

Subject name	Introduction to Design (テーマ3)	Credits	2Credits	Subject number
Subject name(English)	Introduction to Design			MX1201
Contact name	Zilu LIANG	Old Subject name		

Diploma policy												
Diploma policy number	1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3
Goal of studies	25			25			25				25	

Class outline	<p>This course introduces students to one of three technologies whose importance is growing rapidly in society. Students can select between working with</p> <p>(1) robotic devices using LEGO Mindstorms, (2) embedded devices using micro-controllers, or (3) mobile applications using integrated development environment.</p> <p>In addition to introducing these technologies, this course includes substantial team-based project work which will help to develop students' design, communication, and collaboration skills.</p> <p>Track 3: This practical hands-on course introduces students to the fundamentals of mobile app design and development. Student's understanding and mastery of course content will be developed through independent hands-on tasks performed in each class. In class 13-14, students design and implement mobile applications based on their own ideas either working alone or in a group. The course concludes in class 15 with students' final presentations.</p>
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Achievement goals and Grade evaluation standards			
Achievement Goals	Grade evaluation standards		
(3~5 Goals)	Completely achieved	Partly achieved	Requires considerable effort to achieve
Understand how their chosen technology is used to provide useful services.	Deep understanding on how their chosen technology is used to provide useful services.	Some understanding on how their chosen technology is used to provide useful services.	Great efforts are needed to understand how their chosen technology is used to provide useful services.
Know how to identify a need in society and predict its benefits;	Deep understanding on how to identify a need in society and predict its benefits.	Some understanding on how to identify a need in society and predict its benefits.	Great efforts are needed to identify a need in society and predict its benefits.
Be able to design and develop a solution using their chosen technology.	Strong ability in designing and developing solutions using their chosen technology.	Some ability in designing and developing solutions using their chosen technology.	Great efforts are needed to develop ability in designing and developing solutions using their chosen technology.
Know how to confirm the effectiveness of their developed solution.	Deep understanding on how to confirm the effectiveness of their developed solution.	Some understanding on how to confirm the effectiveness of their developed solution.	Great efforts are needed to understand how to confirm the effectiveness of their developed solution.
Understand the benefits of good design and effective teamwork.	Deep understanding of the benefits of good design and effective teamwork.	Some understanding of the benefits of good design and effective teamwork.	Great efforts are needed to understand the benefits of good design and effective teamwork.
Grade evaluation method	An overall grade for the class will be calculated based on the following aspects: <ul style="list-style-type: none"> • Quiz in lecture 1~10 (30%) • Program implementation in lecture 2~10 (50%) • Final presentation (20%) 		

Class schedule	Teaching method	Extracurricular study(Preparation and review)
1. App fundamentals	Lecturing, group discussion, experience-based learning	Review : complete the tasks that are not done during class.

Course requirements, Rules, academic advice, etc.

Knowledge of the following topics would be beneficial but is not mandatory:

- HTML, CSS, and JavaScript;
- object-oriented programming; and
- development and debugging using an integrated development environment.

Students should bring a laptop, curiosity, and creativity to every class. External distribution of group project outcomes (for example as academic papers or business plans) is highly encouraged.