

Fall 2019

# CE 702-101: Construction Quality Management

Alan Slaughter

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**New Jersey Institute of Technology**  
**Construction Quality Management**  
**CE 702 Special Topics**  
**Section: 101**  
**Fall 2019**

**Professor Alan Slaughter, P.E., P.P.**

Course Administration: moodle2.njit.edu

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**Text:** “Quality Management in Construction Projects”

Author: Abdul Razzak Ruman; CRC Press

ISBN: 978-1-4398-3871-6

Restriction: advisor's approval. Topics of special current interest in civil engineering.

“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](mailto:dos@njit.edu)

**Course Description:** In today’s construction market, effective quality control programs are necessary to help provide the required quality of construction at the best price. The purpose of this course is to educate students in the various methods of construction quality control.

From the inclusion and approval process of quality control measures in design to the materials and methods in construction, quality control measures are a very important part of the approval and construction process for every project. Quality Control measures are used in both design-build and design-bid-build projects.

Various types of quality control measures will be discussed including Total Quality Management, Sigma Six, and the Federal Transportation Administration's Quality Assurance and Quality Control Guidelines among others.

### **Course Description**

| <b>Week/Date</b>        | <b>Topic</b>   | <b>Chapter</b>   |
|-------------------------|--|------------------|
| <b>1/Sept. 3</b>        | Introduction to QA/QC, History                         | 1: Page 1 - 58   |
| <b>2/Sept. 10</b>       | TQM, QCS, FTA, Sigma Six                               | 1: Page 59 - 117 |
| <b>3/Sept. 17</b>       | Quality Management System                              | 2                |
| <b>4/Sept. 24</b>       | Construction Projects                                  | 3                |
| <b>5/ Oct. 1</b>        | Quality in Construction Projects                       | 4: Pg. 217 - 253 |
| <b>6/ Oct. 8</b>        | Quality in Design                                      | 4: Pg. 254 - 300 |
| <b>7/ Oct. 15</b>       | Quality in Documents, Tendering                        | 4: Pg: 301 - 353 |
| <b>8/ Oct. 22</b>       | <i>Midterm</i>   |                  |
| <b>9/ Oct. 29</b>       | Construction Management, Testing                       | 4: Pg: 354 - 435 |
| <b>10/ Nov. 5</b>       | Operation & Maintenance                                | 5                |
| <b>11/ Nov. 12</b>      | Quality Control Plan                                   | Appendix C       |
| <b>12/Nov. 19</b>       | Federal Railroad Administration<br>Facility Management | 6                |
| <b>Nov. 26</b>          | <i>No Class</i>  |                  |
| <b>Nov. 28 – Dec. 1</b> | <b>Thanksgiving Holiday</b>                            |                  |
| <b>13/ Dec. 3</b>       | Assessment of Quality                                  | 7                |
| <b>14/ Dec. 10</b>      | Case Studies<br>Term Paper Due Dec. 3 <sup>rd</sup>    |                  |
| <b>Dec. 17</b>          | <i>Final</i>   |                  |

### **Homework**

Homework will be assigned as directed on Moodle.

All **homework** is due the week following the week it is assigned. Late homework may be subject to a reduction of points.

### **Grading**

|                       |            |
|-----------------------|------------|
| Attendance & Homework | 15%        |
| Midterm Exam          | 25%        |
| Project               | 30%        |
| Final Exam            | <u>30%</u> |
|                       | 100%       |

### **Term Projects**

A list of suggested topics will be provided. Students must select a project either from a list provided or some other source.

The project report will be **10** pages, including text, photos, drawings and the like. The report will be prepared in an organized and professional manner. (*Neatness counts*)

### **Important Notes:**

1. The NJIT Honor Code will be upheld in this course. Any violations will be brought to the immediate attention of the Dean of Students.
2. Any modifications or deviations to the syllabus throughout the semester will be made through consultation and agreement with the class.