, Activity 4.3.2 Dependable Meristems, Project 4.3.3 The Life of a Tree	Lesson 4.3 Check for Understanding
Week 13	Leaf Parts and Function	Project 4.4.1 Lewis and Clark Flora Journal, Activity 4.4.2 Sugar Factory	Lesson 4.4 Check for Understanding
Week 14	Flower Parts and Function	Activity 4.5.1 Flower Eggs, Activity 4.5.2 Flower Concept Map, Activity 4.5.3 Flower Forms, Project 4.5.4 Flowers to Fruits	Lesson 4.5 Check for Understanding
Week 15	Classification Systems	Project 5.1.1 Classification Flowchart, Activity 5.1.2 Taxonomic Classification, Activity 5.1.3 Dissecting a Name, Project 5.1.4 Inventing a Plant	Lesson 5.1 Check for Understanding
Week 16	Nutrients and Fertilizer	Activity 6.1.1 In Search of N-P-K, Activity 6.1.2 Detecting Nutrient Problems	

Week 17	Nutrients and Fertilizer	Activity 6.1.3 Fertilizer Figures, Activity 6.1.4 Mighty Micronutrients	Lesson 6.1 Check for Understanding
Week 18	Finals Week		Final Exam

Semester 2:

Class Meeting	Topic	Assignments	Exams
Week 1	Water Requirements	Activity 6.2.1 The Biggest Loser, Activity 6.2.2 Translocation and Transpiration, Activity 6.2.3 Wilting Point	Lesson 6.2 Check for Understanding
Week 2	Light Requirements	Activity 6.3.1 Plant Pigments, Project 6.3.2 Bright Light	
Week 3	Light Requirements	Activity 6.3.3 Dissecting a Rainbow, Activity 6.3.4 Programming Plants	Lesson 6.3 Check for Understanding
Week 4	Temperature Requirements	Activity 6.4.1 Comparing Growing Locations, Problem 6.4.2 Forecasting Harvest	
Week 5	Temperature Requirements	Project 6.4.3 Forcing Bulbs to Grow, Activity 6.4.4 How Low Can You Grow?	Lesson 6.4 Check for Understanding
Week 6	Seed Anatomy and Germination	Activity 7.1.1 A Closer Look at Mitosis, Activity	Lesson 7.1 Check for Understanding

		7.1.2 Splitting Genes, Activity 7.1.3 Mendel's Genetic Studies, Activity 7.1.4 Plant x Hybrida	
Week 7	Pollination, Fertilization, Dispersion	Activity 7.2.1 An Egg is Not Enough, Activity 7.2.2 Biotic Potential	
Week 8	Pollination, Fertilization, Dispersion	Activity 7.2.3 Seed Storage, Project 7.2.4 Dependency of Animals	Lesson 7.2 Check for Understanding
Week 9	Seed Anatomy and Germination	Activity 7.3.1 Baby Pictures, Activity 7.3.4 Seed Viability, Activity 7.3.2 Seed Structure and Enzymes, Project 7.3.3 Needs of Seeds, Activity 7.3.5 Scarification	Lesson 7.3 Check for Understanding
Week 10	Asexual Propagation Methods	Activity 7.4.1 Cutting Up in Class, Project 7.3.3 Needs of Seeds, Activity 7.4.2 The Great Divide, Activity 7.3.1 Baby Pictures	
Week 11	Asexual Propagation Methods	Activity 7.4.3 Buried Alive, Activity 7.4.4 A Grafting Experience, Activity 7.4.5 Best Buds	Lesson 7.4 Check for Understanding
Week 12	Plant Adaptations		
Week 13	Plant Pests	Project 8.1.1 Cause and Infect, Problem 8.1.2 Crop Scene Investigation	

Week 14	Plant Pests	Activity 8.1.3 Predicting Populations, Activity 8.1.4 A Bug's Life	Lesson 8.1 Check for Understanding
Week 15	Plant Disease	Project 8.2.1 Sharing a Disease	
Week 16	Plant Disease	Activity 8.2.2 Spying on Bacteria	Lesson 8.2 Check for Understanding
Week 17	Structures and Equipment	Activity 9.1.1 Farm Machinery, Activity 9.1.2 Artificial Environment, Activity 9.1.3 Irrigation Brief	Lesson 9.1 Check for Understanding
Week 18	Final Exams		Final Exam

ADA Statement:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.

