CEE CE 260 – 001, 003, 101/HM1: CIVIL ENGINEERING METHODS

(1 credit)

Lectures	Section 001 – Mondays	10:00 – 12:50 PM (GITC 2315C)
	Section 003 – Tuesdays	2:30 – 5:20 PM (GITC 2315C)
	Sections 101/HM1 – Tuesdays	6:00 – 8:50 PM (PC Mall 39)

HYBRID COURSE

Refer to class schedule for dates of in-person or synchronous online lectures.
Online meets will be held via Zoom:

https://njit-edu.zoom.us/j/7504551218?pwd=RUZUb1Z2ZklVV0cwSTZlVEs2ZkpBdz09

Meeting ID: 750 455 1218 Passcode: 260

Instructor:	**Stephanie R. Santos, P.E., PhD**	Office Hours: Mondays 9:00–10:00 AM and Thursdays 10:00 – 12:00 PM
	Fenster Hall - Room 447	Via Zoom on Hybrid Days,
	Srr3@njit.edu	Please, Schedule Appointment!

Prerequisite ENGL 101, CE 101, CE 200, CE 200A

Required Textbook

1. **Autodesk Civil 3D 2025 Fundamentals**
   a. ISBN: 978-1-63057-672-1
2. **Autodesk Revit 2025 Structure Fundamentals**
   a. ISBN: 978-1-63057-685-1

Course Description: *(from NJIT's course catalog)*

Provides students with in-depth experience in computer applications in civil engineering and with written and oral communication.

https://catalog.njit.edu/search/?P=CE%20260

POLICIES & PROCEDURES

Academic Integrity: "Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: *http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf*

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu*"*

Communication: Students must use their UCID to sign in at (canvas.njit.edu). Some course material may be posted on Canvas. The instructor will advise when important information is uploaded. Email will be used to communicate outside of the classroom. Students are responsible for checking their NJIT student email on a regular basis.

When emailing the instructor, you must put the course number in the subject line. Emails that do not put this in the subject line will not be opened. Within the body of the email, you must put the class day/section and your full name.

Quizzes: All quizzes will be in person during the designated class time. All quizzes will be closed book/notes.

Lectures/Class: Students are expected to attend every class (either in person or via Zoom per the hybrid schedule) and sign in. In the event that you cannot attend class, you may request to attend one of the other sections as a make-up, however this is limited to availability and permission from the instructor. However, students cannot choose to attend a different section on a continuous basis. Students are responsible for submitting all homework, projects, assignments, quizzes, etc. on the due date (during class time). Students who miss assignments due to attendance MUST contact the Dean of Students to be excused for absences. Students who miss class with no valid excuse from the Dean of Students will not be given any accommodations to complete work.

If you miss an assignment and receive an excused absence from the DOS, it is the responsibility of the student to coordinate makeup time for any work that was missed with the instructor. ***This must be done within two weeks of the excused absence.***

During Zoom sessions, students are expected to attend and participate. These will be live synchronous sessions, and attendance may be taken at various times during the class.

Class Recordings: Some portions of this course may be recorded and posted on Canvas during the Zoom meetings only (there will be no recordings of in person classes). ***Students are not permitted to record the class with their personal devices.*** Weekly lectures will not be recorded and should not be expected by the students. The course is intended to be interactive, and participation is expected in real-time whether the class is in person or online.

The instructor will inform the students when recordings begin/end during the class.

Homework and Homework Format: Homework will be assigned at various points throughout the semester. If the assignment is to be printed, it MUST be printed on the course titleblock that is available on Canvas and must have the students' first and last names at a minimum. For homework assignments that are submitted via Canvas, these will be saved as the drawing file unless otherwise specified. The file name should be saved as LastName_FirstName_AssignmentName

Assignment Policy: Assignments are due at the beginning of class. Late assignments will NOT be accepted. All assignments are to be submitted in class on paper, unless otherwise requested, on the due date, or via email to srr3@njit.edu ON OR BEFORE the beginning of class on the due date. Email is ONLY to be used if you will be absent from class and shall not be the primary form of submission.

******ANY ASSIGNMENT THAT IS COPIED WILL BE SUBJECT TO DISCIPLINARY ACTION IN ACCORDANCE WITH THE NJIT HONOR CODE******

Withdrawals: In order to ensure consistency and fairness in application of the NJIT policy on withdrawals, student requests for withdrawals after the deadline will not be permitted unless extenuating circumstances (e.g., major family emergency or substantial medical difficulty) are documented. The course Professors and the Dean of Students are the principal points of contact for students considering withdrawals.

Syllabus Information: This syllabus is subject to change at the discretion of the instructor throughout the semester. Any change will be discussed with the class.

Calculation of Course Grade: A weighted average grade will be calculated as follows:

Homework / In Class Assignments	15%
Quiz #1	20%
Quiz #2	20%
Pipe Network Project (Civil 3D)	15%
Group Presentation	10%
Final Project	20%

The minimum requirements for final letter grades are as follows:

A: 100-90
B+: 89-85
B: 84-80
C+: 79-75
C: 74-70
D: 69-60
F: Below 60

Instructor Commitment: You can expect the Instructor to be courteous, punctual, organized, and prepared for lecture and other class activities; to answer questions clearly; to be available during office hours or to notify you beforehand if office hours are moved; to provide a suitable guest lecturer or pre-recorded lecture when they are traveling or unavailable; and to grade uniformly and consistently.

Students with Documented Disabilities: NJIT is committed to providing students with documented disabilities equal access to programs and activities. If you have, or believe that you may have, a physical, medical, psychological, or learning disability that may require accommodations, please contact the Coordinator of Student Disability Services located in the Center for Counseling and Psychological Services, in Campbell Hall, Room 205, (973) 596-3414. Further information on disability services related to the self-identification, documentation and accommodation processes can be found on the webpage at: (http://www.njit.edu/counseling/services/disabilities.php)

STUDENTS MUST COORDINATE WITH THE OFFICE TO SCHEDULE PRIOR TO THE EXAM!

Course Schedule:

Week	Section Dates			Topic/*Assignment*
	003/101/HM1 (Tues)	**001 (Mon)**		
1	9/2	9/8		Course Introduction / Requirements Discussion of CE Disciplines Discussion of FE/PE Requirements Introduction to BIM/Civil 3D/Revit
2	9/9	9/15		BIM – Homework Discussion Civil 3D Titleblock Setup Interface Review Importing Points
3 HYBRID	9/16	9/22		Civil 3D Creating Parcels Importing Points Creating Surfaces Styles and Labels
4 HYBRID	9/23	9/29		Civil 3D (Cont.) Creating Parcels Creating Surfaces Styles and Labels Creating Alignments
5 HYBRID	9/30	10/6		Civil 3D Creating Alignments Creating Profiles Styles and Labels *GROUP PRESENTATIONS ASSIGNED*
6 HYBRID	10/7	10/13		*GROUP PRESENTATIONS DUE*
7	10/14	10/20		Civil 3D Creating Profiles Creating Pipe Networks Creating Quantity Take Offs *PIPE NETWORK PROJECT ASSIGNED*
8	10/21	10/27		*QUIZ #1* *PIPE NETWORK PROJECT DUE* *FINAL PROJECTS ASSIGNED*

Week	Section Dates			Topic/*Assignment*
	003/101/HM1 (Tues)	**001 (Mon)**		
9 HYBRID	10/28	11/3		Revit Interface Intro Titleblock Setup Levels and Grids
10	11/4	11/10		Revit (Cont.) Levels and Grids Structural Columns Creating Walls
11 HYBRID	11/11	11/17		Revit Windows/Doors Site Plan Design Importing CAD into Revit
12 HYBRID	11/18	11/24		Revit Site Plan Design Roof/Floor Footings and Foundations
13	12/2	12/1		Revit Quantity Take Off Section Views
14	12/9	12/8		*FINAL PROJECTS DUE* *QUIZ #2*

