

## **Syllabus**

**Catalog Description:** A 3-credit capstone design experience focusing on the design of solid waste management systems such as landfills, waste-to-energy facilities, compost operations, recycling facilities, and hazardous waste treatment/storage/disposal facilities.

**Prerequisites:** ENV 4351

**Textbook:** Materials provided by instructor

### **Topics covered:**

- Solid Waste Management Systems used by Modern Society
- Regulatory and Permit Requirements for Solid Waste Systems
- Waste Projection Analysis
- Solid Waste System Economics
- The Role of Consulting Engineers in Solid Waste System Design
- Phases and Deliverables Encountered in Solid Waste Design Projects
- Preparation and Presentation of Design Reports

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Office hours: I am available by appointment to meet with students in my office or via Zoom. You can contact me through Canvas or email to set up an appointment.

**Meeting Time:** Monday, Periods 8 - 10 (3:00 PM - 6:00 PM)

**Meeting Location:** PSY 0130

**Format:** Students will form project teams to work on a real-world solid waste management project. Students will be presented with a project and will be expected to plan, manage and execute a series of interim deliverables and a final report to present to the client. Students will also present the results of their work to the client at the end of the course.

Students are reminded that this course is an actual engineering experience. There are no homework assignments, quizzes or exams. Grades will be assigned based on the quality of each team's deliverables and how well each team has accomplished established goals and objectives.

**Attendance Policy, Class Expectations, and Make-Up Policy:** This is a registered in-person class that will be taught in the face-to-face mode at the regularly scheduled class times. The class will employ Canvas Zoom web conferencing on an as-needed basis to provide synchronous remote access to face-to-face class access for students in cases where students have excused absences or must stay home to quarantine. Active participation at all classroom meetings, field trips and team meetings is expected and will be reflected in the instructor's assessment of student performance.

**Teamwork:** Teamwork is a critical component of all engineering projects. Your success in this class and in your professional career will depend on your ability to lead an engineering team and fulfill your responsibilities as a team member. Each team will have a project manager who will work with the team to establish, coordinate and enforce individual team member responsibilities. The project manager is responsible for on-time delivery of a quality work product (deliverable) that meets the goals and objectives established by the owner, team members and instructor. Team members will take turns being the project manager for each deliverable. Team members will be required to evaluate the performance of their teammates for each deliverable.

**Grading:** The instructor will grade deliverables, which consist of a statement of goals and objectives, project plan, 5 technical memorandums, draft client deliverables, and a final client deliverable and presentation. Exact content of the deliverables and schedule will be developed by the student project team. Each team will receive a group score for each deliverable based on the quality of the deliverable and how well it accomplishes the goals and objectives of the assignment. However, grades will be assigned to individual team members after deducting points for inadequate team participation. The instructor will determine how many points to deduct based on team member evaluations and instructor observation. A rubric will be provided for each deliverable by the instructor. A component of the overall grade for this course will be an instructor assessment of student performance in a team environment.

Students will also be required to submit weekly time sheets and two client invoices, which will be graded by the instructor.

**Grading Scale:**

95% - 100% A  
90% - <95% A-  
87% - <90% B+  
84% - <87% B  
80% - <84% B-  
77% - <80% C+  
74% - <77% C  
70% - <74% C-  
67% - <70% D+  
64% - <67% D  
60% - <64% D-  
<60% E

**Attendance and Expectations**

Active participation at all classroom meetings, field trips and team meetings is expected and will be reflected in the instructor's assessment of student performance.

### Honesty Policy

UF students are bound by The Honor Pledge, which states, “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: ‘On my honor, I have neither given nor received unauthorized aid in doing this assignment.’*”

The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**Important Course Notes:** This class meets the requirement of a capstone design class in the Department of Environmental Engineering Sciences. A capstone design class is:

*“a meaningful, major engineering design experience that builds upon the fundamental concepts of mathematics, basic sciences, the humanities and social sciences, engineering topics, and communication skills. .... section sizes are small enough to allow interaction between teacher and student. This does not imply that all design work must be done in isolation by individual students: team efforts are encouraged where appropriate. ....should be a design experience that both focuses the student’s attention on professional practice and is draw from past course work. ‘meaningful’ implies that the design experience is significant with the student’s major and that it draws upon previous coursework, but not necessarily upon every course taken by the student.”*

*“a major design experience based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints such as economic, environmental, sustainability, ethical, health and safety, social, and political considerations.”*

Students are thus required to work in small teams, to work independently on their design projects, and to maintain professional standards for preparing, presenting and submitting a capstone design report.

### Disability Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://disability.ufl.edu/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### End-of-Semester Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

# ENV4353/6932 - Solid Waste Systems Design

Spring 2022

Sections 12527/19651

## Campus Resources

### Health and Wellness

*U Matter, We Care*: If you or a friend is in distress, please contact <https://umatter.ufl.edu/> or (352)392-1575 so that a team member can reach out to the student.

*Counseling and Wellness Center*: <https://counseling.ufl.edu/>, (352)392-1575; and the University Police Department: (352)392-1111 or 9-1-1 for emergencies.

*Sexual Assault Recovery Services (SARS)*: Student Health Care Center, (352)392-1161.

*University Police Department*: (352)392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>

### Academic Resources

*E-learning technical support*, (352)392-4357 (select option 2) or e-mail to <mailto:Learning-support@ufl.edu>. <https://lss.at.ufl.edu/help.shtml/>.

*Career Connections Center*, Reitz Union, (352)392-1601. Career assistance and counseling. <https://career.ufl.edu/>

*Library Support*, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center*, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>

*Writing Studio*, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

*Student Complaints On-Campus*: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

*On-Line Students Complaints*: <http://distance.ufl.edu/student-complaint-process/>

## Class Schedule

Will be established after project plans are submitted