# AF272V BIM2, Design, Installation and Integrated Planning 7.5 credits

BIM2, projektering, installation och samordning

Course syllabus for AF272V valid from Spring 15

This is a translation of the Swedish, legally binding, course syllabus.

**Grading scale:** A, B, C, D, E, FX, F
**Education cycle:** Second cycle
**Main field of study:** Built Environment

## Intended learning outcomes

This course aims to provide a general introduction to 3D design, installation and coordination.

Upon completion of this course, the student shall:

- Understand the theory behind Building Information Modeling (BIM)
- Be able to manage model data and use databases in BIM design
- Be able to coordinate installation with MagiCad
- Be familiar with the collision detection capabilities in Navisworks
- Be able to apply this knowledge in the planning stage in order to facilitate the production stage
- Be able to apply this knowledge in a project to achieve sustainable construction

## Course main content

*Problem-based learning: the course revolves around a project based on a given architectural model. During the course, students will perform simplified installation planning and planning coordination. The elements below are the needed basis.*

The following topics will be covered in this course:

- General definition of BIM
- MagiCAD and BIM
- MagiCAD and IFC - IFC Viewers
- IFC Import using AutoCAD MEP
- Coordination between planners
- Introduction to MagiCAD in Revit MagiCAD and Revit MEP
- Installation coordination using Navisworks

By mixing BIM theory with practical, reality-based examples, the relatively new method of Building Information Modelling is integrated into the course BIM2. Solving reality-based engineering problems is practiced. In this module, the student should directly be able to manage and implement a real BIM project in an engineering process for a construction project containing the disciplines A, K, E, V, with regard to spatial coordination, collision control, calculation, visualisation etc.

## Disposition

The course will be taught via lectures in the computer lab. The lectures consists of theory, demonstration and exercises.

## Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

## Eligibility

120 credits in the built environment, constructional engineering and architecture. Of these, at least 7.5 credits in the built environment, 15 credits in constructional engineering, 5 credits in architecture and 3 credits in CAD, or a Bachelor of Science in constructional engineering and design, or a Master of Science in the built environment, or an equivalent degree, as well as Swedish B/Swedish 3 and English A/English 6. In addition, courses AF1722 The Building Process 5.0 credits, AF1730 Building Information Modeling 7.5 credits, and AF1740 Economics and organization 7.5 credits, or equivalent.

## Literature

Reading materials will be announced at the start of the course.

## Examination

- PRO1 - Project, 2.0 credits, grading scale: P, F
- PRO2 - Project work, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 1.5 credits, grading scale: A, B, C, D, E, FX, F

A project is carried out individually, and submitted within a stated timeframe at the beginning of the course. This project represents 2.0 credits. Grading scale: P/F.

In connection with the first project of the course, a larger project will also be initiated in groups of 3-4. This project is to be handed in prior to the course exam. The project represents 4.0 credits. Grading scale: A-F.

The course ends with a practical exam carried out using a computer. The exam represents 1.5 credits. Grading scale: A-F.

## Requirements for final grade

To receive a final grade for this course, a passing grade on Project 1 as well as grade E or higher on both Project 2 and the exam are required.
Overall course grade is based on grading scale A-F.