

Course Information	
Course title	Building Physics and Sustainable Design
Semester	114-2
Designated for	COLLEGE OF ENGINEERING DEPARTMENT OF CIVIL ENGINEERING
Instructor	Ying-Chieh Chan
Curriculum Number	CIE5116
Curriculum Identity Number	521EU9060
Class	
Credits	3.0
Full/Half Yr.	Half
Required/ Elective	Required
Time	Tuesday 2,3,4(9:10~12:10)
Remarks	Restriction: within this department (including students taking minor and dual degree program) The upper limit of the number of students: 40.
Course introduction video	
Table of Core Capabilities and Curriculum Planning	Association has not been established
Course Syllabus	
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Course Description	Buildings can produce less greenhouse gas emissions while being more energy efficient, comfortable, healthy, and economical through the proper application of sustainable design, construction and operation principles. In this course, students are introduced to environmental issues associated with buildings as well as concepts of performance indicators. Also, students are exposed to the fundamental knowledge of modeling methods and simulation tools used in performance-based building design, and operation. This sets the ground for an in-depth discussion of performance prediction for energy demand and the use

	of building simulations in life cycle analysis for the selection of energy-efficient building components and systems.	
Course Objective	To help student understand basic concepts of thermal science To help student understand different performance indices for buildings To help student understand different technologies used in sustainable building design	
Course Requirement	工數一二、程式語言	
Student Workload (Expected weekly study hours before and/or after class)		
Office Hours		
Designated reading		
References	1. Heating and Cooling of Buildings: Principles and Practice of Energy Efficient Design, by T. Agami Reddy, Jan F. Kreider, Peter S. Curtiss, Ari Rabl, third edition, CRC Press, 2016 2. Building Performance Simulation for Design and Operation by Hensen, Jan L.M. and Lamberts,Roberto, Spon Press, 2011. 3. Heating, Ventilating, and Air Conditioning by McQuiston, Parker, Spitler, 6th edition, Wiley. 2005	
Grading	1. NTU has not set an upper limit on the percentage of A+ grades. 2. NTU uses a letter grade system for assessment. The grade percentage ranges and the single-subject grade conversion table in the NATIONAL TAIWAN UNIVERSITY Regulations Governing Academic Grading are for reference only. Instructors may adjust the percentage ranges according to the grade definitions. For more information, see the Assessment for Learning Section.	
Progress		
Week	Date	Topic
No data		