MECH 1905 – Buildings for Contemporary Living

School:	**School of Engineering**
Subject Area:	**Mechanical and Aerospace Engineering**
Course Credit:	**3**
Instructor:	**CHOY Henry**
Pre-requisite/co-requisite:	**Nil**

Notes:

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

The Hong Kong University of Science and Technology

MECH1905 – Buildings for Contemporary Living (Summer 2025–26)

Course Title:

Buildings for Contemporary Living

Course Code:

MECH1905

No. of Credits:

3

Pre-/Co-requisites:

None

Instructor:

Dr. Henry Choy
Email: henrychoy@ust.hk
Office Hours: Wednesdays 11:00–12:00, Room 2567 (Lift 27)

Course Description

This course explores the engineering and environmental aspects of buildings designed for contemporary urban living. Topics include building systems, sustainability, intelligent buildings, energy and water supply, indoor environmental quality, and urban planning. The course combines lectures, discussions, and case studies to provide students with a comprehensive understanding of how buildings interact with human needs and environmental constraints.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. Explain the fundamental components and systems of modern buildings.
2. Analyze the impact of buildings on energy consumption and environmental sustainability.
3. Evaluate the role of intelligent building technologies in enhancing comfort and efficiency.
4. Apply engineering principles to assess building performance in urban contexts.
5. Propose design strategies for sustainable and livable buildings.

Assessment and Grading

Assessment Task	Contribution to Overall Course Grade (%)	Due Date
Homework Assignments	10%	Weekly
Quizzes (Best 3 of 4)	30%	Weeks 2, 4, 6, 7
Final Examination	60%	Week 8

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Homework Assignments	ILO1, ILO2	Assess understanding of building systems and sustainability concepts.
Quizzes	ILO1, ILO3, ILO4	Evaluate knowledge and application of intelligent building technologies.
Final Examination	ILO1–ILO5	Comprehensive assessment of all course topics and critical thinking skills.

Grading Rubrics

Detailed rubrics will be provided on Canvas for each assignment and quiz.

Final Grade Descriptors

Grade	Description
A	Excellent Performance
B	Good Performance
C	Satisfactory Performance
D	Marginal Pass
F	Fail

Course AI Policy

Use of generative AI tools is permitted for brainstorming and research support but not for completing graded assignments unless explicitly allowed.

Communication and Feedback

Marks and feedback will be posted on Canvas within two weeks of submission. Students may consult the instructor within five working days for clarification.

Resubmission Policy

Resubmissions are not allowed unless otherwise stated.

Required Texts and Materials

Lecture notes and materials will be available on Canvas. No textbook is required.

Academic Integrity

Students must adhere to HKUST's Academic Honor Code. Plagiarism and cheating are strictly prohibited.

Timetable and Venue

Session: 3 (Weeks 1–8)
Dates: 16 June 2026 – 6 August 2026
Days: Tuesdays and Thursdays
Time: 2:00 pm – 4:50 pm
Venue: Lecture Theater D (To be confirmed)

Course Schedule

Week	Date	Day	Topic
1	16 Jun 2026	Tuesday	Course Introduction and Urban Living
	18 Jun 2026	Thursday	Building Systems and Green Buildings
2	23 Jun 2026	Tuesday	Intelligent Buildings and Sensors
	25 Jun 2026	Thursday	Siting and Transportation
3	30 Jun 2026	Tuesday	Water Supply and Purification
	02 Jul 2026	Thursday	Energy Supply and Renewable Energy
4	07 Jul 2026	Tuesday	Electricity and Applications
	09 Jul 2026	Thursday	Battery and Electric Vehicles
5	14 Jul 2026	Tuesday	Heat Generation and Transfer
	16 Jul 2026	Thursday	Air-Conditioning and Indoor Air Quality
6	21 Jul 2026	Tuesday	Lighting
	23 Jul 2026	Thursday	Acoustic and Noise
7	28 Jul 2026	Tuesday	Building Materials and Recycling
	30 Jul 2026	Thursday	Case Study
8	04 Aug 2026	Tuesday	Review and Q&A
	06 Aug 2026	Thursday	Final Examination