



Professional Short Course Series

Seismic Design of Building and Bridge Structures

Organised by
Department of Civil Engineering, The University of Hong Kong

Supported by
American Society of Civil Engineers (Hong Kong Section)

REMINDER

Course Venue:
L'hotel Nina et
Convention Centre
Buffet Lunch:
Café Circles of
L'hotel
Registration Fees
remain unchanged.

Syllabus:

This short course series aims to introduce fundamental concepts and up-to-date knowledge that are required for the design and assessment of structures in countering seismic hazards in a low to moderate seismicity environment like Hong Kong. Fundamental principles and relevant skillsets are explained and illustrated with examples showing details of each step of the calculations.

Registrants have the option of enrolling in any one, or more, day(s) of the short course series.

Day One is to cover the basic principles in relation to earthquake actions and how best to represent these actions for design purposes. First-time registrants of these short courses given by Prof Nelson Lam on this topic is recommended to enrol in Day One in combination with Day Two or Three, or both.

Day Two presents both static and dynamic methods of analysis of structures. The static method of analysis has been enhanced by Prof. Lam in order that results generated from the dynamic analysis of a structure by a commercial software can be checked using hand calculations based on static analysis to verify the correctness of the input/output to the computer program. Techniques taught are of great practical value in a design office.

Day Three presents methods of design and detailing of reinforced concrete to a desirable level of ductility. The modelling of reinforced concrete is covered at both the member and structural levels to facilitate structural design applications. Contemporary methods of selecting and scaling accelerograms for use in the seismic design of important structures will also be covered.

WHO SHOULD ATTEND: This course is suitable for civil and structural engineers working at different levels from graduate engineers to supervising senior / chief engineers, checkers, regulators and code drafters who want to acquire a sound fundamental understanding of the key principles on this subject in order to effectively exercise their respective professional duties that are associated with the engineering of structures.

Speakers:

Professor Nelson Lam *BSc(Eng), MSc, DIC, PhD, FIEAust, NER, MICE, MStructE*, Professor and leader of structure and building discipline and research higher degree co-ordinator, Department of Infrastructure Engineering, The University of Melbourne, Australia.

Professor Francis T.K. Au *BSc(Eng), MSc(Eng), PhD, FHKIE, FIStructE, FICE, RPE(CVL, STL), CEng*, Professor and Head, Department of Civil Engineering, The University of Hong Kong.

Continuing Professional Development Credits:

The course is considered suitable for 1, 2 or 3 CPD-day credits.

* A Certificate of Attendance will be issued to those who attend all the registered sessions.

Dates: Monday 11, Tuesday 12 & Thursday 14 November 2019 (8:45 a.m. - 6:00 p.m.)

Course Venue: 11/F, L'hotel Nina et Convention Centre, 8 Yeung Uk Road, Tsuen Wan, Hong Kong
(Tsuen Wan West MTR Station - Exit D)
(<https://www.lhotelgroup.com/en/hotel/lhotel-nina/Location/Location>)

Buffet Lunch: Café Circles, 9/F, L'hotel Nina et Convention Centre
(<https://www.lhotelgroup.com/en/hotel/lhotel-nina/Wine-Dine/Cafe-Circles>)

Course Fees (Non-refundable): HK\$1,600 (one day), HK\$3,100 (two days) or HK\$4,500 (three days)
(including course notes, a Certificate of Attendance*, welcome coffee & tea during registration, 2 coffee breaks with refreshments, buffet lunch at Café Circles & free flow of water)

Enquiries: Miss Aggie Sung (Tel: 2859 1963, Email: olsung@hku.hk)

Registration Deadline: 28 October 2019 (Monday). Late registration is subject to availability of vacancies.

Seismic Design of Building and Bridge Structures

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Buffet Lunch: Café Circles, 9/F, L'hotel Nina et Convention Centre

COURSE PROGRAMME

DAY ONE (Monday 11 November 2019) - Earthquake Actions (recommended for all beginners)

8:45 am - 9:00 am	<i>Registration & Welcoming Coffee/Tea</i>
9:00 am - 9:10 am	Introduction to Day One
9:10 am - 10:15 am	Earthquake processes and seismic hazard fundamentals (I)
10:15 am - 10:30 am	<i>Coffee Break with Refreshments</i>
10:30 am - 11:00 am	Earthquake processes and seismic hazard fundamentals (II)
11:00 am - 12:00 pm	Seismic Design of Bridges (I) #
12:00 pm - 1:30 pm	<i>Buffet Lunch at Café Circles</i>
1:30 pm - 3:00 pm	Basic dynamics of structures
3:00 pm - 3:30 pm	Seismic analysis methods overview
3:30 pm - 3:45 pm	<i>Coffee Break with Refreshments</i>
3:45 pm - 5:45 pm	Representation of Earthquake Actions in different formats
5:45 pm - 6:00 pm	Summary of Day One
6:00 pm	<i>Collection of Certificate of Attendance</i>

DAY TWO (Tuesday 12 November 2019) - Analysis of Structures

8:45 am - 9:00 am	<i>Registration & Welcoming Coffee/Tea</i>
9:00 am - 9:10 am	Introduction to Day Two
9:10 am - 10:15 am	Generalised Force Method of Analysis for low-medium rise buildings
10:15 am - 10:30 am	<i>Coffee Break with Refreshments</i>
10:30 am - 11:00 am	Generalised Force Method of Analysis for high rise buildings
11:00 am - 12:00 pm	Seismic Design of Bridges (II) #
12:00 pm - 1:30 pm	<i>Buffet Lunch at Café Circles</i>
1:30 pm - 3:00 pm	Analysis of simple structural systems responding to an earthquake
3:00 pm - 3:30 pm	Analysis of building structures responding to an earthquake (I)
3:30 pm - 3:45 pm	<i>Coffee Break with Refreshments</i>
3:45 pm - 5:45 pm	Analysis of building structures responding to an earthquake (II)
5:45 pm - 6:00 pm	Summary of Day Two
6:00 pm	<i>Collection of Certificate of Attendance</i>

