

Industry-Academia Credit Program of Mechanical Product Design and Automation, National Formosa University



Introduction to the Program

Taking into account the tangible requirements of Hiwin Technologies Corp. on technicians, National Formosa University established this career-oriented credit program, which incorporates the distinctive features of the Department of Mechanical Design Engineering and the Department of Automation Engineering. The courses of mechanical design and automation consist of three levels. The first level courses focus on basic knowledge and aim to equip students with the basic knowledge and skills of the machinery industry. The second level courses concern professional knowledge and introduce students to precision machinery and tools. The third level courses deal with practicalities and internships and aim to build up students' practical abilities through on-site teaching, internships, and job tasks at Hiwin Technologies Corp. The three-level course design fulfills industrial requirements, as students will acquire practical skills and abilities and will be able to take on professional tasks of precision machinery and tools immediately after graduation.

The first level consists of professional courses (1), which are conducted by the faculty members at

the Department of Mechanical Design Engineering and the Department of Automation Engineering. The course materials at the two departments are adopted for such courses.

The second level consists of professional courses (2), which are conducted within the framework of team teaching. The course materials are developed and designed by the Department of Mechanical Design Engineering, the Department of Automation Engineering, and Hiwin Technologies Corp. together. The instructors come from the two departments and the concerned corporation and can take turns teaching subjects relevant to their expertise.

The third level consists of courses on cooperative development (3), which are designed by Hiwin Technologies Corp. in conformity with the requirements of the corporation. These courses are conducted by the engineers from the concerned corporation, who can take turns teaching subjects relevant to their expertise. Students will learn to take on job tasks related to their future career. The courses include internships at the concerned corporation, for which students will be paid stipends.

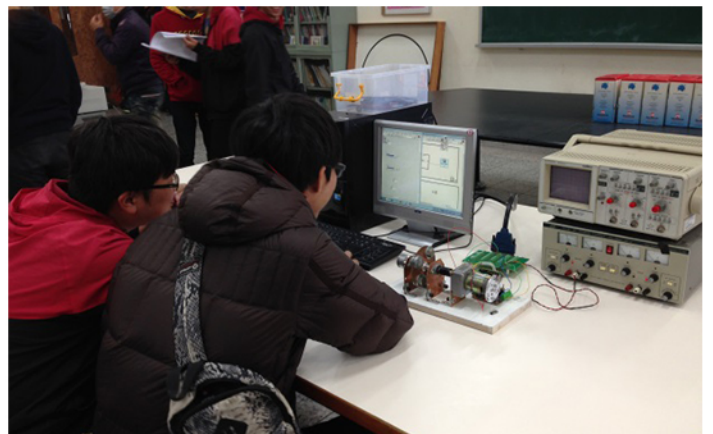
This credit program consists of 60 credits, including 45 credits of on-campus courses and 15 credits of off-campus paid internships. Students must take at least 15 credits of the first level and second level courses and 9 credits of the third-level off-campus internships. Core required courses include Internship – CNC and CAM Practice, Industrial Design Internship, Applied Electronics Experiments, and Automatic Control Experiments. Students are required to choose two from these four courses and take 9 credits of off-campus internships. Core elective courses include Micro-processor Applications and Experiments, Numerical Analysis, and Internships of Creative and Innovative Design, from which students are required to choose one.

Proposed Prospects

The recruitment process adopts three criteria: students' inclination, academic performance, and future work plans. It is hoped that the program can help students grasp the current conditions of industries and experience their future job tasks in advance. After taking courses at the Industrial College for one and a half years, students will have a better understanding of the precision machinery industry and the products and operating procedures of Hiwin Technologies Corp. Students with a passing grade are allowed to intern at the concerned corporation. They may retain their employment after graduation if they obtain good job evaluations and perform well at job interviews. School education can thus be connected with career practicalities. It is hoped that students interning at Hiwin Technologies Corp. can adapt to the company culture and acquire essential skills required by the corporation so that they can all retain their employment.

Collaborating Corporations,
Factories,
and Companies

Hiwin Technologies Corp



This program involves the collaboration between multiple departments (the Department of Mechanical Design Engineering and the Department of Automation Engineering) and one single institute (Hiwin Technologies Corp.). The Department of Mechanical Design Engineering and the Department of Automation Engineering have established and maintained a good relationship with the domestic precision machinery and tool industry. The two departments aim to seek assistance from the precision machinery and tool industry to create a high-tech, quality, value-added, and highly relevant industry. It is hoped that the program will bring more opportunities of industry-academia cooperation to the university and more employment opportunities to graduates.

