

BCA Academy of the built environment

Diploma in Construction Engineering

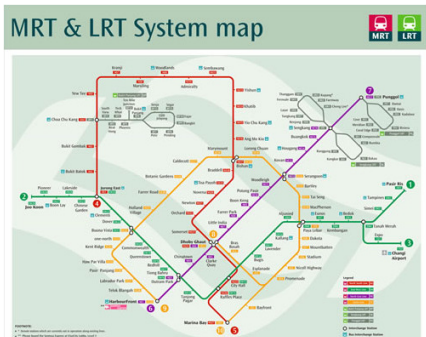
Dr Mano Kalaiarasan, Ph.D (NUS)
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School of Building & Development



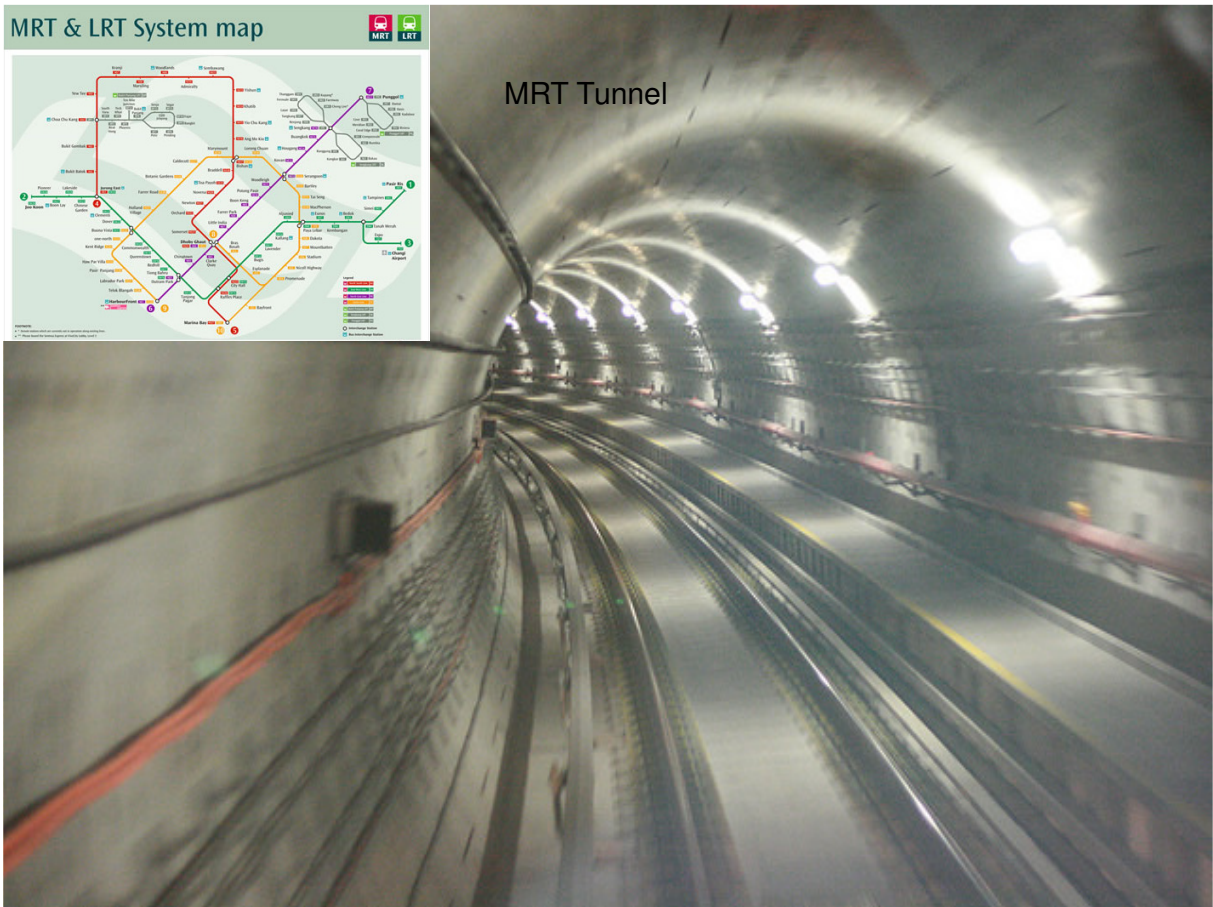
JONATHAN DANKER

Marina Bay Sands and Helix Bridge (Marina Centre with Marina South in the Marina Bay area)

Henderson Wave (Mount Faber Park to Telok Blangah Hill Park)



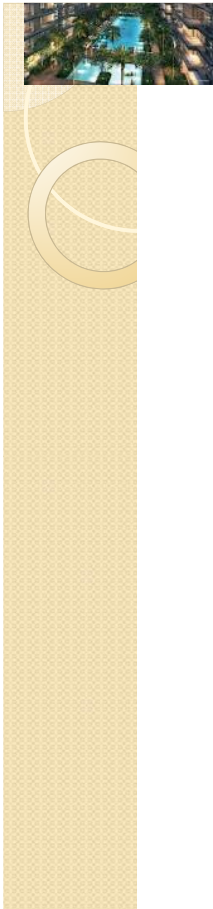
MRT Tunnel

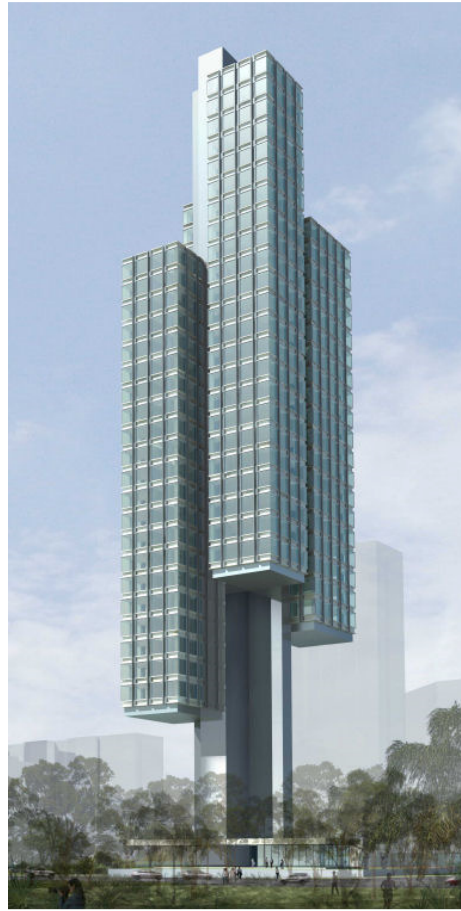




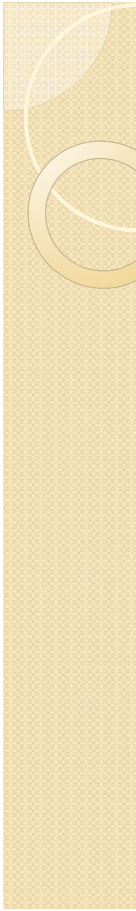
Modern Architecture
Construction Cost
\$289.5 million

The Sail @ Marina Bay





BTO HDB Flats



Diploma in Construction Engineering

- Prepares the students to become new generation of knowledge based project supervisors/middle managers.
- This qualification is recognised for Resident-Technical-Officer (RTO) registration under the Building Control Act.



Diploma in Construction Engineering

- Focuses on design, construction and management of building projects.
- Career Prospects:
 - Structural designer
 - Site Co-ordinator / Supervisor
 - Resident Technical Officer (RTO)
 - Site Engineer
 - Assistant Project Engineer
 - With few years experience, can become Project Manager
- Recognized qualification for entry to NTU and various overseas Universities.



