IIMT3623 Design Thinking: Concepts and Applications
(6 credits)
2021/2022, Semester 1

GENERAL INFORMATION

Instructor: Joseph P. H. Chan RIBA, M Arch (HKU), B A Hon (HKU)
Email: jphc@hku.hk
Office: KK1320
Phone: +852 64805430

(*Course coordinator: Joseph Chan. Please refer to Joseph for any course and project approach enquiries, or project marking requirement.)

Honorary Consultant: Eve Siu-Tracy AIA, RA, MArch (Harvard), BA Hon (Wellesley/MIT)

Class & Studio time:
Semester 1
IIMT3623 Design Thinking: Concepts and Applications
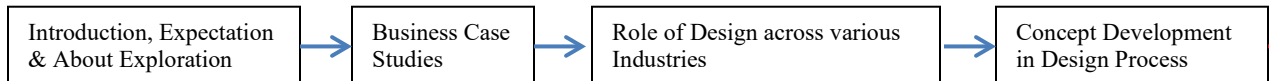Sub-classes: 1A
Class quota: **50 students per sub-class**

Venue and time: Please refer to University time table
Consultations: Additional consultations as needed by email and/or appointment
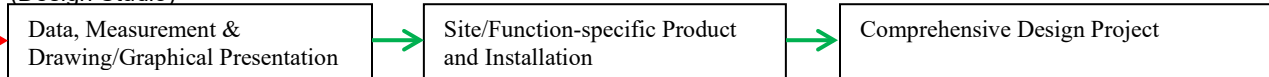
Students are required to have a 'creative spirit' + interest in exploration and implementation of design concept

Course Summary Diagram

(Design Thinking: Concepts and Applications)

Introduction, Expectation & About Exploration	→	Business Case Studies	→	Role of Design across various Industries	→	Concept Development in Design Process

(Design Studio)

Data, Measurement & Drawing/Graphical Presentation	→	Site/Function-specific Product and Installation	→	Comprehensive Design Project

→ Studio projects (IIMT 3624 in 2nd Semester) after completing the theory courses learning (IIMT 3623 in 1st Semester)

COURSE DESCRIPTION

(Overall IIMT 3623 & IIMT 3624)

The course aims at developing the students' design mentality and their understanding in design thinking methodologies, emphasizing on 1, how concepts are being developed and implemented, 2, the process driven by design thinking champions with the awareness and consideration of related stakeholders, and 3, empathy – in order to unleash potential for projects through iterative multi-layered problem solving, or to deliver a new vision. .

The course is conducted through theory lectures plus concurrent problem-based studios with cross-disciplinary approach. Design related topics will serve as the media on the learning in the design exploration and developments. Students will be given comprehensive introductions to design thinking overview and sample templates, powered also by architectural and other design literacy. The courses are tailored for professional or non-professional degree students to acquire skills germane to the creative process of design thinking and to an understanding of the role of innovation manager and designers across different industries in the 21st century. Our focus is to look at designs, challenges and innovations on programmatic, functional and operational aspects, while the more spatial 2D/3D arrangements will support the materialization of any design and project developments.

The two courses IIMT 3623 and 3624 are complementary. IIMT 3623 provides theoretical foundations and knowledge necessary to the workshop (IIMT 3624); while the studio is the backbone to any designer/architect's practice – trials, experiments and deliveries, all of which bring the theories learnt to life. By tackling a series of projects in graduating complexity in 'Studio', students learn to sharpen their visual, spatial and ideological acuities and to develop sensitivities to critical project issues.

(IIMT3623 (Theory))

Design thinking is an enhancement in the business environments. It is closely related to the innovation process within different industry context. This course aims at developing students' design thinking mentality and skillsets - idea conceptualisation, concept development, design process and implementation, as well as project planning with business plan model and innovation management under the VUCA environment.

Case studies will be examined to solidify understanding of why and where creative solutions, digital transformation included, are achieved in industries like fintech, retail, education, office workplace, art and cultural, as well as entertainment business. This course will discuss respective historical background and theory behind the innovations introduced – which includes the latest innovative technology in Blockchain development and applications.

Students will be challenged to take cross-disciplinary approach to creatively achieve business, social and communal goals in their projects. Studies of innovation will cover product and service design, sales and marketing, branding development and change management.

COURSE OBJECTIVES

(IIMT3623 (Theory))

The course provides introduction to design thinking principles and approaches, of which the students will be guided to see the potential of creativity one could bring to different project types. Curiosity and courage in trials, experiments and explorations will be encouraged.

Through both case studies and cross-disciplinary design proposals, the courses are to challenge students' thinking in a multi-layers way on a multi-disciplinary level (business/corporate/design) – bringing forward potential individual changes, organizational changes or system changes.

These courses will be to build students' skillsets in capturing inspiration, observation, analysis, creativity and communication. While these skills will also be required and further trained in IIMT 3624 studio, the students will learn and practise hybrid capabilities as analyst, creative designer and design manager in the courses.

