

Building Information Modeling

1. Course number and name: 020BIMNI4 Building Information Modeling

2. Credits and contact hours: 2 ECTS credits, 1x1:15 contact hours

3. Name of course coordinator: Ghassan Hachem

4. Instructional materials: PowerPoint slides; course handouts

5. Specific course information

a. Catalog description:

This course enables the civil engineering students to get to know the notion of BIM (Building Information Modeling), its impact on the construction industry through the software « Revit Structural » from Autodesk . the initiation to BIM will be carried out through multiple examples, exercises reaching the level of being able to create a 3D model.

b. Prerequisites: None

c. Required/Selected Elective/Open Elective: Required

6. Educational objectives for the course

a. Specific outcomes of instruction:

- Utilize the software REVIT from Autodesk aiming to enable the students to create and model structural elements of buildings.
- Create a BIM model from a CAD file.
- Learning how to modify, save, insert structural elements,
- Explain and utilize the information received in class.
- Elaborate a model clear and well presented to be presented to civil engineers and future clients.

b. PI addressed by the course:

PI	2.1
Covered	x
Assessed	x

7. Brief list of topics to be covered

- Introduction to BIM – Installation of REVIT STRUCTURAL
- GRIDS – LEVELS (DATUM)
- Columns (Steel – Reinforced Concrete) -Slanted and Architectural Columns
- Foundation-Footings placement including slab on grade
- Reinforced concrete wall placement and modifications – Retaining walls including bearing and retaining walls footings
- Beams placement and modifications including beam system
- Floor (Solid slabs) – floor placement and modification
- Floor openings (Shafts) – Walls openings
- Architectural sloped Roofs
- Circulation: Stairs & Ramps
- Creating sections – Call out Views – Framing elevations
- Annotation (Dimensions) – Text- Region – Component detail
- Structural Reinforcement – Rebars Placement (Columns- Beams – Slabs-Footings- Walls) – Concrete Cover
- CAD to REVIT