DAY THREE (Thursday 14 November 2019) - Seismic Design and Detailing

8:45 am - 9:00 am	<i>Registration & Welcoming Coffee/Tea</i>
9:00 am - 9:10 am	Introduction to Day Three
9:10 am - 10:15 am	Seismic Design Considerations
10:15 am - 10:30 am	<i>Coffee Break with Refreshments</i>
10:30 am - 11:00 am	Seismic Design and Detailing of Reinforced Concrete (I)
11:00 am - 12:00 pm	Seismic Design of Bridges (III) #
12:00 pm - 1:30 pm	<i>Buffet Lunch at Café Circles</i>
1:30 pm - 3:30 pm	Seismic Design and Detailing of Reinforced Concrete (II)
3:30 pm - 3:45 pm	<i>Coffee Break with Refreshments</i>
3:45 pm - 4:30 pm	Seismic Design involving selection of earthquake accelerogram records
4:30 pm - 5:45 pm	Seismic Design considering site specific soil amplifications
5:45 pm - 6:00 pm	Summary of Day Three
6:00 pm	<i>Closing and Collection of Certificate of Attendance</i>

REGISTRATION FORM

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Seismic Design of Building and Bridge Structures

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Buffet Lunch: Café Circles, 9/F, L'hotel Nina et Convention Centre

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Registration Deadline: 28 October 2019 (Monday). Late registration is subject to availability of vacancies.

Please send the completed registration form with a crossed cheque made payable to “**The University of Hong Kong**”. Please do not send any cash in the post. All payments are non-refundable.

Miss Aggie Sung, Course Secretariat

Department of Civil Engineering, The University of Hong Kong, Pokfulam Road, Hong Kong

Please note that registration will only be confirmed upon receipt of payment and on a first-come-first-served basis. The official receipt for the registration fees will be distributed on the days of the course.

Number of Persons: _____ Total Amount (HK\$): _____ Enclosed Cheque No.: _____

Please complete in **ENGLISH** (in **BLOCK LETTERS**):

	Surname	Given Name	Name of Company	Phone No.	Email Address
1					

Please put a '√' to select the day(s) of registration and #delete the amount as appropriate:

	DAY ONE 11 Nov 2019 (Mon)	DAY TWO 12 Nov 2019 (Tue)	DAY THREE 14 Nov 2019 (Thu)	Amount (HK\$)
1				1,600 / 3,100 / 4,500 #

Please complete in **ENGLISH** (in **BLOCK LETTERS**):

	Surname	Given Name	Name of Company	Phone No.	Email Address
2					

Please put a '√' to select the day(s) of registration and #delete the amount as appropriate:

	DAY ONE 11 Nov 2019 (Mon)	DAY TWO 12 Nov 2019 (Tue)	DAY THREE 14 Nov 2019 (Thu)	Amount (HK\$)
2				1,600 / 3,100 / 4,500 #

Please complete in **ENGLISH** (in **BLOCK LETTERS**):

	Surname	Given Name	Name of Company	Phone No.	Email Address
3					

Please put a '√' to select the day(s) of registration and #delete the amount as appropriate:

	DAY ONE 11 Nov 2019 (Mon)	DAY TWO 12 Nov 2019 (Tue)	DAY THREE 14 Nov 2019 (Thu)	Amount (HK\$)
3				1,600 / 3,100 / 4,500 #

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L'HOTEL NINA ET CONVENTION CENTRE
如心海景酒店暨會議中心

8 Yeung Uk Road, Tsuen Wan, Hong Kong
香港荃灣楊屋道8號
(852) 2280 2898
info.nina@lhotelgroup.com
www.lhotelgroup.com

- To Tsuen Wan West MTR Station (approx. 5 mins)
往荃灣西港鐵站 (約5分鐘)
- To Tsuen Wan MTR Station (approx. 15 mins on foot via covered footbridge)
往荃灣港鐵站 (經有蓋行人天橋步行約15分鐘)
- Covered footbridge 有蓋行人天橋
- Jogging Track 緩跑徑

- Tsuen Wan West Railway Station Bus Terminus
荃灣西鐵路巴士總站
- Nina Tower Bus Terminus
如心廣場巴士總站
- Bus Stop - To Shatin & Tsuen Wan
巴士站 - 往沙田及荃灣
- Bus Stop - To Tsing Yi & Mongkok
巴士站 - 往青衣及旺角
- Cross-border Coach Terminus
中港直通巴士總站

- Shopping & Dining 購物及餐飲
- Place of Interest 景點
- Supermarket 超級市場
- Convenience Store 便利店
- Bank / ATM 銀行/提款機

- 1. Nina Tower Shopping Mall 如心廣場商場
- 2. Citywalk 1 荃新天地1
- 3. Citywalk 2 荃新天地2
- 4. Skyline Plaza 灣景廣場商場
- 5. Tsuen Wan Plaza 荃灣廣場
- 6. Discovery Park Shopping Centre 愉景新城購物商場
- 7. Luk Yeung Galleria 綠楊坊
- 8. Town Square 荃灣城市廣場