



Course Number and Title: AGS 105 Principles of Plant Growth

Campus Location:

Georgetown

Effective Date:

2020-51

Prerequisite:

ENG 090 or ENG 091, SSC 100 or concurrent

Co-Requisites:

none

Course Credits and Hours:

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

Course Description:

This course introduces plant structure and function with practical applications to horticulture, turf, and agricultural plants.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](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

Online Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Explain functions of plant organs. (CCC 1, 2, 3, 5, 6; PGC LOH 2, 5; PAG 3; TMT 3, 6)
2. Explain typical flower parts and functions. (CCC 1, 3, 5; PGC LOH 2; PAG 4)
3. Compare common and botanical names. (CCC 1, 5; PGC LOH 4, 6; PAG 4; TMT 1, 6)
4. Explain growth processes in plants. (CCC 1, 2, 3, 5, 6; PGC LOH 2, 5; PAG 3, 4; TMT 1, 3, 6)
5. Demonstrate common propagation techniques, including sexual and asexual. (CCC 1, 2, 3, 4, 5, 6; PGC LOH 2, 5, 6; PAG 3; TMT 6)

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. Explain functions of plant organs.
 1. Record the primary functions of roots, stems, leaves, and fruit.
 2. Identify the root regions.
 3. Distinguish among rhizomes, stolons, tubers, bulbs, corms, cladophylls, and tendrils.
 4. Identify the external forms and parts of leaves along with the typical leaf functions.
 5. Analyze the parts of a mature dicot seed and monocot seed.
2. Explain typical flower parts and functions.
 1. Identify the parts of a typical flower.
 2. Explain the features that distinguish monocots from dicots.
3. Compare common and botanical names.
 1. Discuss climatic and related classifications.
 2. Differentiate between common and botanical names.
 3. Explain plant identification and nomenclature.
4. Explain growth processes in plants.
 1. Contrast the generalized equation of photosynthesis and respiration.
 2. Describe what occurs in the light and carbon-fixing reactions of photosynthesis, and identify the principal products of each.
 3. Identify important naturally occurring plant growth hormones and their functions.
5. Demonstrate common propagation techniques, including sexual and asexual.
 1. Demonstrate proper techniques for propagating a plant by cuttings.
 2. Explain proper techniques for propagating a plant by seed.

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](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
Exam (summative)	20%
Quizzes (summative) (equally weighted)	10%
Leaf Collection (summative)	30%
Formative Assessments (assignments/activities) (equally weighted)	20%
Labs (formative) (6-7) (equally weighted)	20%
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.

AGSAASTMT

1. Select preventive maintenance programs for greens, fairways, and equipment.
2. Apply basic installation techniques for irrigation systems.
3. Explain the importance of soil and water management to the turfgrass management industry.
4. Safely operate turf equipment.
5. Apply business principles and strategies to the turfgrass industry.
6. Cultivate and maintain golf course landscapes.

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](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.