2022-2023 SPRING

ISDN1006 HUMAN CENTRED INNOVATION (DESIGN THINKING) (3-credits)

Course Instructor	:	Mr. Brian Lau (Email: brian@mad-studios.com)
Program Officer	:	Kandi HO (egkandi@ust.hk)
Dates & Time	:	Studio, Thursday 1330 – 1630
Office Hours	:	By appointment
Venue		Mixed mode teaching

Course Description

A project-based, experiential course that exposes students to practice the five modules in design thinking - "Empathize", "Define", "Ideate", "Prototype" and 'Test". The unmet needs will be identified by observing the daily routine of real services and people. Research on existing solutions and how to conduct the stakeholder and market analyses will be taught for designing the needs screening matrix in needs selection. Students are going to unlock their creativity potentials through the in-class activities. The new ideas of addressing the unmet needs are generated in which the ideas are grouped and organized into a concept map. To translate a promising concept from an idea into a rudimentary design, the concept exploration is facilitated by prototyping. The selected concepts are illustrated by using the prototyping skills they have learned in ISDN 1004, 2300, 2400. The prototypes are tested by the potential users. This course aims to develop students' communication, interpersonal, analytical, design and project management skills.

IMPORTANT NOTE:

Intended Learning Outcomes

Upon completion of this course, students are expected to be able to:

1 Understand how the various stages of the design process are enabled vis-a-vis design thinking methodologies.
2 Know how to conduct and document a design project from Empathy to Prototyping.
3 Apply the skills in the development and communication of design concepts.
4 Understand how to independently progress beyond the fundamental skills introduced.

Course Schedule & Outline

Session	Date	Topic	ILOs
1	Feb 7	**INTRODUCTION** Course overview - format, course plan and assessment Project Briefing, Group formation, Academic posters and presentations	1, 2, 3, 4
2	Feb 9	Lecture + in-class projects - Introduction to IDEATION principles and methodologies	1, 2, 3, 4
3	Feb 14 Feb 16	Tutorial - EMPATHY – Problem identification, project proposal and planning	1, 2, 3, 4
4	Feb 21 Feb 23	Presentation - DEFINE – Needs screening: market analysis and needs selection, problem statement and proposed design direction **Group POSTER and ORAL presentation**	1, 2, 3, 4
5	Feb 28 Mar 2	Tutorial - IDEATION 1A - Concept generation - prototyping (sketching and pencil rendering)	1, 2, 3, 4
6	Mar 7 Mar 9	Tutorial - IDEATION 1B - Concept generation - prototyping (sketching and pencil rendering)	1,2,3. 4
7	Mar 14 Mar 16	Presentation - PROTOTYPING 1 – Low fidelity prototyping (sketching and pencil rendering), TESTING, iteration	1,2,3, 4
8	Mar 21 Mar 23	Tutorial - IDEATION 2 - Concept generation – secondary concept selection	1,2,3, 4
9	Mar 28 Mar 30	Presentation - PROTOTYPING 2 – Mid fidelity prototyping (digital modelling), TESTING, iteration	1, 2, 3, 4
10	Apr 4 Apr 6	Tutorial - IDEATION 3 - Concept generation – secondary concept selection	1,2,3, 4
11	Apr 11 Apr 13	Presentation - PROTOTYPING 3 – High fidelity prototyping, TESTING	1,2,3, 4
12	Apr 18 Apr 20	Tutorial - PROTOTYPING 3 – High fidelity prototyping, TESTING.	1,2,3, 4
13	Apr 25 Apr 27	**Final Presentation - Group POSTER and ORAL presentation** of final findings and proposed resolutions. Critique and conclusions. (ALL MUST ATTEND BOTH SESSIONS)	1,2,3, 4

Assessment Tasks

Assessment	Description	ILOs
Group Participation (30%)	Group cohesion, group dynamics, collaboration towards achieving project objectives, task delegation etc.	1,2,3,4

Group Documentation/ Scrapbook (30%)	1) Documentation of daily developments via sketches, scrapbooking of visual references, literature reviews, recordings and transcripts of interviews etc . 2) Documentation of ideation process 3) Documentation of testing procedures 4) Documentation of individual and group progress 5) Collation and presentation	1,2,3,4
Final Presentation + Outcomes (40%)	Posters and 3D prototypes/artefacts. Progress through the design thinking process Creativity, fidelity of prototypes, quality of posters.	1,2,3,4

Basic marking criteria

1) Design *novelty* as measured against existing models
2) Design rationalisation of design outcomes as determined via critique and documented user testing
3) Technological rationalisations of design outcome for *plausibility* and *potentiality*
4) *Aesthetic Quality* of prototypes and posters
5) Clarity and coherence of *design narratives*
6) Clarity and completeness of documentation and presentation
7) Efficacy of working in a group context (eg. task delegation, project scheduling etc.)

Recommended Reading Materials

1. https://new-ideo-com.s3.amazonaws.com/assets/files/pdfs/IDEO_HBR_DT_08.pdf
2. http://coevolving.com/pubs/2013_SRBS_v30_n5_Ing_RethinkingSystemsThinking_preprint.pdf

E-resources

1. https://guides.nyu.edu/posters
2. https://www.student.unsw.edu.au/groupwork
3. https://medium.theuxblog.com/how-to-generate-ideas-using-scamper-technique-d2e50de6402c

Academic Honor Code

- You must observe and uphold the highest standards of academic integrity and honesty in all the work you do throughout your program of study.
- As members of the University community, you have the responsibility to help maintain the academic reputation of HKUST in its academic endeavors.
- Sanctions will be imposed if you are found to have violated the regulations governing academic integrity and honesty.
- Regulations for Student Conduct and Academic Integrity (http://publish.ust.hk/acadreg/generalreg/index.html)