Miami Dade College

Course Description

ARC2580 | Architectural Structures 1 | 4.00 credits

A basic structural course designed primarily for Architectural and Construction majors, covering the fundamentals of statics. Timber design emphasized. Prerequisite: MAC1114; pre-/corequisites: PHY2053, 2053L and ARC1126, 2461. Laboratory fee.

Course Competencies:

Competency 1: The student will demonstrate an understanding of fundamental statics principles and their application to architectural and construction projects by:

1. Applying fundamental statics principles to analyze and optimize structural designs in architectural and construction projects
2. Integrating fundamental statics principles into the evaluation and selection of materials and structural systems for architectural and construction projects
3. Showcasing an understanding of fundamental statics principles through the practical application in architectural and construction projects to ensure structural integrity and safety

Competency 2: The student will apply theoretical knowledge and practical skills to analyze and design timber structures in accordance with industry standards and regulations by:

1. Incorporating theoretical knowledge and practical skills to analyze timber structures, ensuring compliance with industry standards and regulations
2. Utilizing theoretical knowledge and practical skills to design timber structures
3. Implementing theoretical knowledge and practical skills to analyze, evaluate, and design timber structures in adherence to industry standards and regulations

Competency 3: The student will develop the ability to evaluate and select appropriate timber materials and construction methods for architectural and construction projects based on structural requirements and design considerations by:

1. Cultivating the ability to evaluate and select suitable timber materials and construction methods for architectural and construction projects based on structural requirements and design considerations
2. Mastering evaluating and selecting appropriate timber materials and construction methods
3. Perfecting the art of evaluating and selecting optimal timber materials and construction methods in alignment with structural requirements and design considerations for architectural and construction projects

Learning Outcomes:

- Use quantitative analytical skills to evaluate and process numerical data
- Demonstrate an appreciation for aesthetics and creative activities
- Describe how natural systems function and recognize the impact of humans on the environment