

Course Outline

COURSE: CMGT 104 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Spring 2022 **CURRICULUM APPROVAL DATE:** 3/08/2022

SHORT TITLE: ANALYSIS CON DRAW

LONG TITLE: Analysis of Construction Drawings and Specifications

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
3	18	Lecture:	3	54
		Lab:	0	0
		Other:	0	0
		Total:	3	54
		Total Learning Hrs:	162	

COURSE DESCRIPTION:

This course is designed to provide the student with an introduction to reading construction drawings and specifications used in the construction industry. **PREREQUISITES:** CMGT 101, CMGT 102, CMGT 103.

PREREQUISITES:

- Completion of CMGT 101, as UG, with a grade of C or better.
- AND Completion of CMGT 102, as UG, with a grade of C or better.
- AND Completion of CMGT 103, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

- L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 05 - Hybrid
- 71 - Dist. Ed Internet Simultaneous
- 72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Summarize the overall organization, specific purposes, and information provided in standard construction specifications.
2. Apply the ability to read 2D building plans and project specifications.

COURSE OBJECTIVES:

By the end of this course, a student should:

1. Explain how to read 2D building plans.
2. Apply basic surveying techniques for construction layout and control.
3. Analyze architectural plans, civil and landscape plans, and foundation plans for planning and management of construction processes.
4. Complete various activities by successfully using OnScreen Takeoff software, Bluebeam Revu software, and PlanGrid Software.
5. State the construct of business ethics code of conduct and analyze ethical decision-making best practices.
6. Recognize the basic principles of plumbing, mechanical, and electrical systems.
7. Identify construction quality assurance and control for plumbing and fire sprinkler plans, heating and cooling plans, and for electrical plans.
8. State their uses and create construction project cost estimates for architectural plans, foundation plans, structural plans, plumbing and fire sprinkler plans, heating and cooling plans, and electrical plans.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 3/08/2022

3 Hours

Content: Course Overview. Different Types of Contracts and Players. Specifications. Various types of project delivery methods and the roles and responsibilities of the players.

3 Hours

Content: Correspondence and Construction Drawings Submittal Process. Introduction to Bluebeam Revu Software.

3 Hours

Content: Keys to Plan Reading. How to read 2D building plans.

6 Hours

Content: Construction Surveying/Staking. Basic surveying techniques for construction layout and control. Civil and Landscape Plans. Exam.

3 Hours

Content: Architectural Plans. Construction project cost estimates as it relates to architectural plans

6 Hours

Content: Foundations Plans. Construction project cost estimates as it relates to foundations plans. OnScreen Takeoff Software.

9 Hours

Content: Structural Plans. Construction project cost estimates as it relates to structural plans. Business Ethics. PlanGrid Software. Exam.

4.5 Hours

Content: Plumbing and Fire Sprinkler Plans. Basic principles of plumbing systems. Construction quality assurance and control for plumbing and fire sprinkler plans.

4.5 Hours

Content: Heating and Cooling Plans. Basic principles of mechanical systems. Construction quality assurance and control for heating and cooling plans.

3 Hours

Content: Electrical Plans. Basic principles of electrical systems. Construction quality assurance and control for electrical plans.

3 Hours

Content: Types of Estimates and Uses. Exam.

4 Hours

Content: Review for Final. Complete course binder.

2 Hours

Final Exam.

METHODS OF INSTRUCTION:

lecture, discussion, guided practice, multi-media presentation

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours: 36

Assignment Description: Read textbook and handouts. Study for quizzes and exams.

Required Outside Hours: 72

Assignment Description: Out of class assignments and activities. Such as: Bluebeam Revu homework, reading specifications, architectural plans homework, foundations plans homework, OnScreen Takeoff software homework, structural plans homework, plumbing and fire sprinkler plans homework, heating and cooling plans homework, and electrical plans homework.

METHODS OF EVALUATION:

Problem-solving assignments

Evaluation Percent 40

Evaluation Description

30% - 50% Assignments/Class Activities

Skill demonstrations

Evaluation Percent 10

Evaluation Description

10% - 20% Exercises

Objective examinations

Evaluation Percent 40

Evaluation Description

30% - 50% Quizzes and Exams

Other methods of evaluation

Evaluation Percent 10

Evaluation Description

10% - 20% Participation in class activities. Course binder.

REPRESENTATIVE TEXTBOOKS:

Mark W. Huth. Understanding Construction Drawings, 7th Edition . Boston, MA: Cengage Learning,2019.
ISBN: 978-1-337-40864-6
Reading Level of Text, Grade: 12th Verified by: MS Word

Recommended Representative Textbooks

Keith A. Bisharat. Construction Graphics: A Practical Guide to Interpreting Working Drawings, Second Edition. Hoboken, New Jersey: John Wiley & Sons, Inc,2008.
ISBN: 978-0-470-13750-5
Reading Level of Text, Grade: 12th Verified by: MS Word

Required Other Texts and Materials

Required course tools:

(1) Laptop Computer

(2) Access to a color printer. A course pack will be provided to the student at no cost. It includes: temporary license for the OnScreen Takeoff (OST) software, temporary license of Bluebeam Revu software, an educational license of PlanGrid software, plan set with highlighter, and course work binder and tabs.

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Not Transferable

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education: N

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: D

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000608405

Sports/Physical Education Course: N

Taxonomy of Program: 095700