

[Course Title] Mechatronic Design and Prototyping

[Course Code] MECH3907

[No. of Credits] 3

[Any pre-/co-requisites] Design and Manufacturing 1 (MECH2520)

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### **Course Description**

This courses' aim is to broaden the professional and engineering interests of students by enhancing their practicum/team-based experience through initiatives different from those of traditional lectures and tutorials. This is a project-based course which is an extended version of industrial training designed for HKUST MAE students. The approach is to develop the students' knowledge/experience in designing and building a practical mechatronics system (formerly called Industrial Training). Students will work in teams to identify the needs for their designed prototype. Also, students will be given the opportunity to design and build various mechatronics components including electronic circuits, motors, sensors, etc. from CAD drawings, and practise their engineering knowledge through all laboratory sessions. The main goal is to develop and nurture skills in problem-solving, communication, interpersonal interaction, project and time management, etc. via the entire project.

### **Assessments:**

<b>Assessment Task</b>	<b>Contribution to Overall Course grade (%)</b>
Peer evaluation	20%
Workshops	20%
Project report	15%
Project presentation	15%
Prototype demonstration	30%

### **Required Texts and Materials**

Introduction to Mechatronics system, Engineering materials, Introduction to Engineering Design

### **[Optional] Additional Resources**

Students' engineering design competitions rules and topics