

Meeting times: Mondays 5:45PM – 9:30PM

Location: E-344

Instructor: Diane Reid

E-Mail: [structuralsiteplanning@gmail.com](mailto:structuralsiteplanning@gmail.com)  
(Please state your name and section on e-mails)

Office hour: **strictly by appointment**  
Virtual Office hours: via video chat Google/Skype

**Course Catalog Description:** Graphical methods of conveying ideas and information related to civil engineering projects. Functional planning. Structural plans and details in steel, wood and concrete. Topographical mapping. Earthwork projects.

**Pre- or Co-req:** PRE: MAC 102 (min C)

**Course Objectives:**

- Learn to read and design construction drawings for major types of buildings and site plans.
- Learn to graphically communicate information for civil engineering projects
- Learn to visualize in three dimensions from two-dimensional representation
- Learn practical aspects of construction
- Explain the requirements and plan the steps for preparing a building site
- Develop ability to do a functional design of a building and site
- Use AutoCAD to draft construction and design drawings
- Draft a framing plan given basic information on the structure
- Develop ability to work effectively in a group
- Develop ability to orally present your work

**Suggested Texts:**

Francis D.K. Ching, *Building Construction Illustrated*, 4<sup>th</sup> Edition, Van Nostrand Reinhold, 2000.  
Building Construction: Materials & Methods Edward Allen Fifth/Sixth Edition, Wiley.

*The following material will be provided:*

Palevsky and Papoulas, *Reference Data – Structure and Site Plans*, Revised 1998.

Milo S. Ketchum, *Handbook of Standard Structural Details for Buildings*, Prentice-Hall, 1956.

**Note: Specific reading assignments will be posted in Blackboard.**

**References:**

Ramsey and Sleeper, *Architectural Graphic Standards*, John Wiley.

American Institute of Steel Construction, *Detailing for Steel Construction*.

American Concrete Institute, *Manual of Standard Practices for Detailing Concrete Structures*.

An AutoCAD manual, e.g., *AutoCAD 2014/2015: No Experience Required*.

**Suggested Reference:**

Building Construction: Principles, Materials, and Systems, Madan Mehta et al., Prentice Hall, 2008.

**Required equipment:**

Scales (triangular), both architectural and engineering, in Imperial (English) units

USB Memory stick or other method of saving files from PCs in PC Lab

AutoCAD software 2015: To download free student version, go to **students.autodesk.com**

*Suggested - laptop for AutoCAD lab. Note to MAC users: the engineering computer lab has PCs and so lessons will be taught using PCs. Be prepared to troubleshoot compatibility issues if you will work on a MAC.*

## **Course Procedures**

### **Computer Communications:**

You will be expected to use Blackboard to access information about the course. If you are not already familiar with Blackboard, you should make its acquaintance at once. Use the CUNY portal for accessing Blackboard. Assignments, readings, and other materials will be posted on Blackboard.

I will often send time-sensitive and important mass emails to the class and may email specific students when needed. Therefore, I will create an e-mail mailing list to use for these correspondences. To this end, **every student must email me by the end of the day of the first class stating your full name and the course section that you're in. You must email me from an email address that you check daily.** You may also include your phone number (optional), this has been helpful in reaching students in the past. Note that any notices sent from Blackboard will use, by default, your CUNY email address. If this is not an email that you check regularly, you must change your email address in Blackboard also.

**Grading:** Grades will be assigned according to the following chart.

| <b>Letter Grade</b> | <b>G.P.A.</b> | <b>Grade</b> | <b>Letter grade</b> | <b>G.P.A.</b> | <b>Grade</b>    |
|---------------------|---------------|--------------|---------------------|---------------|-----------------|
| A+                  | 4.00          | 97-100       | C+                  | 2.33          | 77 - 79         |
| A                   | 4.00          | 94-96        | C                   | 2.00          | 70-76           |
| A-                  | 3.66          | 90-93        | <b>D</b>            | <b>1.00</b>   | <b>60-69</b>    |
| B+                  | 3.33          | 87-89        | <b>F</b>            | <b>0</b>      | <b>Below 60</b> |
| B                   | 3.00          | 84-86        |                     |               |                 |
| B-                  | 2.66          | 80-83        |                     |               |                 |

