



Course Outcome Summary

Required Program Core Course

CONM 205 - Building Information Modeling for Construction Management

Course Information

Division	ASET
Contact Hours	45
Theory	45
Lab Hours	0
Total Credits	3

Prerequisites **RDG 090 and ENGL 090 or qualifying score on accepted placement tests or CONM 103 or Instructor's consent**

Students are expected to have fundamental working knowledge of the Windows operating system, high speed or broadband internet connection and a computer with minimum requirements stated below.

Co-requisites **None**

Course Description

Building Information Modeling (BIM) helps the construction managers improve the overall planning, coordination, and control of construction projects. BIM concept uses object-based, information-rich 3D modeling to improve the productivity and efficiency of computer aided design. This course is designed to teach students how to develop BIM models by using Autodesk Revit, how to integrate designs of the different disciplines in a single BIM model (i.e. Architectural, Interior Design, Structural, Mechanical, Plumbing and Electrical). Specialty applications for construction management functions; construction simulation (4D scheduling), model-based estimating (5D Estimating) and interference checking are also covered in the class.

Program Outcomes Addressed by this Course:

Upon successful completion of this course, students should be able to meet the program outcomes listed below:

- A - Analyze, interpret and understand the fundamental processes used to create project designs and construction documents.
- B - Define the roles, relationships and responsibilities of the participants in the design and construction process.
- D - Employ the methods, materials, used in the design and construction of buildings and civil works.
- E - Accurately quantify materials required for project construction.
- F - Interpret construction documents to accurately predict project costs and assign resources.
- G - Utilize construction operations planning methods to create accurate project schedules and monitor productivity.
- I - Operate industry-standard software for computer-aided design and drafting (CADD), project cost estimating, and project scheduling.



MONROE COUNTY
COMMUNITY COLLEGE

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for Construction Management**

Course Outcomes

In order to evidence success in this course, the students will be able to:

- 1. Identify the basic processes of designing and constructing a building and the role of design professionals**
 - A. Analyze, interpret and understand the fundamental processes used to create project designs and construction documents.
- 2. Explain at a concept level, how BIM methodology is applied throughout the construction process and what its benefits of use are.**
 - B. Define the roles, relationships and responsibilities of the participants in the design and construction process.
 - D. Employ the methods, materials, used in the design and construction of buildings and civil works.
- 3. Create and integrate different discipline designs in a BIM model.**
 - I. Operate industry-standard software for computer-aided design and drafting (CADD), project cost estimating, and project scheduling.
- 4. Conduct quantity and material take off by using BIM tools**
 - E. Accurately quantify materials required for project construction.
- 5. Create a 4D simulation of a simple model and attach time schedule.**
 - G. Utilize construction operations planning methods to create accurate project schedules and monitor productivity.
- 6. Perform a clash detection by coordinating models from different trades within a model viewer**
 - F. Interpret construction documents to accurately predict project costs and assign resources.
 - I. Operate industry-standard software for computer-aided design and drafting (CADD), project cost estimating, and project scheduling.

Date Updated: 03/14/23
By: Emrah Kazan, Ph.D.