

Design of Urban Stormwater Control Measures

FABENG 5760 / ENVENG 5760

SPRING 2021 SYLLABUS

INSTRUCTOR:	Ryan J. Winston, PhD, PE The Ohio State University Department of Food, Agricultural, and Biological Engineering Department of Civil, Environmental, and Geodetic Engineering Core Faculty, Sustainability Institute 230B Agricultural Engineering Building, 590 Woody Hayes Drive, Columbus, OH 43210 E-mail: winston.201@osu.edu Phone: (614) 292-9354 Website: u.osu.edu/winston.201/
DESCRIPTION:	Fundamental and advanced hydrologic and water quality design of stormwater controls for urban areas. Students will be expected to solve multi-objective, real-world engineering problems in a team setting.
COURSE GOALS & OBJECTIVES:	Upon successful completion of this course, students should be able to: <ul style="list-style-type: none">• Understand how urbanization affects runoff hydrology and water quality• Understand and explain Ohio's design recommendations for post-construction SCMs• Explain unit processes responsible for water quality improvement in post-construction SCMs• Describe how the water balance, peak flow rates, and runoff timing is impacted by each SCM• Explain the maintenance needs of SCMs• Utilize various hydrologic and water quality models to aid in design of SCMs• Develop skills in AutoCAD and ArcMap, including the development of engineering plan sheets with plan, profile, and cross-sectional views.• Develop a portfolio of engineering designs specific to SCMs
PREREQUISITES:	2720 or CIVENG 3160 or graduate standing; or permission of instructor
CREDIT:	3 semester hours (lecture only).
SCHEDULE:	Lecture: T & R, 3:55 – 5:15 PM
OFFICE HOURS:	By appointment (arrange via email)
TEXT:	None: Lecture notes will be placed on Carmen by the instructor*

*Various materials/documents will be posted on Carmen as additional resources.

TECHNOLOGY

REQUIREMENTS:

AutoCAD

Available free of charge in FABE and other engineering computer labs

ArcGIS

Available free of charge in FABE and other engineering computer labs

CarmenCanvas

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24/7.

Self-Service and Chat support: <http://ocio.osu.edu/selfservice>

Phone: 614-688-HELP (4357)

Email: 8help@osu.edu

TDD: 614-688-8743

<https://resourcecenter.odce.osu.edu/carmencanvas>

Microsoft Office

All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found at go.osu.edu/office365help.

EVALUATION

CRITERIA:

(60%) Homework (4-6 in total, weighted equally)

(20%) Final Project

(20%) Final Exam

GRADING SCALE:

Grading scale follows the OSU catalog policies; A = 90 – 100%; B = 80 – 89.9%; C = 70 – 79.9%; D = 60 – 69.9%; F < 60%. Plus/minus system is used for the final grade within ranges shown. The instructor reserves the right to adjust final grades per his/her judgment. The typical range for each grade is as follows:

A	93
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	60-66.9
E	<60

Expectations will differ for graduate and undergraduate students. While the final project for undergraduates will be a group project, graduate students will be expected to carry out the work alone. Further, graduate students will

be held to a higher standard of professionalism in the output of work, including GIS figures, AutoCAD preparation, and use of engineering concepts and equations.

ATTENDANCE: Attendance at class is optional. However, this course will be much more difficult if you choose not to come to class. Following along with the notes during lecture will help to cement knowledge critical to the homework.

COMMUNICATION: The best methods to reach the instructor is through CarmenCanvas or through email. Please either post questions on Carmen (preferred so other students can see the answer) or email the professor directly. On Monday through Friday, the instructor will do his best to return all communication within 24 hrs maximum. This may be further delayed on weekends or during holidays such as spring break.

HOMEWORK: Homework will be assigned throughout the course and posted on Carmen. Grading emphasis for homework is on the problem-solving approach, demonstrated understanding of the concepts, level of effort, and professional presentation and appearance. You are encouraged to use word processing, spreadsheet, graphics, computer spreadsheets, and appropriate engineering programs for solving the homework problems.

