

Professional Certificate in Civil Sitework Construction (Online)

Schedule and Course Descriptions

The **Professional Certificate in Civil Sitework Construction** requires the successful completion of five courses within two years. Students must complete four core courses (*Construction Equipment and Methods; Estimating Civil Construction; Practical Applications of Civil Construction; and Civil Sitework Construction Blueprint Reading and Materials*), as well as one elective (choose *Contract Documents and Construction Law* or *Planning and Scheduling*). This certificate will equip students with career advancement skills in the areas of site work development including excavation, site utilities, and roadway improvements.

Textbooks: Textbooks are not included in course fees and will cost approximately \$100-\$150 per course. Textbook information is listed in the course descriptions below. Books are available for purchase at the SDSU Bookstore (619.594.7535) and can be conveniently shipped to your home.

5 easy steps to order your textbooks:

- 1) From the SDSU Bookstore website [Ship-to-Home web page](#), accept the terms and conditions;
- 2) Select **Extended Studies – [current term]**
- 3) Select the department: **Engineering**
- 4) Select the course number
- 5) Select (any of) the section(s) listed

This will show you the textbook for the class and you can proceed with your purchase.

Instructors: All instructors are subject matter experts in the course field.

Certificate Courses: Current dates are listed below. Note: *All course offerings are subject to change.*

Professional Certificate in Civil Sitework Construction (Complete 4 core courses + 1 elective)					
Course Name	Course #	Spring I 2017 LD: 1/23	Spring II 2017 LD: 4/10	Summer 2017 LD: 7/3	Fall 2017 LD: 9/18
Core courses:					
Construction Equipment & Methods	ENGR 43	1/16 - 3/19		6/26 - 9/3	
Practical Applications of Civil Construction	ENGR 44		4/3 - 6/11		9/11 - 11/19
Estimating Civil Construction	ENGR 45	1/16 - 3/19		6/26 - 9/3	
NEW Civil Sitework Blueprint Reading and Materials	ENGR 46		4/3 - 6/11		9/11 - 11/19
Electives:					
Contract Documents and Construction Law	ENGR 31	1/16 - 3/19		6/26 - 9/3	
Planning and Scheduling	ENGR 32	1/16 - 3/19	4/3 - 6/11	6/26 - 9/3	9/11 - 11/19

LD: Last day to register

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Civil Sitework core courses

Construction Equipment and Methods: ENGR 0043

The purpose of this course is to give the student an overall and elementary understanding of construction equipment and selected construction methods. This includes selection, economy, and productivity of common construction equipment and construction procedures for site development and industrial, heavy and civil construction. The course will introduce students to civil construction plans, determining earthwork quantities, equipment economics and utilization, equipment production rates, fundamentals of earthmoving and excavating, loading and hauling equipment.

Textbooks required:

- Means Heavy Construction Handbook, Richard Ringwald (RSMMeans, 1993). ISBN: 978-0876292839 (Not stocked by SDSU bookstore.)
- Caterpillar Performance Handbook, 45th edition (Caterpillar Inc., 2015). Available free [online](#).

Estimating Civil Construction: ENGR 0045

This course introduces students to estimating civil engineering, heavy construction projects, and site work construction projects. This course will cover reading and understanding civil construction plans, determining earthwork quantities, determining crew make-up, and fundamentals of estimating various civil and site work components.

Textbook required: Estimating Excavation Revised, Deryl Burch, revised by Dan Atcheson (Craftsman, 2013). ISBN: 978-1-57218-301-8 (Note: ebook in PDF format; may be ordered directly from [Craftsman](#))

Practical Applications of Civil Construction: ENGR 0044

This course focuses on understanding civil construction techniques. This includes site preparation and grading, excavation, backfill, compaction, trenching, paving, and dewatering. Discussions on the proper methods of determining earthwork quantities, estimating civil construction costs and safety implications will take place throughout the course.

Textbooks required:

- Means Heavy Construction Handbook, Richard Ringwald (RSMMeans, 1993). ISBN: 978-0876292839 (Not stocked by SDSU bookstore.)
- Caterpillar Performance Handbook, 45th edition (Caterpillar Inc., 2015). Available free [online](#).

Civil Sitework Blueprint Reading and Materials: ENGR 46

This purpose of this course is to give the student an overall and elementary understanding of civil construction blueprints and materials. This includes understanding and interpreting civil construction blueprints, reading specifications, manufacture and use of civil construction materials such as aggregates, concrete, asphalt, pipe, and geosynthetics.

Textbook required: Soil and Rock Construction Materials, Greg McNally (CRC Press, 1998). ISBN: 978-0419214205

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Civil Sitework elective courses

Contract Documents and Construction Law: ENGR 0031

Learn about common construction contract clauses and how to read a contract. Construction disputes, including differing site conditions, claims, delays and construction defects will be studied.

Textbook required: STP Unit 4 PM: Contract Documents, 2015 edition, Associated General Contractors.
ISBN: 978-1-936006-54-0. Available in Hardcopy or Kindle.
(Available directly on [AGC website](#) if you don't purchase from bookstore.)

Planning and Scheduling: ENGR 0032

Learn to apply basic construction planning and scheduling skills. Prepare bar chart schedules and critical path schedules. Read complex project schedules and understand the basics of project management by scheduling. Employ schedule acceleration methods.

Textbook required: STP Unit 3 PM: Planning and Scheduling, 2015 edition, Associated General Contractors.
ISBN: 978-1-936006-52-6. Available in Hardcopy or Kindle.
(Available directly on [AGC website](#) if you don't purchase from bookstore.)

Scores

To pass each course you must score 70% or higher.

Points	Score
100 - 90%	Excellent
89 - 80%	Above Average
79 - 70 %	Average
69 - 60 %	Marginal
Below 59%	Unsatisfactory
Incomplete	Did not complete

Certificate of Completion: At the completion of all required courses, you are eligible to receive a Certificate of Completion with the program title, your name, and the date of completion which can be framed and/or copied to include with your résumé when applying for jobs. Request your certificate by filling out the online request form at neverstoplearning.net/certificaterequest.