### **Grade calculation**

|                             |   |
|-----------------------------|---|
| Homework assignments        | 20%   |
| AutoCAD assignments         | 15%   |
| Design and drafting project | 20%   |
| Class exams                 | 20%   |
| Final exam                  | 25%   |
| Attendance and tardiness    | Show up, be on time or points will be deducted. |
| Bonus Quizzes               | Extra Credit                                    |

Late homework: No late assignments accepted and the grade will be recorded as zero. For AutoCAD assignments, printing issues are not uncommon, so be sure to complete your AutoCAD assignments ahead of time so that they can be submitted in a timely fashion. I would recommend completing AutoCAD assignments at least two days prior to the submission deadline, to make time for printing and other troubleshooting issues.

Assignment format: You must state your correct section and full name on **every** assignment. For group work, the name of your group and the names of all members must be present on any group assignment submission. **Failure to put your names and/or sections on any assignment will result in a 20% grade reduction.** Written assignments must be typed using MLA format or equal. Footnotes and references must be included. If assignment lengths are multiple pages they must be stapled. Loose leaves or paper clips will not be accepted. I consider it a part of my mission to prepare you for the professional world where you will be interacting with clients and highly credentialed peers. Therefore, I expect the highest levels of professionalism in everything you do, including how you submit work to me. Keep this in mind at all times.

Scale will be very important to us. All AutoCAD assignments must be printed to scale. **Not printing to scale will result in a 50% reduction on your overall grade** for that AutoCAD assignment. Of course, you stand to lose more points if more mistakes are made.

Missed exams: There will be **NO** make up for missed exams. If you miss one, a zero will be averaged into your exam score.

Attendance: Attendance will be taken at the beginning of class. You are late if you arrive after your name is called. If you are late twice, that is considered as one absence. For your 2nd, 3rd, and 4th absence, I will take 1, 2, and 4 point(s), respectively, off your final grade. You will be assigned a WU (failing) grade if you accumulate 5 unexcused absences.

Contact: As I mentioned before, you are required to email me, at the end of the first day of class, stating your full name and your course section in the subject line. I will be emailing important information frequently; including progress reports, homework, and announcements pertaining to the class. It would also be good to include a contact phone number where you can be reached.

Some class rules: Please silence your cell phones and don't use them when in class. Eating in class is NOT allowed.

## **Topics**

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Overview of drafting and building design

Project process and teams; orthographic drawing and drafting conventions; functional design

Topographic mapping and site planning

Conventions of site plans; contours and contour maps; cut and fill; site drainage

Basic structural concepts

Beams, columns, loads, types of stress, etc

Construction and reading drawings of wood frame buildings

Working drawings, wood construction and materials

Masonry Buildings

Working drawings, masonry construction, deep foundations

Steel frame buildings and framing plans

Working drawings for steel construction; AISC requirements for detailing; bolted and welded connections; shop drawings

Reinforced concrete buildings

Working drawings for concrete construction; ACI detailing; formwork; types of joints

Introduction to AutoCAD (7 labs, with assignments)

Note: The AutoCAD sessions will be on Tuesday interspersed with other lectures

Academic Integrity: Any act of academic dishonesty will be dealt with by applying the most stringent penalties permitted. Please read carefully the Policy on Academic Integrity posted on the CUNY website with URL: [http://www1.cuny.edu/portal\\_ur/content/2004/policies/image/policy.pdf](http://www1.cuny.edu/portal_ur/content/2004/policies/image/policy.pdf). **I really don't like cheating. Please don't do it! Plagiarism of any kind will result in an instant F for the course. And this extends to your AutoCAD assignments. And for the record, if you help someone cheat, such as doing your AutoCAD assignment and giving your file to a classmate to modify and submit, I shall hold you every bit as accountable. And you will get as severe a punishment as the person who tried to commit the plagiarism.**

