

CMT 210 - 3D CONCRETE PRINTING AND APPLICATION

- Recognize when more information is needed and seek help and resources.
- Identify personal learning preferences.
- Reflect on their ability to use their OSHA 10 Certification.

Course Description

This course builds upon the foundational knowledge gained in Intro to 3D Concrete Printing, with a focus on applying additive manufacturing techniques to construction practices. Through project-based learning, students design, plan, and execute 3D concrete printing projects that simulate real-world construction scenarios. Emphasis is placed on teamwork, jobsite planning, material performance, and equipment operation. Students engage in all stages of the project—from concept and design through fabrication and evaluation—developing critical thinking, technical, and problem-solving skills essential for innovation in modern construction. By course completion, students will demonstrate their ability to integrate 3D concrete printing technology into practical construction applications. Group 2 course.

Credit Hours

3

Contact Hours

3

Required Prerequisites

CMT 110

Recommended Prerequisites or Skills Competencies

MTH 111

Course Learning Outcomes

Knowledge:

- Identify Equipment and Materials Used in the 3DCP Industry.
- Compare and contrast 3DCP to traditional methods and techniques.
- Explain the history of Concrete 3DCP Development.

Application:

- Identify Motion Systems used in 3DCP.
- Coordinate Systems Determined Locations.
- Identify Power systems required in 3DCP and Print heads utilized in 3DCP.

Integration:

- Identify Motion Systems used in 3DCP.
- Coordinate Systems Determined Locations.
- Identify Power systems required in 3DCP and Print heads utilized in 3DCP.

Human Dimension:

- Have confidence in understanding how 3DCP is incorporated into traditional building techniques.

Caring - Civic Learning:

- Preparing students for roles in construction printing. Job prospects in this emerging field. Development of soft skills.

Learning How to Learn: