

**MECH 1905 – Buildings for Contemporary Living**

<b>School:</b>	<b>School of Engineering</b>
<b>Subject Area:</b>	<b>Mechanical and Aerospace Engineering</b>
<b>Course Credit:</b>	<b>3</b>
<b>Instructor:</b>	<b>NG Lung Fai Moses</b>
<b>Pre-requisite/co-requisite:</b>	<b>Nil</b>

**Notes:**

- The syllabi provided here is for reference only and may be subject to changes and adjustments as determined by the course instructors.

# MECH1905 –Buildings for Contemporary Living

Summer 2024/25 (3-credits)

Course Instructor: Prof. Moses NG

Class Quota: 130

Textbook:

*Lecture notes posted on internet*

## Course Description:

- (1) *This course introduces the applications of modern mechanical engineering technologies to one of the most important elements of human living. Our body can be sustained and may effectively function only within a limited range of climatic conditions such as temperature, humidity, moisture, sunlight, and amount of oxygen and pollutants in the air; etc. Along with access to food and drinking water, the need to creating places that are protected from the outdoors and where one can comfortably live, work, eat, sleep, procreate or engage in leisurely activities has always been a top priority for humans.*
- (2) *Most technologies require energy to provide the services needed and understandably, energy is becoming more valuable as the common fossil fuels are resources with limited quantity that care has to be taken in using them more efficiently. In addition, the unwise use of energy makes big contribution to the intrusion to the environments.*
- (3) *The aim of the course is to provide students foundation to understand the current technologies that bring conveniences to contemporary living, and the difficulties we are facing that we may be ready for future challenges.*

## Learning Objectives:

1. *Basic principles of science will be applied to the development of building systems and how energy is used and the consequential social and philosophical implications of scientific discoveries and technological development will be evaluated.*
2. *Societal and behavioral issues raised from the developments of contemporary living will be analyzed.*
3. *The importance of physical, psychological, social, and occupational wellness will be recognized and worked out with the development of different technology.*

Prerequisite (if applicable): *No prerequisite*

## Grading Policy (Letter Grade A – F):

Assessment	Weighting (%)
<i>Homework assignments</i>	<i>10%</i>
<i>Quiz</i>	<i>30%</i>
<i>Final exam</i>	<i>60%</i>

## Course Schedule

Week	Month	Date	Day	Topics
1	June	17	Tue	Introduction and Urban Living
		19	Thur	Building System and Green Buildings
24		Tue	Intelligent Buildings	
26		Thur	Siting and Transportation	
3	July	01	Tue	Public Holiday
03		Thur	Water Supply and Purification	
08		Tue	Energy Supply and Renewable Energy	
10		Thur	Electricity and Applications	
15		Tue	Battery and Uninterruptible Power Supply	
17		Thur	Heat Generation and Transfer	
22		Tue	Air-Conditioning and IAQ	
24		Thur	Lighting	
29		Tue	Acoustic and Noise	
31		Thur	Building Materials and Recycling	
8	August	05	Tue	Case Study
07		Thur	Final Examination	