**TENTATIVE SCHEDULE – SUBJECT TO CHANGE**  
**(The most up-to-date schedule will be on BlackBoard)**

| Lecture # | Topic   |
|-----------|---|
| 1         | Introduction and Project Delivery Phases  |
| 2         | The role of the Design and Construction Professional  |
| 3         | Site Planning 1   |
| 4         | Site Planning 2   |
| 5         | Foundation Systems  |
| 6         | Superstructure 1 (Floor systems), Construction Drawings Overview with orthographic projection |
| 7         | Superstructure 2 (Wood construction)  |
| 8         | <b>AutoCAD 1</b>  |
| 9         | <b>Exam 1</b> – Introduction to Term Project  |
| 10        | <b>AutoCAD 2</b>  |
| 12        | Superstructure 3 (Concrete Construction)  |
| 13        | <b>AutoCAD 3</b>  |
| 14        | Superstructure 4 (Steel constructions, shapes and connections)                                |
| 15        | <b>AutoCAD 4</b>  |
| 16        | <b>Exam 2</b> – Project overview  |
| 17        | <b>AutoCAD 5</b>  |
| 18        | Building loads – Simple Framing   |
| 19        | <b>AutoCAD 6</b>  |
| 20        | Superstructure 5 (Masonry Construction)   |
| 21        | <b>Exam 3</b>   |
| 22        | <b>AutoCAD 7</b>  |
| 23        | PRESENTATIONS / LAST CLASS  |
| *         | <b>FINAL EXAM – in regular classroom</b>  |

# LaGuardia Community College **Academic Calendar 2018-2019 - FALL**

## 2018 Fall Semester - Session I

|             |           |            |   |
|-------------|-----------|------------|---|
| <b>SEPT</b> | 5         | Wed        | New Student Orientation / Last Day to Apply for Readmission or Reinstatement from Suspension for Fall 2018 Session I  |
|             | 6         | Thur       | New Student Orientation   |
|             | 7         | Fri        | Opening Session for Faculty & Staff   |
|             | 11        | Tue        | Last day to drop for 100% Tuition Refund  |
|             | <b>12</b> | <b>Wed</b> | <b>First Day of Weekday Classes - Fall Session I</b>  |
|             | <b>15</b> | <b>Sat</b> | <b>First Day of Saturday Classes - Fall Session I</b>   |
|             | <b>16</b> | <b>Sun</b> | <b>First Day of Sunday Classes - Fall Session I</b>   |
|             | 17        | Mon        | Last Day to Add a Course or Change Course Sections  |
|             | 18        | Tue        | <i>No classes scheduled</i> / Financial Aid Certification / Last day to Drop for 75% Tuition Refund   |
|             | 19        | Wed        | <i>No classes scheduled</i> / Course Withdrawal Drop "WD" period begins   |
|             | 25        | Tues       | Last Day to Drop for 50% Tuition Refund   |
|             | 28        | Fri        | Last day to drop for 25% Tuition Refund / Last day to declare Major for Fall semester / Course Withdrawal Drop "WD" period ends / Last day to submit Independent Study contract |
|             | 29        | Sat        | Withdrawal Period Begins  |

|            |    |     |  |
|------------|----|-----|--|
| <b>OCT</b> | 8  | Mon | <i>College Closed</i>  |
|            | 10 | Wed | Last Day to Apply for the following Candidacies: Nursing (not including LPN), Occupational Therapist Asst., Physical Therapist Asst., and Veterinary Technology / Last day to apply for Fall 2018 Graduation |

|            |       |          |                        |
|------------|-------|----------|------------------------|
| <b>NOV</b> | 11    | Sun      | Withdrawal period ends |
|            | 22-25 | Thur-Sun | <i>College Closed</i>  |

|            |           |            |  |
|------------|-----------|------------|--|
| <b>DEC</b> | <b>8</b>  | <b>Sat</b> | <b>Last Day of Saturday Classes - Fall Session I</b> |
|            | <b>9</b>  | <b>Sun</b> | <b>Last Day of Sunday Classes - Fall Session I</b>   |
|            | <b>11</b> | <b>Tue</b> | <b>Last Day of Weekday Classes - Fall Session I</b>  |
|            | 12        | Wed        | Reading Day  |
|            | 13-19     | Thur-Wed   | <b>Final Examinations</b>                            |
|            | 21        | Fri        | Grades and Attendance Due by 4 pm                    |
|            | 24-25     | Mon-Tue    | <i>College Closed</i>                                |
|            | 31        | Mon        | <i>College Closed</i>                                |

