CE 461-102: Professional Practice in CEE

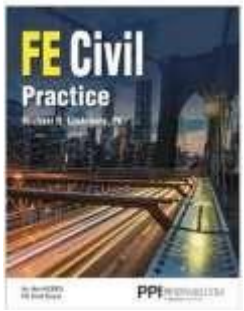
(3 credits)

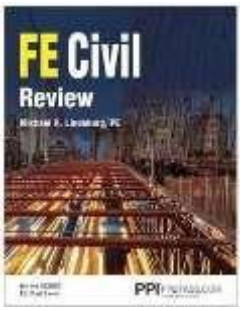
Lectures Fridays 6:00 pm - 8:50 pm; Face to Face
CKB 314

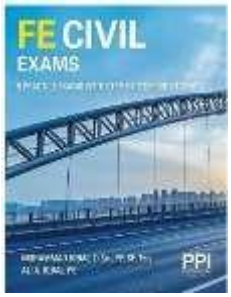
Instructor Dr. Avinash Prasad; PE, PLS, PP, F.ASCE ; Office Hours: Online by appointment
Avinash.prasad@njit.edu
201-873-8089

Prerequisite: CE 332 & CE 341

Required Textbook: No textbook is prescribed; but the following reference books will be used during the class:







Course Objectives: This should not be considered only as an elective course. This course is provided to help students to pass the FE exam. Earlier, the instructor helped many students to pass the FE exam.

Course Description (from NJIT's course catalog)

Develop an understanding of the process to become a licensed professional engineer and familiarize the students with the professional practice of engineering including codes of ethics and professional business practices and provide an adequate background for the Fundamentals of Engineering.

POLICIES & PROCEDURES

Academic Integrity: It is expected that NJIT's University Code on Academic Integrity will be followed in all matters related to this course. Refer to NJIT's Dean of Students website to become familiar with the Code on Academic Integrity and how to avoid Code violations.

https://www.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf

Communication: All communication by the instructor will be done through Canvas/email. It is your responsibility to check your e-mail, and the course page on Canvas/email regularly.

Lectures/Class: This course will be administered Face to Face. Attendance to all lecture/class periods is expected. Please turn all cell phones off during class and be respectful to the course instructor and your classmates.

Handouts: Handouts; Lectures will be posted on Canvas.

Homework: Homework will be posted on Canvas. It will be worked individually.

Late Homework: No late Homework is allowed.

Homework Solutions: Homework solutions will be posted on Canvas after their due date.

Exams: TBD

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

Pre-Assessment Exam	10%
Attendance & Participation	10% Two
Assessment Quizzes	30%
Midterm Exam	20%
Final Assessment Exam	30%

The minimum requirements for final letter grades are as follows:

A = 90.0%, B+ = 85.0%, B = 80.0%, C+ = 75.0%, C = 70.0%, D = 60.0%, F < 60.0%

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) 5963414. 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)

Course Schedule:

Week	Proposed Topics
1	Introduction to FE Class
2	Pre-Assessment Exam
3	Fluid Mechanics
4	Water Resources: Hydraulic and Hydrology
5	Geotechnical Engineering
6	Mechanics of Materials Structural Analysis and Design
7	Construction, Surveying, Materials
8	Midterm Exam
9	Statics & Dynamics
10	Transportation
11	Ethics & Professional Practices
12	Mathematics, Engineering Economics,
13	Probability and Statistics
14	Final Assessment Exam Review
15	Final Exam

*The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students.
*Students will be consulted with by the instructor to any modifications or deviations from the syllabus throughout the course of the semester.

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 scholarship 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:

- **Engineering Practice:** Alumni will successfully engage in the 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.
- **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.
- **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:

- an ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics
- 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
- an ability to communicate effectively with a range of audiences
- 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
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data and use engineering judgment to draw conclusion
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies