

Spring 2021

CE 711-852: Methods Improvement in Construction

Alan Slaughter

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DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

**CE 711 Productivity Improvement in Construction
2021**

Spring

Course Description: The course addresses improved methods of construction; various techniques of work sampling and productivity measurement; and current innovations in the construction industry for increasing efficiency.

Co-requisite or Pre-requisite: CE 610 Construction Management

Canvas: Canvas will be used for communication, assignments and quizzes.

Instructor: Alan R. Slaughter, P.E., P.P.

Office: N/A

Office Hours: On- line, by appointment on Wednesdays, email

Email: slaughte@njit.edu

Suggested Text: **Productivity Improvement for Construction and Engineering**

Author: J.K. Yates, PhD.

ISBN: 978-0-7844-1346-3

Publisher: ASCE Press

Course Section: CE 711-852

Week	Section Dates			Topic/Assignment
1	1/19/2021			Introduction to Productivity Read Chapter 1

2	1/25/2021			A look at the construction Industry Read Chapter 3
3	2/1/2021			Analysis of Improvement Programs Read Chapter 2
4	2/8/2021			Human Impact and Safety Read Chapter 4
5	2/15/2021			Improvement Studies Read Chapter 5
6	2/22/2021			Data Analysis Methods Read Chapter 6
7	3/1/2021			Case Studies Read Chapter 7
8	3/8/2021			MIDTERM
9	3/22/2021			Engineering and Construction Improvement Read Chapter 8
10	3/29/2021			Computer Applications Read Chapter 9
11	4/5/2021			Computer Models Read Chapter 10
12	4/12/2021			Sustainability in Engineering Read Chapter 12
13	4/19/2021			Sustainable Construction Materials Read Chapter 13
14	4/26/2021			Global Issues Read Chapter 11 Term paper due 4/27/21
15	TO BE DETERMINED			FINAL

Grading Policy: Homework 15%
Midterm 25%
Term Paper 30%
Final 30%

Grading Scale:

A: 100-90
B+: 89-85
B: 84-80
C+: 79-75
C: 74-70

D: 69-60
F: Below 60

Attendance Policy: No attendance to a class. But, if possible or necessary there may be a Webex meeting for those who can attend on-line.

Withdrawals:

In order to insure 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.

NJIT Honor Code:

The NJIT Honor Code will be upheld; any violations will be brought to the immediate attention of the Dean of Students. The Honor Code can be found at (<http://www5.njit.edu/doss/policies/honorcode/index.php>).

Assignment Policy: Assignments will be given each week on Monday. They will be due the following Monday. Late assignments are subject to a reduced grade. The term paper assignment will be given Week 3 or 4.

Syllabus Information:

The dates and topics of the syllabus are subject to change; however, students will be consulted with and must agree to any modifications or deviations from the syllabus throughout the course of the semester.

Email Policy: I can be contacted at slaughte@njit.edu

Items Required for this Course:

1. The book and a computer.

Dress Policy: None

Outcomes Course Matrix –

Strategies, Actions and Assignments	ABET Student Outcomes (1-7)	Program Educational Objectives	Assessment Measures
Student Learning Outcome 1:			
	7	3	Tests
Student Learning Outcome 2:			
	4	1	Project
Student Learning Outcome 3:			
	1	2	Homework

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

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

1. Engineering Practice: Alumni will successfully engage in the practice of civil engineering within industry, government, and private practice, working toward safe, practical, 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 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.

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 and inclusive 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 conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Revised: 1/13/2021