Course Title: CIVL 4380 INTRODUCTION TO WIND EFFECTS ON BUILDINGS AND STRUCTURES

Time:
- Tuesday 09:00-10:20
- Thursday 09:00-10:20

Venue:
- Room 5506

Instructor:
- Prof. Tim K.T. Tse (Office: Rm 4603; Tel: 2358 8763; Email: timkttse@ust.hk)
- Prof. KM Lam (Office: Rm 4604; Tel 2358 8753; Email: kitminglam@ust.hk)

Grading:
- Homework 20%; Mid-term Exam 40%; Final Exam 40%

SYLLABUS

Topic 1: Wind Environment
- Global wind climate; wind climate in Hong Kong; design wind speed in Hong Kong; wind structures near ground.

Topic 2: Wind Pressure and Forces on Buildings
- Introduction to wind pressure; wind pressure on rectangular buildings; wind forces and moments.

Topic 3: Structural Dynamics
- Formulation of equation of motion; undamped and damped free vibration; harmonic excitation; periodic excitation; random vibration; spectral analysis.

Topic 4: Wind Induced Vibration
- Along-wind response of structures; cross-wind response of structures; interference excitation of tall buildings.

Topic 5: Wind Loading Codes

Topic 6: Wind Tunnel Testing
- Principles of wind tunnel testing for wind loads and responses; quality assurance of wind tunnel testing.

REFERENCE
Textbook:


Wind Code: