Course Outline: Commercial Practices 1

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Calendar Description:

A detailed examination of residential building construction practices and drawing standards. Material will include: the design and construction process; who does what in the office and on the site; blue print reading; drawing standards and production practices; specification interpretation and preparation. Disciplines covered: Architectural; Civil; Structural; Mechanical; and Electrical.

Credits: 3.0

Intended Learning Outcomes:

This course is the first of two related courses. The calendar description and the course objectives presented here are intended to reflect, in part, the objectives of both courses. This course is intended to prepare the technician student to be a useful member of a design team working on the design of buildings and building systems. The student will:

1. Become familiar with the overall building construction process
2. Gain an appreciation of who does what in the design office and on the construction site
3. Review several sets of drawings to become familiar with
   - Details of blueprint reading
   - Anatomy of a building and the systems within it
   - The drawing styles expected in the building industry
   - The symbols used in drawing preparation
4. Practice the production of drawings using BIM in an effort to
   - Use Revit as a drafting and design tool
   - Gain speed and accuracy
   - Become familiar with drawing standards and standard drawing production practices
   - Be familiar with the tools available in Revit to become productive members of a project team
5. Review a set of specifications of a building
6. Practice the skill of 'layout' and discuss the rationale behind layout decisions
7. Gain experience working as part of a team

Text and equipment:

None

Storage medium USB Key

Recommended: imperial-metric converter calculator, imperial and metric scale

Course Schedule (subject to change)

Week	*Lecture/Presentation*	*Lab activity*	*Assignment*
1 01.07 01.10	How is building construction regulated in BC, Designing Part 9 Buildings, The AEC Team, Project Phases	Revit and Building Modeling. Building as a system. Revit interface, Levels, Views, Detail components	
2 01.14 01.17	Healthy Drafting Overview of how a building is built. Construction documentation: Sheets, plans, sections, details. Reading construction drawings.	Setting up a Revit project. Creating floor plans. Customizing annotations. Creating title sheets. Parameters	Assignment #1: Create a Title sheet, setup a project, setup views, customize text and dimensions
3 01.21 01.24	Doors and windows: types, locations, and details. Construction documentation: schedules. TERM PROJECT hand out and discussion.	Customizing walls, creating elevations, inserting doors and windows. Working with schedules	Assignment #2: Create a floor plan. Create a window and door schedule.
4 01.28 01.31	Roof and floor types, construction. sketching	**A visit to a residential construction site.** (bring sketch tools)	Assignment #8: Prepare sketch of observed details on site
5 02.04 02.07	Energy Efficiency Efficient building design Drafting do's and don'ts	Floors and roofs. Customizing Effective RSI calculation	Assignment #3: Add a floor and a complex roof.
6 02.11 02.14	Regulatory constraints: building codes, zoning and setbacks. Survey versus site plan: legal implications.	**Mid-term Exam** Revit workflow: site. Topography, and infrastructure.	Assignment #4: Create a site context from a survey plan.
7 02.18 02.21	Reading Break		
8 02.25 02.28	Structure, barriers, openings, installations, finishes.	Generating sections. Detail components, Detail lines	Assignment #5: Create a section drawing.
9 03.03 03.06	Revit LOD, collaboration, BIM 360, working with consultants	Revit workflow: 3D views, lighting & shading	Assignment #6: Prepare a cover page and cut-away section
10 03.10 03.13	Administrative process: permits and inspections.	TERM PROJECT	Assignment #8: Prepare sketch of observed details on site
11 03.17	plumbing, HVAC, electrical	TERM PROJECT	Assignment #8: Prepare construction details

03.20			
12 03.24 03.27	Detail views, Reflected ceiling plans	TERM PROJECT	
13 03.31 04.03	Project specifications, codes, National Master Specification	TERM PROJECT	
14 04.07 04.10	TERM PROJECT	TERM PROJECT DEADLINE	
15 TBA	FINAL EXAM		

Labs & Assignments

Lab sessions will consist of practical exercises and assignments with an assignment due one week from the lab date.

Assignments are due the following **Friday** at the beginning of class. Late assignments will have 25% of grade deduction per week.

Evaluation & Grading System

Assignments	15%
Labs	15%
Midterm Exam	15%
Final Exam	15%
Final Project	40%

A+	90-100	B-	70-72
A	85-89	C+	65-69
A-	80-84	C	60-64
B+	77-80	D	50-59
B	73-76	F	<50

Office Hours

Technology Building – Room - Tech 140

Tues 7:30-8:30

Friday 4:30-5:30