New York University
Tandon School of Engineering
Brooklyn Campus

SYLLABUS

Course: CE-GY 8253–I (24530) Project Management for Construction (3.00 Credits)

Dr. Faruque Hossain
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New York University
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E-mail: fh668@nyu.edu

CLASS TIMES: TBD
CLASS LOCATION: Brooklyn Campus, Room TBD

PREREQUISITES: Graduate
The prerequisite course(s) for the class is as per NYU Polytechnic School of Civil and Urban Engineering Departmental Bulletin or have been completed with a B or better grade, include MINIMUM COMPLETION OF 12 CREDITS OF BASIC AND/OR ENGINEERING MATHEMATICS AND/OR COMPLETION OF 4 SEMESTER FROM AN ACCREDATED CIVIL AND ENVIRONMENTAL ENGINEERING DEPARTMENTS. Special considerations are limited to students whose outstanding performance are recognized by the department and approved by the Instructor.

COURSE OBJECTIVES and DESCRIPTION:
The course covers to manage sustainable building, civil, and critical infrastructure projects, including the strategy of research and innovation, design development, project planning, preconstruction process, risk allocation, construction operations mechanism, daily operation management, change order and conflict management, quality control, and office management for assigned any construction project. The course is thus designed to give the students a detail understanding of the project management principle to securing for best balancing the requirements of team, materials, equipment, labor, means and methods for delivering the project on time and on budget by practicing environmental stewardship. Upon completion of this course, students will be prepared to work as an assistant project manager at any construction or engineering or real estate development firm and be able to perform:

1. Can interpret contract documentations (drawings, specification, NOD) and organize transmittal, submittal, RFI, and project required all filing documents
2. Be familiar to the design and construction strategy including project planning and environmental stewardship
3. Be familiar to key components of all office and field staff, labor, equipment, materials including identification of unforeseen factors for the project management
4. Be familiar to the critical path management, quality control, project implementation data, and sources of project operation strategies.
5. Be familiar to the construction progress measurement, partial payment process, change order analysis, and claim management
6. Can assist project manager for design development process, project planning, scope development, and entire project management process
ACADEMIC HONESTY & GRADING SYSTEM:

All students are subject to the policies described in the university Catalogue. In particular, students to be familiar with policies described on university catalogue. Giving aid to a student during an exam or taking information from another student or student’s exam constitutes academic dishonesty. Students caught cheating during an exam will receive a failing grade in the course. Students are encouraged to work together to solve homework problems, but Copying is prohibited. Grades will be assigned based on the student’s performance as measured by the assigned homework, midterm exams, and final exam. Grading will be in accordance with the University’s grading policy as outlined in the section entitled “Grading system” in the current copy of the University catalog. There will be one mid-term exam and a final exam. In addition, there will be written report on a selected construction project. Grading will be as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Attendance and Class Participation</td>
<td>25%</td>
</tr>
<tr>
<td>Assignment/Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Mid-term Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35%</td>
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</table>

Final Grades will be assigned as follows:

- A  = 95 - 100
- A - = 90 – 92
- B + = 87 - 89
- B  = 83 - 86
- B - = 80 - 82
- C + = 77 - 79
- C  = 70 - 76
- F = less than 70%

*Students achieving overall percentages as shown are guaranteed grades as indicated. Actual cutoffs may be lower.

COURSE ORGANIZATION & EVALUATION:

Lecture Sessions
Lecture sessions will be two and half hours in length, and held once a week. Classes will be devoted to the presentation of lecture topics, a brief review of the assignments, administering exams, and addressing individual questions as time allows. To maximize learning, students are encouraged to participate actively in lecture. All students will also have the opportunity to work in small room groups to solve problems in/out of the classroom.

Course Web Page or E-mail
A CE 8253 Project Management for Construction course web page or e-mail may be developed though the university web page if available. It is important all students may have a web e-mail account to utilize the tools of this course web page. Students are expected to check their web email and the course web page regularly (if developed) for important class announcements, homework assignments & solutions, and other information. Student should send all email to me during the semester with “CE 8253 Project Management for Construction” somewhere in the “subject line” Email without this designation subject line may not be recognized or responded.
**Classroom Interruptions**
All cellular phones and pagers to be turned off prior to entering lecture sessions and exams. Students may not bring food, drinks (except water) during lecture session. Use of classroom computers during the lecture will be allowed if related to the class.

**Homework Policy**
Homework problem will be assigned regularly. Assignments to be turned in at the beginning of class on the due date, and **late submission are not acceptable**. No homework be submitted after an assignment is returned or after solutions are provided. Homework to be neat and organized, and completed by using a straight edge and standard 8x11 size paper (front side only). Special notes shall be boxed or underlined for clarity and engineering units shall be used in solving problems. Homework sheets shall be stapled, with name at the top of each page. **Electronic submissions are not acceptable.** Homework will be reviewed for completion of all assigned problems, and all the assigned problems will necessarily be graded. No homework assignments and final exams sheets shall be returned to the students except mid-term exams sheets for fifteen minutes.