During our studies of design thinking applications and creative propositions, we will look into the definition of creativity, the role of history/experience/convention, considerations of the conditions, as well as the effects to the systems and their transformations

FACULTY LEARNING GOALS (FLGs)

FLG1: Acquisition and internalization of knowledge of the programme discipline
FLG2: Application and integration of knowledge
FLG3: Inculcating professionalism
FLG4: Developing global outlook
FLG5: Mastering communication skills
FLG6: Cultivating leadership

COURSE LEARNING OUTCOMES	
Course Learning Outcomes	**Aligned Programme Learning Outcomes**
CLO0 Acquire basic knowledge in: 　　　　Design thinking methodologies – To develop innovative ideas. 　　　　Application of 'Empathy' 　　　　Fundamentals in multi-disciplinary design considerations 　　　　Concepts of 'Green' and 'smart' design 　　　　Development and Implementation process from design to management 　　　　International design and management trends and their effects	FLG1, FLG2, FLG3, FLG4
CLO1　Ability to present project specifics lucidly	FLG5
CLO2　Ability to work efficiently individually and in teams	FLG3, FLG5, FLG6
Each assignment and project will lead participants to:	
CLO3　Identify objective(s) and problem(s) at different phases	FLG1, FLG2, FLG3
CLO4　Use relevant information vis-à-vis context (e.g. historic; users; cultural; environmental; technical) towards design solution(s)	FLG1, FLG2, FLG3, FLG4
CLO5　Formulate creative/appropriate design concepts	FLG1, FLG2, FLG3
CLO6　Test concepts in multi-media prototype (drawings, physical and /or digital models)	FLG1, FLG2, FLG3
CLO7　Develop selected approach to highest degree of resolution	FLG1, FLG2, FLG3
CLO8　Effectively articulate/communicate solution to different groups	FLG3, FLG5, FLG6

COURSE TEACHING AND LEARNING ACTIVITIES		
Course Teaching and Learning Activities	**Expected contact hour**	**Study Load (% of study)**
(IIMT3623: Theory – Design Thinking: Concepts and Applications) The basic knowledge crucial to the design thinking process will be introduced in lectures, hand out notes and recommended readings. Students are required to work on mini-projects, in group or individually, to reinforce their design thinking in each stage of the design process. Students are also required to attend public lectures by designers and architects, on contemporary issues. Case studies planned for class discussion: Retail and Hypermarket, Workplace and Office, School and Education, Art, Culture and Entertainment Industry. The awareness towards direct and indirect stakeholders, project nature/functions and the evaluation of their short and long term impact will be studied Guest speakers might be invited for their experience sharing.		
T&L1. Lecture with interactive presentation	12 hours	43%
T&L2. Reading, case-based study and analysis	6+indiv 24 hrs	14% + personal effort
T&L3. Workshop and discussions (individual and group)	6 hours	14%
T&L4. Individual and group project development	6+indiv 60 hrs	14% + personal effort
T&L5. Presentation and inter-teams/individual responses	6 hours	14%
Total	36 hours + indiv. 84 hrs	100% planned + personal effort

Please note that the expected study hours have, apart from class time, also included the students' individual and group reading, research and project development time. All project info and requirements will be debriefed at start of project in class – students should conduct good time-management to organize their study/project plan and to stick with it, instead of leaving all works towards close to hand-in or presentation time. Course instructor is contactable along the way and is willing to provide necessary support to the students' learning journey.

Assessment Methods	Brief Description (Optional)	Weight	Aligned Course Learning Outcomes
A1. Learning from different perspectives with ability to evaluate inputs and observations.	*Assignment 1*: Reports on 2 Exhibition and Public Lecture attended of students' choice on related topics. *****	*10%*	CLO0, CLO2, CLO8
A2. Analysis of existing situations and the changes that happened, incl. the process and impacts.	*Assignment 2*: Case Studies *****	*10%*	CLO0, CLO2, CLO8
A3. Critical + 'Lateral' thinking + Action on specific tasks with particular design skillset	*Assignment 3*: Exercises on particular skillsets of different design thinking stages	*30%*	CLO1, CLO2 , CLO3, CLO4, CLO5, CLO6, CLO8
A4. Putting knowledge acquired from the courses to practice – to apply design thinking and solutions to achieve specific goals and requirements.	****** *Assignment 4*: Aspirations on multi-disciplinary design and selected topics	*40%*	CLO1, CLO2, CLO3, CLO4, CLO5, CLO6, CLO7, CLO8
A5. Practice in group discussions and dynamics; Class engagements	****** *Overall contribution to class; individual digital portfolio*	*10%*	CLO1, CLO2, CLO3, CLO5, CLO8
	Total	100%	

