



## Course Number and Title: AGS 243 Golf and Turf Irrigation

**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:**

This course introduces students to basic irrigation and drainage principles, uses of irrigation, and irrigation system design for landscape use.

**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:**

Toto, Hunter, Rainbird (irrigation manuals supplied)

**Schedule Type:**

Classroom Course

**Disclaimer:**

None

**Core Course Performance Objectives (CCPOs):**

1. Compare different types of sprinkler heads, proper locations, and performance requirement of each. (CCC 1, 3, 5; PGC LOH 1, 2, 5; PGC TMT 2, 3)
2. Examine the size and route of irrigation pipe. (CCC 1, 2, 3, 6; PGC LOH 2, 5; PGC TMT 2, 3)
3. Compare irrigation systems. (CCC 1, 5; PGC LOH 2, 5; PGC TMT 1, 2, 3, 6)
4. Design and install piping and sprinkler heads in accordance with the required text. (CCC 1, 2, 3, 4; PGC LOH 1, 2, 5, 6; PGC TMT 2, 3, 4, 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. Compare different types of sprinkler heads, proper locations, and performance requirements of each.
  1. List sprinkler head patterns.
  2. Describe trajectories of spray.
  3. Define even water distribution.
  4. Compare the two main types of sprinkler heads.
2. Examine the size and route of irrigation pipe.
  1. Examine how to determine geographic areas.
  2. Analyze soil permeability rates.
  3. Compare and demonstrate pipe routing and installation techniques.
3. Compare irrigation systems.
  1. Calculate water pressure, static pressure, friction loss, and velocity.
  2. Estimate how to determine available water.
  3. Categorize the steps required for laying out a sprinkler system.
  4. Choose the steps needed for an irrigation design checklist.
  5. Analyze proper irrigation management for conservation.
4. Design and install piping and sprinkler heads in accordance with the required text.
  1. Install piping according to manufacturers' specifications and code requirements.
  2. Assemble an irrigation design.

**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
Exams (4-6) (Summative) (equally weighted)	20%
Project/Serial Problem (Summative) (equally weighted)	20%
Formative Assessments (Assignments/Activities/Quizzes)	30%
Labs (6-10) (Summative) (equally weighted)	30%
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.

**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.