

CORE1200
Engineering Team Design Experience

Summer 2023

3 Credits

The Engineering Team Design Experience course allows students to explore various areas of engineering in order to design and work towards a final road show demonstration before the end of the term. Students in this course will be divided into design teams with a common goal: construct their project artifact or virtual 3D model.

Course Description

There will be three main aspects in CORE1200 this semester:

Engineering Skills

We will introduce fundamental skills in different engineering fields, such as 3D modelling or hands-on prototyping skills; along with exposure to various kinds of advanced technology available.

Design and Creativity

This course will have sessions focusing on design thinking and creativity. They are key to creating practical and interesting products.

Teamwork

Students will work together in teams to realize their common idea of their final roadshow project, to have a real-world experience working with a design team,

Course Instructor

Prof. Ben Chan

Center for Engineering Education Innovation

Email: ybchan@ust.hk

Course Coordinators

Mr. Paul LAVIGNE

Center for Engineering Education Innovation

Email: egpaul@ust.hk

Mr. Ian CHONG

Center for Engineering Education Innovation

Email: egian@ust.hk

Good Learning Environment and Academic Integrity

All assignments and examinations you submit for grading must represent the results of your own independent efforts. You can discuss methodologies with your classmates, but you must do the work independently. Students who are involved (including the copier and the helper) in an incident of plagiarism will receive a failing grade for the course and the incident will be reported for appropriate disciplinary actions.

Intended Learning Outcomes (ILO)

ILO No.	Description
1	Apply an engineering design approach to: generate ideas, model, analyze, predict and build an innovative object of engineering interest taking into consideration both societal and economic impact
2	Describe appropriate knowledge and behavior for effective and ethical membership on a technical team
3	Communicate effectively with others orally, in writing and by use of sketches/drawings.
4	Develop possible innovative engineering solutions via peer learning and self-initiated learning processes
5	Develop new creativity building techniques and exercises
6	Plan and propose creative solutions for a specific context, informed by engagement with a community group

CORE 1200 - Engineering Team Design Experience				
Course Schedule - Summer 2023				
Class	Date	Timeslot	Venue	Topics
1	19-Jul	9:30 to 12:50	Rm 6581	Course Introduction Creativity
2	21-Jul	9:30 to 12:50	Rm 6581	Introduction to Design Topic
3	24-Jul	9:30 to 12:50	Rm 6581	Divergent Thinking: Problem Definition
4	26-Jul	9:30 to 12:50	Rm 6581	Divergent Thinking: Persona Characterization
5	28-Jul	9:30 to 12:50	Rm 6581	Divergent Thinking: Ideation
6	31-Jul	9:30 to 12:50	Rm 6581	Idea Pitching and Consultation
7	2-Aug	9:30 to 12:50	Rm 6581	Convergent Thinking: Identify Constraints
8	4-Aug	9:30 to 12:50	Rm 6581	Convergent Thinking: Refining Solutions
9	7-Aug	9:30 to 12:50	Rm 6581	Convergent Thinking: Prototyping
10	9-Aug	9:30 to 12:50	Rm 6581	Build/Modelling Session
11	11-Aug	9:30 to 12:50	Rm 6581	Roadshow Product Presentation And Reflection

Assessment

	Schedule	Grading	ILO#
Hands-on Practice	Class 3-9	15%	#1, #2, #6
Solution Progress	Class 3-9	20%	#3, #5
Idea Pitch	Class 6	10%	#1, #2, #3, #4, #6
Visualization of Ideas	Class 11	25%	#1, #3, #6
Roadshow	Class 11	30%	#1, #5