Course Number and Title: AGS 250 Greenhouse Crop Production

Campus Location:
Georgetown

Effective Date:
2020-51

Prerequisite:
AGS 101, AGS 105

Co-Requisites:
None

Course Credits and Hours:
3.00 credits
2.00 lecture hours/week
2.00 lab hours/week

Course Description:
The basic concepts of plant growth, greenhouse structures, and equipment to monitor a controlled environment are discussed and practiced in a lab setting. Planning, propagation, and cultivation techniques of commercial crops, proper pest identification techniques, and pesticide application and safety are studied and applied. Preparation of soil and amended media incorporating the use of fertilizers and plant growth regulators are discussed and managed.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - https://www.dtcc.edu/bookstores online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:
None

Schedule Type:
Classroom Course

Disclaimer:
None

Core Course Performance Objectives (CCPOs):

1. Describe greenhouse designs commonly used in the industry. (CCC 1, 3, 5, 6; PGC BMT 1, 2, 4; LOH 2, 5; PAG 2, 3, 4)
2. Identify, describe, and operate environmental control systems. (CCC 1, 2, 5, 6; PGC BMT 1, 2, 4; LOH 2; PAG 3, 4)
3. Explain and apply methods of maintaining nutrient levels in plant soils. (CCC 1, 2, 5, 6; PGC BMT 1, 2, 4; LOH 2, 5; PAG 3, 4)
4. Demonstrate methods of plant growth control and safe pesticide application processes used in greenhouse production. (CCC 1, 2, 5, 6; PGC BMT 1, 4; LOH 2; PAG 2, 3, 4)
5. Select commercially important plants for production in greenhouses. (CCC 1, 2, 5, 6; PGC BMT 1, 2, 4; LOH 2; PAG 1, 4, 5)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):
Upon completion of this course, the student will:

1. Describe greenhouse designs commonly used in the industry.
    1. Identify types of greenhouses used in the industry.
    2. List advantages and disadvantages of various types of structures.
    3. Explain locating and the sizing of facilities.
    4. Discuss procedures needed to maintain a greenhouse facility for production purposes.
2. Identify, describe, and operate environmental control systems.
    1. List heating and cooling systems used in greenhouse production.
    2. Describe and manage heating and cooling systems used in greenhouse production.
3. Explain and apply methods of maintaining nutrient levels in plant soils.
    1. Identify growing media, functions, compositions, and specialized mixes.
    2. Describe and practice potting soil amendment techniques.
    3. Describe and manage substances used to stimulate plant growth such as fertilizers and methods of application.
    4. Examine plant water requirements, and demonstrate methods of application.
4. Demonstrate methods of plant growth control and safe pesticide application processes used in greenhouse production.
    1. Demonstrate pest scouting techniques used in the greenhouse.
    2. Differentiate common pests and diseases related to greenhouse crops.
    3. Manage methods of control for specific diseases.
    4. Formulate an integrated pest management strategy for greenhouse crops.
5. Select commercially important plants for production in greenhouses.
    1. Identify plant varieties needed for fall and spring production.
    2. Participate in methods of production for various plants.
    3. Compute the crop expense, and develop a crop budget for the growing season.
    4. Examine the temperatures needed for proper growth during production.

Evaluation Criteria/Policies:
Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	**–**	**100**	**=**	**A**
83	**–**	**91**	**=**	**B**
75	**–**	**82**	**=**	**C**
0	**–**	**74**	**=**	**F**

Students should refer to the Student Handbook - https://www.dtcc.edu/handbook for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:
Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Exams (4-5) (summative) (equally weighted)	20%
Projects/Presentations (summative) (equally weighted)	20%
Formative Assessments (Assignments/Activities/Quizzes)	20%
Labs (summative) (12-14) (equally weighted)	40%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):
AGSAASLOH

1. Safely operate landscape equipment.
2. Demonstrate basic greenhouse management functions to include environmental controls, scheduling, production, pest control, nutrient management, and marketing of floriculture crops.
3. Demonstrate effective customer service skills for horticulture business success.
4. Apply business principles and strategies to the landscape and ornamental horticulture industries.
5. Explain the importance of soil and water management to the landscape and ornamental horticulture industries.
6. Design and install a finished landscape plan.

AGSAASPAG

1. Apply basic agribusiness management procedures to production and marketing of agriculture products.
2. Integrate pest management procedures into crop production techniques.
3. Demonstrate production techniques related to sustainable agriculture.
4. Demonstrate scheduling, production, marketing, harvesting, and safe handling of crops.
5. Describe the importance of poultry, livestock, and crop production to the agriculture industry.
6. Assess breeding, care, and nutrition of livestock animals.

AGSAASBMT

1. Distinguish among business career areas in agribusiness.
2. Examine current agricultural issues.
3. Prepare a business plan for an agricultural enterprise.
4. Apply management theories to agricultural business operations through practical experience.
5. Apply basic recordkeeping and accounting procedures to agribusiness operations.

Disabilities Support Statement:
The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the disabilities services - https://www.dtcc.edu/disabilitysupport web page or visit the campus Advising Center.