## 2018-19 Fall Semester - Session II

|            |    |      |   |
|------------|----|------|---|
| <b>DEC</b> | 27 | Thur | Last Day to Apply for Readmission or Reinstatement from Suspension for Fall 2018 Session II |
|------------|----|------|---|

|            |          |            |   |
|------------|----------|------------|---|
| <b>JAN</b> | 1        | Tue        | <i>College Closed</i> / Last Day to Drop for 100% Tuition Refund  |
|            | <b>2</b> | <b>Wed</b> | <b>First Day of Weekday Classes - Fall Session I</b>  |
|            | 3        | Thur       | Last Day to add a Course or Change Course Sections  |
|            | <b>5</b> | <b>Sat</b> | <b>First Day of Saturday Classes - Fall Session II / Course Withdrawal Drop "WD" Period Begins.</b>                               |
|            | <b>6</b> | <b>Sun</b> | <b>First Day of Sunday Classes - Fall Session II / Last Day to Drop for 50% Tuition Refund</b>                                    |
|            | 10       | Thur       | Last day to drop for 25% Tuition Refund / Course Withdrawal Drop "WD" period ends / Last day to submit Independent Study contract |
|            | 11       | Fri        | Withdrawal Period Begins  |
|            | 16       | Wed        | Certification/Verification of Enrollment Rosters due to the Registrar to assign WN grades   |
|            | 21       | Mon        | <i>College Closed</i>   |
|            | 23       | Wed        | Irregular Day - Classes Follow Monday Schedule  |

|            |           |             |   |
|------------|-----------|-------------|---|
| <b>FEB</b> | 5         | Tue         | Withdrawal period ends                                |
|            | 7         | Thur        | Irregular Day - Classes Follow Tuesday Schedule       |
|            | <b>9</b>  | <b>Sat</b>  | <b>Last Day of Saturday Classes - Fall Session II</b> |
|            | <b>10</b> | <b>Sun</b>  | <b>Last Day of Sunday Classes - Fall Session II</b>   |
|            | 12        | Tue         | <i>College Closed</i>                                 |
|            | <b>14</b> | <b>Thur</b> | <b>Last Day of Weekday Classes - Fall Session II</b>  |
|            | 15        | Fri         | Reading Day   |
|            | 18        | Mon         | <i>College Closed</i>                                 |
|            | 16-21     | Sat-Thur    | <b>Final Examinations</b>                             |
|            | 22        | Fri         | Grades and Attendance Due by 4 PM                     |

### Explanation of Terms

**Withdrawal Drop** - A "WD" grade is assigned to students who drop a course after Financial Aid Certification Day in Session I until the last day to drop a course for 25% Tuition Refund. A "WD" grade indicates that student attended a class at least once before dropping it. A "WD" grade does not appear on the transcript and is not calculated into GPA.

**Withdraw** - Students may withdraw from classes after the last day to drop for 25% tuition refund through the last day to Withdraw; receive a "W" grade that is not calculated into GPA. Students who officially withdraw from a course are NOT eligible for a tuition refund.

**Evening Classes** begin at 4:35 p.m.

To learn if the College is closed due to severe weather register for CUNYAlert at <http://www.cuny.edu/alert>

**Fall registration begins on May 1, 2018**

**Spring registration begins on November 1, 2018**



The information that you provide on this form will give me an idea of your background for this course and help determine the teaching level. Please fill it out and return it at the end of class.

Name: \_\_\_\_\_ Section: \_\_\_\_\_

1. Have you had experience with manual drafting? Yes \_\_\_ No \_\_\_

If yes, about how many years? \_\_\_\_\_

2. Have you had experience with AutoCAD or a similar computer aided drafting (CAD) program?  
Yes \_\_\_ No \_\_\_

If yes, which program? \_\_\_\_\_

If you answered yes to question 2, do you consider your CAD skill level to be:

None \_\_\_ Slight \_\_\_ Fair \_\_\_ Good \_\_\_ Excellent \_\_\_

3. Have you had experience with construction? Yes \_\_\_ No \_\_\_

If yes, please describe the nature and length of your construction experience.

\_\_\_\_\_  
\_\_\_\_\_

4. What do you want to learn most from this course?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. How do you prefer to learn new materials? Describe the best teaching methods that would help you achieve your goals.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Any comments/suggestions?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_