Homework due dates will be posted on each homework. Homework will be graded and returned as soon as possible. **Late homework will receive a 10 point deduction for being up to 2 days late, a 30 point deduction for being up to a week late, and will not be accepted afterward unless by special arrangement with the instructor.** Complications submitting homework due to verifiable emergencies will be handled on a case-by-case basis.

FINAL PROJECT: A final project will be assigned in the middle of the semester and will be due on the final day of regular meetings of the class. Students will develop a design for a site of their selection. It is expected that the engineering design process be applied to this site, including development of design calculations and drawings for at minimum one stormwater control measure.

FINAL EXAM: The final exam will occur during exam week. It will cover topics throughout the course (i.e., it is cumulative), but will focus on understanding of concepts rather than quantitative, design-based knowledge.

MAKE-UP WORK: Unless prior arrangements are made with the instructor, or unless there is an unforeseen, verifiable emergency, **no** make-up work (projects, homework) will be considered. See HOMEWORK for discussion on penalties for late homework. No extra credit will be considered for individuals.

CELL PHONES: Cell phones are to be stowed out of sight during all class periods to avoid distractions. If the use of a cell phone is distracting the instructor or fellow students, the individual using the phone may be asked to leave the classroom.

ACADEMIC INTEGRITY / MISCONDUCT:

We all have a responsibility to maintain a high standard of academic honesty, and I am confident that you will meet the required standard of academic integrity. Any suspected violation of the Code of Student Conduct will be forwarded to the Committee on Academic Misconduct.

We will follow the university policy in this course to maintain academic integrity, rather than to try to trap and to punish. In fairness to all students in the class, violations of academic integrity will not be tolerated.

Violations of academic integrity includes:

- Plagiarism,
- Submission of work that is not your own for homeworks, reports or exams where an individual work is required.
- Submission or use of falsified data.

Plagiarism includes (but is not limited to) failure to indicate the source with quotation marks or footnotes, if any of the following are reproduced in the work submitted by a student:

- A graph or table of data
- Exact wording taken from the work of another person, published or unpublished including web
- When you work together to solve homework problems, you may not simply copy solutions from a classmate or from solution sets from previous years to which you might have access. Presenting someone else's work as your own is plagiarism.

Academic misconduct is defined in the Code of the Student Conduct and the Rules of the University Faculty:

http://studentaffairs.osu.edu/info_for_students/csc.asp, <http://www.acs.ohio-state.edu/offices/oaa/procedures/1.0.html>, & <http://oaa.ohio-state.edu/coam/code-of-student-conduct.pdf>.

Suspected academic misconduct will be referred automatically to the Committee on Academic Misconduct as required by Faculty Rules. Per University Rule 3335-31-02, "Each instructor shall report to the committee on academic misconduct all instances of what he or she believes may be academic misconduct." Cheating on examinations, submitting work of other students as your own, or plagiarism in any form is considered academic misconduct.

DISABILITY SERVICES:

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; Call: 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

MENTAL HEALTH:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling [614-292-5766](tel:614-292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower.

You can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Engineering students are encouraged to reach out to Mary Decenzo, LISW-S, SSW, CTP-C Embedded Clinical Therapist, Fisher College of Business/College of Architecture & Engineering Email: Decenzo.4@osu.edu

CFAES students are encouraged to reach out to David L. Wirt, M.Ed., LPCC-S. David Wirt is an embedded counselor in CFAES and Licensed Professional Clinical Counselor with OSU's Counseling and Consultation Services who will be spending the majority of his time housed in 100Y Ag. Admin. working directly with CFAES students on the Columbus campus.

If a student would like to meet with David, they can go to <https://ccs.osu.edu> and click on "schedule a phone screening." This will enable David, or one of his colleagues, to contact the student to discuss needs, and to schedule the student for sessions, when needed. When a student presents urgent concerns, the student will be scheduled to see a clinical staff member: either David, or one of his CCS colleagues, as promptly as possible. Students can also call 614-292-5766 to start this process. **Please have the student mention they are a CFAES student if they call to be routed to David.** If there are questions, David can be contacted via email at wirt.9@osu.edu.

SEXUAL MISCONDUCT & RELATIONSHIP VIOLENCE:

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

DIVERSITY AND INCLUSION:

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more

about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Bias Assessment and Response Team

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

