

Course Outline 2017
PROPERTY 281: BUILDING CONSTRUCTION (15 POINTS)
Semester 1 (1173)

Course Prescription

Knowledge of construction is vital in understanding property valuation, property management and property development. Building materials, structural options, and building services have a strong influence on how a property performs both financially and functionally. Provides general residential and commercial construction knowledge and an understanding of the construction process.

Programme and Course Advice

Prerequisite: PROPERTY 102 or BUSINESS 102

Restriction: PROPERTY 141

Goals of the Course

To acquire an understanding of the materials and methodology, structural options, and the basics of building services of residential and high-rise buildings.

Learning Outcomes

By the end of the course it is expected that the student will be able to:

1. understand the fundamentals of building structures;
2. recognise the materials and components of a typical residential house and use the correct terminology for these components;
3. understand the various house styles and architectural features of New Zealand homes;
4. demonstrate an understanding of the New Zealand Building Code and building controls process;
5. understand the various approaches to project delivery;
6. understand the process of construction project management;
7. describe the construction of high-rise commercial buildings;
8. understand the types and functions of the main buildings services contained within high-rise buildings; and
9. recognise how building design and services influence energy consumption and buildings' environmental sustainability.

Content Outline

- Week 1 - Introduction & Buildings Structures
- Week 2 - Light Wood Frame Construction
- Week 3 - Exterior Finishes & Residential Building Services
- Week 4 - Masonry Construction, NZ Residential Architectural History & New Zealand Building Code
- Week 5 - TEST ONE
- Week 6 - Project Delivery Method/Construction Project Management
- Week 7 - High-rise Foundation/ Building Joints & Steel Frame Systems
- Week 8 - Concrete Frame Systems
- Week 9 - Building Envelope and TEST TWO
- Week 10 - HVAC & Elevator Systems
- Week 11 - Indoor Environment & HVAC Tour
- Week 12 - Interior Construction and TEST THREE

Teaching Staff

Lecturer:

Dr Michael Rehm

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Office hours: By prior appointment

Learning Resources

Required reading: None.

Suggested readings:

Allen, E. (2009) *Fundamentals of Building Construction: Materials and Methods* (5th ed.). New York: John Wiley & Sons.

Building Research Association of New Zealand (2011) *House Building Guide* (3rd ed.) Wellington: BRANZ.

Levy, S. (2011) *Project Management in Construction* (6th ed.), McGraw-Hill.

Salmond, J. (1986) *Old New Zealand Houses*. Auckland: Reed Books.

Shaeffer, R. (2006) *Elementary Structures for Architects and Builders* (5th ed.), Prentice Hall.

Canvas: All lectures will be streamed online and hosted on Canvas to enable embedded features such as quizzing, closed captions, etc. Announcements will be made often on Canvas and students are responsible for checking Canvas regularly.

Assessment

The internal coursework is comprised of three computer-based (two 90-minute tests and one 60-minute test), one individual homework assignment and various elements relating to students' course participation (attempting quizzes and participating in review sessions, attending field trips and taking notes). This course does not feature a final exam.

Assessment	Weighting
Test One (administered in the OGGB computer labs on Fri 7/4 at 11 AM)	33%
Test Two (administered in the OGGB computer labs on Fri 19/5 at 11 AM)	33%
Test Three (administered in the OGGB computer labs on Fri 9/6 at 11 AM)	20%
Assignment: Identification of Materials & Methods (due on Thurs 8/6 at 3 PM)	8%
Participation (quizzes/review sessions, field trips, note taking & survey)	6%

Learning Outcome	Test One	Test Two	Test Three	Assign.	Participation
1	•				•
2	•			•	•
3	•			•	•
4	•				•
5		•			•
6		•			•
7		•	•	•	•
8			•	•	•
9			•		•

Additional Information

Wk	Face-to-Face Meetings	Topics Covered	Important Events
1	Thus 9/3 3 – 4 pm	L1: Introduction	Intro Lecture (in-class)
		L2: Building Structures	
2	Thus 16/3 3 – 4 pm	L3: Light Wood Frame Construction	Review 1 (in-class) L2 & L3
3	Thus 23/3 3 – 4 pm	L4: Exterior Finishes	Review 2 (in-class) L4 & L5
		L5: Residential Building Services	
4	Thus 30/3 3 – 4 pm	L6: Masonry Construction	Review 3 (in-class) L6, L7 & L8
		L7: History of NZ Residential Architecture L8: New Zealand Building Act and Code	
5	Fri 7/4 11am – 1 pm	Computer-based Test One (Lectures 2 thru 8)	OGGB Computer Labs TEST ONE
6	NONE	L9: Project Delivery Methods / L10: Construction Project Management	
		MID-SEMESTER BREAK (17/4 – 30/4)	
7	Thus 4/5 3 – 4 pm	L11: High-rise Foundation Systems / L12: Building Joints	Review 4 (in-class) L9 & L10
		L13: Steel Frame Systems	
8	Thus 11/5 3 – 4 pm	L14: Concrete Frame Systems	Review 5 (in-class) L11, L12 & L13
9	Thus 18/5 3 – 4 pm	L15: Building Envelope	Review 6 (in-class) L14 & L15
	Fri 19/5 11am - 1pm	Computer-based Test Two (Lectures 9 thru 15 PLUS Parts 1 & 2 of 'Building a Skyscraper')	OGGB Computer Labs TEST TWO
10	Thus 25/5 3 – 4 pm	L16: HVAC / L17: Elevator Systems	Review 7 (in-class) L16 & L17
11	Fri 2/6, Meet at OGGB Lv 6 lift lobby as per schedule	L18: Indoor Environment / OGGB HVAC Tours	HVAC tours
12	Thus 8/6 3 – 4 pm	L19: Interior Construction	Assignment Due Thurs 8/6 3 pm Review 8 (in-class) L18 & L19
	Fri 9/6 11am - 1pm	Computer-based Test Three (Lectures 16 thru 19 PLUS Parts 3 & 4 of 'Building a Skyscraper')	OGGB Computer Labs TEST THREE

This is a required course for all students intending to complete a Bachelor of Property degree.

Prerequisite: PROPERTY 102

Restriction: PROPERTY 141

Inclusive Learning

Students are urged to discuss privately any impairment-related requirements face-to-face and/or in written form with the course convenor/lecturer and/or tutor. All lectures are delivered online and feature closed captioning.

Student Feedback

The previous offering of PROPERTY 281 marked the third year that all lectures were delivered online rather than in traditional lecture theatres. Students valued this blended learning approach and appreciated the provision of participation marks to encourage keeping up with the course schedule. Students also valued the in-class review sessions which featured the Top Hat student response system with students responding in real-time to questions and then competing head-to-head with their peers in a virtual tournament. The review sessions were streamed live online via the Business School's video streaming server. This enabled students to participate remotely and enjoy a similar experience as their classmates who attended the live, in-class sessions.

In the event of an unexpected disruption

We undertake to maintain the continuity and standard of teaching and learning in all your courses throughout the year. If there are unexpected disruptions the University has contingency plans to ensure that access to your course continues and your assessment is fair, and not compromised. Some adjustments may need to be made in emergencies. In the event of a disruption, the University and your course coordinators will make every effort to provide you with up to date information via Canvas and the university web site.