



Creative Design Thinking and IoT Application - Making Innovative Rehabilitation Products (TECS2303)

Introduction	This course is designed to enhance students' interest in the concept of Design Thinking, IoT (Internet of Things) and applying STEM theories to real-life practice by producing an innovative rehabilitation product for stroke patients. Students will engage in hands-on design challenges that focus on developing empathy, encouraging ideation, developing metacognitive awareness and fostering creative problem-solving. Throughout the course, students will acquire skills including CAD design drawing, and making a prototype by using paper/3D printing, electronic circuit design and computer programming (e.g. Python) skills. The group design mini project is targeted to inspire students in creativity, collaboration and design talent.		
Programme Type / Level	Intermediate Course in Innovative Technology (Token-required)		
Instructor(s)	Mr. Chris Leung (Discovery Technologies Limited)		
Pre-requisite	No special prerequisites are needed * Priority will be given to students applying to both two related courses (TECS2303 and ALE/BID/001)		
Target Participants		<ul style="list-style-type: none"> ➤ S1 to S6 HKAGE student members ➤ Class size: 20 	
Medium of Instruction		Cantonese with English handouts	
Certificate		E-Certificate will be awarded to participants who have: <ul style="list-style-type: none"> ❖ Attended at least 7 sessions; AND ❖ Completed all the assignments with satisfactory performance 	
Intended Learning Outcomes		Upon completion of the programme, participants should be able to: <ol style="list-style-type: none"> 1. Design and make their own innovative products for stroke patients and modify the products to fulfill patients' needs; 2. Apply circuit design, IoT sensors, advanced programming skills and real-time database technology to design the products; 3. Incorporate design thinking process in making the products; 4. Develop collaboration skills via conducting the group design projects. 	
Screening		Please answer the screening question in the online application form. *The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and the basic knowledge of Astronomy in the screening question can be enrolled in the programme.	
Application Deadline	1st batch: 18 Nov 2019 12:00 n.n. 2nd batch: 2 Dec 2019 12:00 n.n.	Application Result Release Date	1st batch: 26 Nov 2019 2nd batch: 10 Dec 2019
Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.			

Schedule



Session	Date	Time	Venue
1	23 Dec	9:00 a.m. – 12:00 n.n.	DTSL Group ¹
2	4 Jan		
3	11 Jan		
4	18 Jan		
5	31 Jan 20 Jun	2:00 p.m. – 4:00 p.m. 9:00 a.m. – 12:00 n.n.	Kornhill Centre of HKSR ² DTSL Group ¹
6	8 Feb 30 Jun	9:00 a.m. – 12:00 n.n. 4:30 p.m. – 5:30 p.m.	DTSL Group ⁴ Zoom Video Conference ²
7	15 Feb 4 Jul	9:00 a.m. – 12:00 n.n.	DTSL Group ¹
9	29 Feb	9:00 a.m. – 12:00 n.n.	Kornhill Centre of HKSR ²
8	1 Aug	Group 1: 9:30 a.m. - 11:00 a.m. Group 2: 11:00 a.m. - 12:30 p.m. Group 3: 2:00 p.m. - 3:30 p.m.	DTSL Group ⁴ Online Tutorial
8	22 Feb 18 Jul	2:00 p.m. – 5:00 p.m.	DTSL Group ⁴ Online Tutorial
9	7 Aug	Group 2: 9:30 a.m. - 11:00 a.m. Group 3: 11:00 a.m. - 12:30 p.m.	
	12 Aug	Group 1: 2:00 p.m. - 3:30 p.m.	
10	25 Aug	4:30 p.m. – 5:30 p.m.	Zoom Video Conference ²

¹ Address: Unit 20, 9/F, No.1 Hung To Road, Kwun Tong, Kowloon ([Map](#))

² Zoom Meeting login details will be sent to students via email.

Students applying to this course are recommended to apply to the related course “**Big Idea: Rehabilitation and Technology (ALE/BID/001)**” simultaneously. Information of **ALE/BID/001** can be found at our webpage

<https://www.hkage.org.hk/en/student-programme/face-to-face>: Secondary Programmes → Advanced Learning Experiences. The online application link is: <https://hkage.org.hk/b5/student/Registration/courses/courseLogon2.php?pid=3393>.

Enquiries

For enquiries, please contact us at 3940 0101 after language selection, press "1".