

# CA19201: COMMUNICATION STUDIES - BUILDING INTEGRATED MODELLING

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## Effective Term

Semester A 2022/23

## Part I Course Overview

### Course Title

Communication Studies - Building Integrated Modelling

### Subject Code

CA - Civil and Architectural Engineering

### Course Number

19201

### Academic Unit

Architecture and Civil Engineering (CA)

### College/School

College of Engineering (EG)

### Course Duration

One Semester

### Credit Units

3

### Level

A1, A2 - Associate Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

BST11011 Communication Studies - Building Integrated Modelling; or BST11112 Communication Studies 2

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to provide you with the knowledge of a range of computer and manual modelling techniques for the communication and presentation of building design and production information, and to equip you with the necessary skills for producing architectural drawings and visualisations using a building-integrated modelling approach.

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)		
1	Produce simple models to illustrate the general characteristics and features of an architectural design.			x
2	Communicate the key concepts and information of an architectural design proposal using graphic and verbal communication techniques.	x		
3	Generate digital representations of an architectural design using building-integrated modelling techniques.		x	
4	Compile a complete set of architectural drawings in accordance with established practices and drawing conventions.			x

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Workshop	Engages students in hands-on exercises and practice of the selected skills/topics. Students will perform prescribed tasks under the guidance of an instructor for the practice and acquisition of skills that are required for the completion of students' coursework/assignments as well as for their future career after graduation.	1, 2, 3, 4

**Assessment Tasks / Activities (ATs)**

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assignment	1, 2, 3, 4	70	
2	In-class exercise	1, 3, 4	30	

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Additional Information for ATs**

Students must attain a minimum mark of 30 in all assessment components AND an overall mark of 40 to pass the course.

**Assessment Rubrics (AR)****Assessment Task**

Assignment

**Criterion**

- 1.1 Physical Communicate architectural design;
- 1.2 Digital Communicate architectural design

**Excellent (A+, A, A-)**

- 1.1 An excellent set of architectural drawings and models;
- 1.2 Excellent digital model and ability to abstract relevant information for an effective presentation

**Good (B+, B, B-)**

- 1.1 Proper set of drawings and models;
- 1.2 Good digital model and good presentation

**Fair (C+, C, C-)**

- 1.1 Sufficient information in the set of drawings and models;
- 1.2 Sufficient digital model for adequate information in documentation for presentation

**Marginal (D)**

- 1.1 Only basic information in the set of drawings and models, not fully following drawing convention;
- 1.2 Fair digital model and very basic information in documentation

**Failure (F)**

- 1.1 Missing a lot of information in the set of drawings and poor models;
- 1.2 Insufficient digital model and poor presented documentation

**Assessment Task**

In-class exercise

**Criterion**

Attend skills in developing physical and digital models and ability to produce documentations of building in the form of drawings

**Excellent (A+, A, A-)**

Submitted all of the exercises and evidence of excellent skills in drawing and modelling

**Good (B+, B, B-)**

Submitted all of the exercises and evidence of good skills in drawing and modelling

**Fair (C+, C, C-)**

Able to produce most of the exercises and evidence of adequate skills in drawing and modelling

**Marginal (D)**

Able to produce some of the exercises but no strong evidence of skills in drawing and modelling

**Failure (F)**

Unable to produce most of the exercises and not demonstrating skills in drawing modelling

## Part III Other Information

### Keyword Syllabus

- Architectural documentation: Basic concept and techniques on creating a set of submission drawings; presentation model making techniques; configuration of graphic display.
- Architectural presentation: Tools and equipment for Architectural presentation; model making tools & materials; application of manual drafting techniques to drawing of building elements; sketch model making techniques; graphical and verbal presentation techniques.
- Computer Aided Drafting - 2-dimensional: Basic concepts and techniques; set-up & display techniques; essential drawing & editing commands; text and dimensioning; library built-up; plotting & filling; 2 dimensional design development drawings & building detail development; user coordinate system & filter; application of CAD techniques in basic construction documentation.
- Building Information Modelling - 3-dimensional: Using Building Maker for Conceptual Design; working with building elements, materials, levels, column grids, dimensions and constraints; creating, loading and modifying component families; working with materials and schedules; creating views, drawing sheets and presentation.

### Reading List

#### Compulsory Readings

Title	
1	Nil

#### Additional Readings

Title	
1	Knoll, W. (1992). Architectural models: construction techniques. New York: McGraw-Hill.
2	Lockard, W. (2000). Design drawing experiences. New York: W.W. Norton & Co.
3	Mills, C. (2000). Designing with models: a studio guide to making and using architectural design models. New York: John Wiley.
4	Grabowski, Ralph. (2010). The illustrated AutoCAD 2010 quick reference. Clifton Park, NY : Autodesk : Cengage Learning.
5	Demchak, Greg. (2009). Mastering Revit architecture 2010 [electronic resource]. Indianapolis, Ind. : Wiley Pub.
6	Davis, Patrick. (2010). Introducing Autodesk Revit Architecture 2011. Indianapolis, Ind. : Wiley Pub.
7	Autodesk Inc. (2010) Learning Autodesk Revit© Architecture 2010. San Rafael, CA : Autodesk.