IMPORTANT DATES:

September 2 – First Day of Classes
October 2 – Wellness Day (NO CLASS)
November 10 – Last day to Withdraw
November 25 – Thursday Schedule
November 26 – Friday Schedule
December 11 – Last Day of Classes

AutoCAD Download Website:

Students have access to a ***FREE*** education version of AutoCAD and must register with the site to verify your student credentials. Students may download FREE versions of the AutoCAD Civil 3D and Revit programs at:

https://www.autodesk.com/education/home

Book Files Website:

These files must be downloaded in order to complete assignments from the book. Please note this download is NOT the book, only the files that accompany the exercises.

https://www.sdcpublications.com/Textbooks/Autodesk-Civil-3D-2025-Fundamentals/ISBN/978-1-63057-672-1/

https://www.sdcpublications.com/Textbooks/Autodesk-Revit-2025-Structure-Fundamentals/ISBN/978-1-63057-685-1/

Items Required for this Course:

1. AutoCAD Civil3D and Revit Textbooks
2. Engineering Scale
3. Flash Drive
4. AutoCAD Civil3D and Revit Programs
5. Windows operating system is necessary to run the software

System requirements for the program are found at the following site:

https://www.autodesk.com/support/technical/article/caas/sfdcarticles/sfdcarticles/System-requirements-for-Autodesk-Civil-3D-2026.html

AI Statement:

"This course expects students to work without artificial intelligence (AI) assistance in order to better develop their skills in this content area. As such, AI usage is not permitted throughout this course under any circumstance."

Outcomes Course Matrix – CE 260 - Civil Engineering Methods

Strategies, Actions and Assignments	ABET Student Outcomes (1-7)	Program Educational Objectives	Assessment Measures
Student Learning Outcome 1: Develop communication skills to function as civil engineers including written, oral, and computer based techniques.			
Indicate importance of communication skills in the life and functions of the civil engineer.	**3**	**1, 2, 3**	Discussions and Group Presentation
Develop knowledge in AutoCAD/Revit to create civil engineering drawings	**3**	**1, 2, 3**	Homework assignments, quizzes, and projects
Student Learning Outcome 2: Use CAD as a tool for selected civil engineering problems.			
Introduce CAD concepts.	**7**	**1**	Homework Assignments
Apply CAD/Revit to projects	**7**	**1**	Project
Student Learning Outcome 3: Develop an understanding of the importance of effective communications in all phases of the life of the civil engineer.			
Discuss various aspects of communication and its importance in the life of the civil engineer.	**3**	**1, 2, 3**	Discussions, individual comments and written papers

CEE Mission, Program Educational Objectives and Student Outcomes

The mission of the Department of Civil and Environmental Engineering is:

- to educate a diverse student body to be employed in the engineering profession
- to encourage research and scholarships among our faculty and students
- to promote service to the engineering profession and society

Program Educational Objectives

Our **Program Educational Objectives** are reflected in the achievements of our recent alumni:

1. **Engineering Practice:** Alumni will successfully engage in the ethical practice of civil engineering within industry, government, and private practice, working towards safe, practical, resilient and sustainable solutions in a wide array of technical specialties including construction, environmental, geotechnical, structural, transportation, and water resources.
2. **Professional Growth:** Alumni will advance their technical and interpersonal skills through professional growth and development activities such as graduate study in engineering, research and development, professional registration and continuing education; some graduates will transition into other professional fields such as academia, business, and law through further education.
3. **Service:** Alumni will perform service to society and the engineering profession through membership and participation in professional societies, government, educational institutions, civic organizations, charitable giving and other humanitarian endeavors.

Student Outcomes

Our **Student Outcomes** are what students are expected to know and be able to do by the time of their graduation:

1. an ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data and use engineering judgment to draw conclusion
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Updated 8/2025