Code of Student Rights and Responsibilities:
Students can review their rights and responsibilities as an Ivy Tech Community College dual credit student here:
https://www.ivytech.edu/studentcode/index.html

Attendance Policy:

Students are expected to attend and participate regularly in class meetings, online learning activities and other activities assigned as a part of a course of instruction. Faculty are required to report student participation in compliance with institutional policies and federal financial aid guidelines. Faculty and staff shall be sensitive to students' religious beliefs and observances, including an expectation that instructors make reasonable arrangements when a student must miss an exam or other academic exercise due to their religious observance. When notified in advance, and when possible, faculty will make allowances for students to make up missed work.

Late Work and Make Up Policy:

Late work will be accepted, with a 10% deduction per week late.

Drop Process and Responsibility:

Each course withdrawal required the student to submit a [High School-Based Dual Credit Drop Form](#) for their instructor's signature to record the last date of attendance. The last date to withdraw from this course is 75% of the Ivy Tech's term. See your local K-14 staff for more specific drop dates.

Methods of Instruction:

Instruction in Advanced Animal Science will be a combination of lecture, discussion, projects, labs, and observations.

Grading Scale:

Ivy Tech Grading Scale must be followed for grades submitted for the students dually enrolled in the high school and Ivy Tech course:

A……………90-100

B…………….80-89

C…………….70-79

D……………60-69

F…………….0-59

Accessing Grades:

Course grades are available for students by logging into Ivy Tech's online student system called, MyIvy, at the following address: https://myivy.ivytech.edu/. Ivy Tech will not distribute grades by mail, you will need to look up your grades in your MyIvy account. There may be a waiting period of 30 days from the end of the high school semester to obtain grades through MyIvy. If you'd like to order an official transcript, check your unofficial transcript first and the order your official Ivy Tech transcript through MyIvy by taking the following steps:

Step 1: Login into your MyIvy account (myivy.ivytech.edu)

Step 2: Select "**Student**" on the left hand side.

Step 3: Select "**Course Info**"

Step 4: Then select "**Request Official Transcripts**"

If you no longer have access to MyIvy because you have not attended in two or more years, click here (https://exchange.parchment.com/send/adds/index.php?main_page=login&s_id=9Su8AzIbYotFXfOT) to request your transcript online. You will need to **Create an Account with Parchment Exchange** if you haven't already done so. Should you need to reset your password, you will click on "**Forgot Your Password**."

Virtual Library
The Ivy Tech Virtual Library is available to students on and off campus. The virtual library includes over 40,000 digital materials, offering full-text journals and books and other resources essential for course assignments. The Virtual Library can be found under the "Library" tab of your MyIvy account: https://myivy.ivytech.edu

Ivy Tech Technical Support: Help Desk
Phone: 1-888-IVY-LINE (1-888-489-5463), select option 4
Student Help Center: http://ivytech.edusupportcenter.com
Submit a Help Ticket: https://helpdesk.ivytech.edu/SelfService/Create.html

Academic Honesty Statement:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement. Cheating on papers, tests or other academic works is a violation of College rules.

No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior

Copyright Statement: Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contains nothing unlawful, unethical, or libelous and do not constitute any violation of any right of privacy.

Course Communication:

Students are expected to uphold their responsibilities in terms of appropriate and professional communication with faculty and peers. Please review the 'Students Rights and Responsibilities'

section of the student handbook (located in MyIvy) and review common netiquette (Internet etiquette) practices, like those found at: http://www.ivytech.edu/online/resources.html

Right of Revision
The instructor reserves the right to change any statements, policies or scheduling as necessary. Students will be informed promptly of any and all changes.