

Applications of Irrigation, Math, and Equipment Technology in the Turf Industry

11:776:389 (2 credits)

Fall Semester (even years)

Thursday (lecture) 5:35 – 8:35 PM Geiger Center (Horticultural Research Farm II)

CONTACT INFORMATION

Instructor: Dr. Bruce Clarke
Office Location: 338 Foran Hall, 59 Dudley Rd., New Brunswick, NJ 08901
Phone: 848-932-6295
E-mail: bruce.clarke@rutgers.edu
Office Hours: by arrangement

COURSE DESCRIPTION

This is an applied course designed for those interested in turf and landscape management. The course will cover irrigation design, installation and maintenance, mower technology, and mathematics applications for the management of golf, sports, and landscape areas that are not covered extensively in other courses at the University. It uses lectures, hands-on demonstrations, interactive discussions, a case studies project, and a field trip to teach the fundamentals of turfgrass science. It will focus on critical thinking rather than passive learning to solve real world problems commonly confronted by turf and landscape managers in the field. Students are encouraged to share their experiences in classroom discussions.

COURSE WEBSITE, RESOURCES AND MATERIALS

- Course website: Canvas
- Required textbooks:
Mathematics of Turfgrass Maintenance by N. Christians and M. Agnew
Golf Course Irrigation, Environmental Design and Management Practices by J. Barrett.
- Outlines and reference materials are distributed for each lecture

PREREQUISITES

11:776:304 (Turfgrass Management) or permission of instructor

COURSE LEARNING GOALS

(Link to Plant Biology Undergraduate Program Goals: <http://plantbiology.rutgers.edu/undergrad/plantbiology/>)

By the end of this course, the student will be able to:

1. Describe the fundamental principles of irrigation design, installation and maintenance, mower, technology, and mathematics applications for turf and landscape areas (addresses program goal 1)
2. Think critically about issues and be able to offer sound solutions to problems regarding irrigation, equipment technology, and in turf and landscape management (addresses program goal 4)

- Development innovative management strategies that are practical, environmentally sound, and sustainable (addresses program goals 2 and 4)

ASSIGNMENTS/RESPONSIBILITIES AND ASSESSMENT

Grading

- Weekly quizzes and take-home assignments 75%
- Final exam 25%
- Scale: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D

Assignments: case study analysis that includes oral and written reports.

Learning goals assessment:

- Specific questions on weekly quizzes and the final exam to measure course learning goal 1
- Case study analyses assess mastery of subject matter in turfgrass and landscape management (course learning goals 2 and 3)
- Class participation (all learning goals)

The percentage score on these assessments will determine the level of mastery: >90% outstanding; 80-89% good; 70-79% satisfactory; <69% unsatisfactory.

PARTICIPATION GRADE AND ABSENCE POLICY

Attendance is mandatory and discussion in class is expected. Students unable to attend may contact the instructor via e-mail prior to the missed class or may use the University absence reporting website (<https://sims.rutgers.edu/ssra/>) to indicate the date and reason for the absence. An e-mail is automatically sent to the instructor.

COURSE TOPICS

Week	Topic
1	Career development, resumes, and interviews
2	Mower technology: mower options
3	Mower technology: mower set-up
4	Mathematics for golf / landscape managers
5	Mathematics for golf / landscape managers
6	Mathematics for golf / landscape managers (cont.)
7	Irrigation: terms and theory
8	Irrigation options: pipes and sprinklers
9	Irrigation options: pipes and sprinklers (cont.)
10	Irrigation options: controllers and repairs
11	Irrigation options: pumps
12	Golf and landscape budgeting
	Thanksgiving recess
13	Irrigation options
14	Golf and landscape budgeting

Final exam (to be determined)

FINAL EXAM/PAPER DATE AND TIME

The Online Final exam Schedule: <http://finalexams.rutgers.edu/>

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy/>

The principles of academic integrity require that a student:

- Properly acknowledge and cite all use of the ideas, results, or words of others.
- Properly acknowledge all contributors to a given piece of work.
- Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- Uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that:

- Everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- All student work is fairly evaluated and no student has an inappropriate advantage over others.
- The academic and ethical development of all students is fostered.
- The reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to

succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.