Comparison of Wages (Technicians and Associate Professionals)

Professions	Mean Monthly Wages (\$)
Building technician	2,341
Civil and structural engineering draughtsman	2,681
Resident Technical Officer/ Clerk of works	3,478
Computer technician	2,159
Customer service executive	2,919
Graphic designer	2,385
Pre-primary education teacher	1,624
Products designer	2,866
Public relations officer	2,909

Source: Extract from Report on Wages in Singapore (MOM)





Programme Structure – Year 1

Year / Sem	COURSE	HOURS	Year / Sem	COURSE	HOURS
1.1	Life Skills A	30	1.2	Life Skills B	30
	Structural Mechanics	120		Technical Drawings	45
	Maths 1	90		Reinforced Concrete Construction	120
	Construction Materials	120		Maths 2	90
	English 1	45		Basic Business Law	30
				Construction Equipment	60
				English 2	45
Total		360	Total		375

Programme Structure – Year 2

2.1	Management Systems for Construction	60	2.2	Surveying	75
	Project Management	60		BIM for Structure	30
	Building Measurement	75		Procurement Management	30
	Structural Analysis	90		Reinforced Concrete Design I	120
	Building Construction Supervisors Safety Course	30		Physics(optional)	60
	Formwork Safety Course for Supervisors	30			
	Maths 3(Optional)	90		Total	255
	Total	345			

Programme Structure – Year 3

3.1	<u>Term 1 (10weeks)</u>		3.2	<u>Term 1 (10 weeks)</u>	
	Precast Concrete Design & Construction	60		Construction Technology	45
	Reinforced Concrete Design 2	90		Geotechnical Engineering	90
	Advanced Concrete Technology	60		Steel Design & Construction	90
	Prestressed Concrete Design & Construction	60		Technical Communications	60
	Technical Communications	60		Structural Appraisal and Repair	45
	Structural Appraisal and Repair	45			
	Total (Term 1)	375		Total (Term 1)	225
	<u>Term 2</u>			<u>Term 2</u>	
	IA (12 weeks) or FYP (12 weeks)-Oct Intake	240		IA (12 weeks) or FYP (12 weeks)-Apr Intake	240

Diploma in Construction Engineering

6 qualifications awarded:

- » Diploma in Construction Engineering
- » Building Construction Safety Supervisor Certificate
- » Formwork Safety Supervisor Certificate
- » ISO 9001:2008 (Quality)
- » ISO 14001: 2004 (Env), and
- » 18001:2007 (Health and Safety)



Diploma in Construction Engineering

Graduates can gain admission to:

- Nanyang Technological University, Singapore
 - Bachelor of Engineering (Civil)
 - Bachelor of Engineering (Environmental Engineering)
- James Cook University, Australia
- University of Adelaide, Australia
- University of Wollongong, Australia
- University of Newcastle, Australia
- University of South Australia, Australia
- RMIT University, Australia
- Queensland University of Technology, Australia



Expose to Competitions



**GOH Minister Grace Fu
visits the BIM Shoot-out**



**BCA – NTU Bridge Design Competition
(2015)**

Current Graduate Students

Currently, there are 7 students studying at NTU

Pu Zhen Ruo Me
Wang Ling
Tee Lay Sin
Lim Yong Han
Liu Yixian
Wang Nan
Wai Mon Kyaw

Graduate Students Achievement

DCE graduates have coped and performed exceptionally well at NTU with some of the outstanding results as shown below:

Sun He - First Class Honours in Civil Engineering at NTU in **July 2013**.

Chen Qiao Fen - First Class Honours in Civil Engineering at NTU in **July 2014**

Shi Wan Lei - First Class Honours in Civil Engineering at NTU in **July 2015**. He was an LTA scholar and has already sat for the Fundamentals of Engineering Examination 2015 (Civil) - Part 1.

Jeff Chong - Second Upper Class Honours in Civil Engineering at NTU in **July 2015**.