**Exams Policy**
One two hours midterm exams will be given as noted on the exam schedule below. There midterm exams sheets will be returned to the students for review in class, but will be collected and remained on file in the instructor’s office for a maximum period of one year. Any appeal on the scoring of an exam must be made at the first lecture period following return of the midterm exam. A two and half hours final exam will be given as determined by the University Final Exam Schedule (noted on the exam schedule below). Final exams sheets will **not** be returned, but will remain on file in the instructor’s office for a minimum period of one year. During this time, the student may schedule an appointment with the instructor to review his/her final exam report.

Students can bring the Calculator, Sage/Timberline, Primavera, HCSS software and AISC steel manual along with 8.5x11sheet to the exams room and an additional sheet for each subsequent exam. There sheet shall be your own handwritten notes. The instructor will collect and review their sheets. Makeup exams will be given only if prior permission is granted for extreme situations such as valid medical reasons.

**Instructor**
Dr. Faruque Hossain has over fifteen years industry experiences in Sustainable Construction and Engineering management for both public and private sectors specialized in energy, environment, building, civil, and critical infrastructure projects. He worked and/or consulted in diverse small companies to fortune listed companies and managed as less as million dollars to over billion dollars projects. Faruque also worked for the New York City as the Director of Technical Services. He got PhD from Hokkaido University, did his Postgraduate research in Engineering at University of Sydney, and Executive Education in Architecture at Harvard University. He is also the editors of several international journals of sustainable Construction and Engineering related field and has dozens of scientific publications in reputed journals.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Topic</th>
<th>Reference</th>
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<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>1</td>
<td>Introduction of Project Management (Design &amp; Build, CM, GMP, GC, and Construction Management)</td>
<td>Chapter 20-40: Environmental Engineering Reference Manual and Class Lecture</td>
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<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>2</td>
<td>Project Planning, Team Building, Preconstruction, Due Diligence, Risk Management, General Conditions, and Documentation</td>
<td>Chapter 26-51: Environmental Engineering Reference Manual and Class Lecture</td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>3</td>
<td>Construction Safety, and Field Engineering (PPE, Site Safety, and Lifting and Rigging)</td>
<td>Chapter 83: Civil Engineering Reference Manual PE Exams and Class Lecture and Note</td>
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<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>4</td>
<td>Construction Operations, Means, and Methods</td>
<td>Chapter 3: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>5</td>
<td>Soil Mechanics, and Temporary Structure for Construction (Geotechnical, Trenching, and SOE)</td>
<td>Chapter 6: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>6</td>
<td>Environmental and Civil/Earth Construction (ACM, HAZMAT, Remediation, Demolition, Excavation, Piling, and Foundation)</td>
<td>Chapter 1: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>n/a</td>
<td>MID TERM</td>
<td>TBD</td>
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<td>8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7</td>
<td>Architectural Building Integration and Construction (Exterior, Interior System)</td>
<td>Chapter 68: Civil Engineering Reference Manual PE Exams and Class Lecture and Note</td>
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<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9</td>
<td>Material Quality Control, and Production Management</td>
<td>Chapter 5: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<tr>
<td>11&lt;sup&gt;th&lt;/sup&gt;</td>
<td>10</td>
<td>CPM Scheduling, Detail Cost Analysis, Construction Progress Measurement, and Partial Payment.</td>
<td>Chapter 4: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<tr>
<td>12&lt;sup&gt;th&lt;/sup&gt;</td>
<td>11</td>
<td>Change Order Analysis, Force Account Mitigation, and Claim Management</td>
<td>Chapter 3,4: Construction Depth Reference Manual for Civil PE Exam and Class Lecture</td>
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<tr>
<td>14&lt;sup&gt;th&lt;/sup&gt;</td>
<td>13</td>
<td>Punch Lists, Sing Offs, Final Payment, Project Closeout, Record Keeping, and Advanced Research on Construction Management</td>
<td>Class Lecture and Note</td>
</tr>
<tr>
<td>15&lt;sup&gt;th&lt;/sup&gt;</td>
<td>n/a</td>
<td>FINAL EXAM</td>
<td>TBD</td>
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**TEXTBOOKS:**

**SOFTWARE:**
Primavera, Procore, E-Builders, MS Project, AutoCAD, MATLAB, HCSS, Sage/Timberline, and Construction Link

**REFERENCES:**

**DISCLAIMER:** The instructor may reserve the right to adjust the scope of the course, lecture schedules, including number and timing of exams as necessary.