STANDARDS FOR ASSESSMENT

Course Grade Descriptors

A+ (4.3), A (4.0), A- (3.7)	**Superb(4.3)/Excellent -** Candidate has consistently demonstrated a thorough understanding and original view of the subject as evidenced by exceptionally astute analysis and synthesis. Authentic style has been established and shown in the project development – with innovative and creative idea supported by sufficient trial and experiment to achieve more than expected by the project brief.
B+ (3.3), B (3.0), B- (2.7)	**Good -** Candidate frequently demonstrated a substantial understanding of the subject and has demonstrated his/her effort in achieving the project brief and requirement.
C+ (2.3), C(2.0), C-(1.7)	**Fair -** Some of the responses are well organized, clear but with insufficient elaboration – there is significant room for improvement to achieve a more satisfactory level to the project course or project requirement.
D+(1.3), D/D-(1.0)	**Pass(1.3)/Review -** Solutions to questions and problems containing unstructured but relevant observations. Candidate has shown marginally interest in the subject.
F(0.0)	**Fail -** Little evidence of basic familiarity with the subject, nor demonstration of sufficient effort to basic project and course requirement.

Assessment Rubrics for Each Assessment

Students' project submission and presentation will be assessed based on requirements set in each brief handed out. In general, these will be of equal importance: relevant and thorough analysis, original idea, development process, quality of design and presentation.

Student to note that relevant trials and experiments are the key of success in this course. Simply submitting the project in the way as checklist 'box-ticking' will not be sufficient.

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE

Please refer to University Calendar. (Subject to COVID-19 situation, this course will be delivered in the format accordingly to university policy. Please refer to university policy closer to date.)

A Facebook group will be used for sharing of market news and insight, as well as discussion, supported by whatsapp and wechat group. Please contact course instructor for info to add yourselves in.

Course content:
1. Overview of Design Thinking. Design Thinking and Design Doing.
2. Design Thinking global/local application cases & trend
3. Workshop vs Desk top studies vs On site
4. Empathy: Input format, analysis & synthesis, UI/UX (incl. gamifications)
5. VUCA
6. Discover – A. Stakeholders; B. Mapping; C. Pain-points; D. Pain-points evaluation
7. Define – A. Critical problem definition; How might we question
8. Develop – A. Ideation; B. Ideas evaluation; C. Prototype; D. Test
9. + - x /
10. Deliver – A. Project implementation; B. Commercialization; C. Presentation
11. Design Thinking and A. Digital transformation; B. Smart cities; C. Digital rural developments
12. Design Thinking and Business Model

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS

Website of Unleash Hong Kong and Ideo

Paul N. Friga, 2009, *The McKinsey Engagement: A Powerful Toolkit for More Efficient & Effective Team Problem Solving*, McGraw-Hill

John Kenneth Galbraith, 1958, *The Affluent Society*, Houghton Mifflin Co.

Rem Koolhaas 1997, *S,M,L,XL.* Monacelli Press; Subsequent edition, New York
Rem Koolhaas 1978, *Delirious New York: A Retroactive Manifesto for Manhattan:* Thames & Hudson, London

Le Corbusier, 2000, *The Modular*, Birkhauser

Littlefield, D, 2012, *Metric Handbook, Planning and Design Data (Architectural Press)*

Kevin Lynch, 1960, *Image of the City*, MIT Press, Cambridge

Colin Rowe, Robert Slutzky*, Transparency: Literal and Phenomenal*

Peter G. Rowe, 1991, *Design Thinking*, MIT Press

David Grahame Shane, 2005, *Recombinant Urbanism: Conceptual Modeling in Architecture, Urban Design, and City Theory*, John Wiley & Sons

Robert J. Sternberg, 1988, *The Nature of Creativity: Contemporary Psychological Perspectives*, Cambridge University Press

Bernard Tschumi, 1994, *Event-Cities*, MIT Press, Cambridge
Bernard Tschumi*, The Manhattan Transcript*

Zumthor, P 1998, Thinking Architecture (Baden Switzerland: Lars Muller Pubs)

MEANS/PROCESSES FOR STUDENT FEEDBACK ON COURSE

The SETL questionnaire is one of the ways HKU courses and teaching are evaluated. HKU places significant importance on student learning and on the continuous enhancement of teaching and learning outcomes. Students are asked to complete this evaluation of their learning experiences at the conclusion of each course in which they enrol. Questionnaire items relate to the overall evaluation of the course as well as an evaluation of teaching.

Students are encouraged to talk to the course lecturer anytime if needed.

COURSE POLICY

General requirements in plagiarism, academic honesty and attendance apply. Any lateness or absence to the class needs to have the lecturer(s) officially informed with sound reason – otherwise penalty in the form of mark deduction might apply.

ADDITIONAL COURSE INFORMATION

Further to what has been described in the assessment section, participation and engagement in the class and tutorial is required in this course. Lecturers will help students to see into their own work and to assist to bring it into its fullest manifestation, through an effective and interactive learning.