POINT CLOUDS + UNREAL WORLDS: AN INTRODUCTION TO IMMERSIVE TECHNOLOGIES

Arch 509
Instructor: Dawn Gilpin
Meeting Times:
Computer Lab, 2109

Michigan Stadium 5th Floor Suites. Scanned by EIPC team members. Registration by Xin Li. Winter 2022.

This course introduces students to advanced techniques in 3D laser scanning, Unreal Engine basics, and photogrammetry as technical extensions of disciplinary conventions in architecture. The course focuses on providing students with a comprehensive understanding of how these tools can be used to make more vivid design ideas, spatial narratives and positions developed in architecture studios. The course will cover a range of topics including:

3D Laser Scanning: Understanding the fundamentals of 3D laser scanning, including the equipment and software required, and how it can be used to capture accurate and detailed 3D models of real-world objects and environments. FARO Certification in scanning and registration is integral to this course.

Unreal Engine: Understanding the fundamentals of this game engine, including how to use it to create immersive, real-time visualizations of architectural designs, and how to leverage its advance lighting and rendering capabilities enabling worldbuilding and spatial narrative scenario creation.

Photogrammetry: Understanding the fundamentals of photogrammetry, including how to capture and process high-quality images to create accurate and detailed 3D models of real-world objects and environments.

Throughout the course, students work on a series of projects that allow them to apply the skills they have learned a practical context. They have the opportunity to collaborate with peers in other coursework to develop more advanced and complex projects that will challenge their skills and design positions.