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I. **Program Name** : Department of Mechanical Engineering Industry-Academia Collaboration Program

壹、專班名稱：機械工程系機械工程專班

II. **Program Introduction** :

Our program aims to cultivate and equip students with the main abilities as below :

貳、核心能力與職能訓練特色：

本專班主要訓練之核心能力如下：

1. Knowledge of mechanical and industrial safety : Besides learning processing technologies, work safety specifications and industrial safety knowledge are as well as important throughout our practice courses. Internship safety regulations and education are proceeded before every class.

一、機械及工業安全知識：在各項實作課程中除了學習各項加工技術外，工作的安全規範及工廠安全知識也是重要的學習項目，每項實習課授課前皆進行實習安全的教育與規範。

2. Mechanical design and drawing : Mechanical design drawing is the basic of mechanical manufacturing. Students learn about mechanical drawing and reading, and use these capabilities to get on with mechanical design and manufacturing

二、機械設計與繪圖能力：機械設計製圖為機械製造的基礎，學生學習機械製圖及識圖的能力，並經由機械製圖能力進行各項機械設計與製造。

3. Mechanical manufacturing : Professional processing training rooms of our department help students learn basic processing technology step by step to get into the field of digital processing.

三、機械製造技術能力：透過本系各項專業加工實習室，循序漸進使學生學習各項基礎加工技術，並進而進入數位加工的領域。

4. Mechatronics : Learning internships such as pressure, automation and mechatronics helps students have basic knowledge about industrial automation as well as understand and know how to maintain factory automation facilities.

四、機電整合能力：學生學習氣壓、自動化及機電整合等實習，使學生對於產業自動化有基本概念，並期能了解並維護工廠自動化設施。

In order to enable students to learn the skills required by the industry, skill test training has become our important teaching goal. Our department uses 6 skill test sites and coordination courses to tutor students to obtain certification of skill test. Skill test sites and coordination courses are as shown below.

為使學生學習業界所需之技能，職業技能檢定證照訓練成為很重要的一個的教學目標，本系六個技術士證照術科檢定場地及配套課程輔導學生考取技術士專業證照。技術士證照術科檢定場地與配合課程如所示。

Table 1 - List of Skill Test Sites and Coordination Courses

表 1 技術士證照術科檢定場地與配合課程一覽表

Skill test site 實習場地	Coordination course 配合課程	Certification of skill test 證照名稱
Comprehensive internship factory 綜合實習工廠	Factory Internship (1) , Factory Internship (2) 工廠實習(一)、工廠實習(二)	Machining, Level B,C technician for lathe Level B,C technician for fitting 機械加工、車床工(乙、丙級)、 鉗工(乙、丙級)
CNC training room (2) CNC 實習室(二)	CNC machine tool internship, computer-aided manufacturing 數控工具機實習、電腦輔助製造	Level B technician for CNC milling CNC 銑床乙級。
Computer-aided creative design studio 電腦輔助創意設計實習室	Computer-aided mechanical drawing Computer-aided drawing practice Computer-aided design 電腦輔助機械製圖 電腦輔助繪圖實務 電腦輔助設計	Level B,C technician for computer-aided mechanical design Level C technician for computer-aided three-dimensional drawing 電腦輔助機械設計(乙、丙級) 電腦輔助立體製圖(丙級)
Mechatronics training room 機電整合實習室	Mechatronics and internship 機電整合與實習	Level C technician for mechatronics 機電整合(丙級)
Liquid pressure training room 液氣壓實習室	Liquid pressure and internship 液氣壓學與實習	Level C technician for pressure 氣壓(丙級)

### III. Years of study and curriculum planning

#### 參、修業年限與課程規畫重點

##### 1. Years of study : 3 years

一、修業年限：三年

##### 2. Credits:

(1) Graduation credit requirement is at least 72 credits, including 39 required credits and at least 33 elective credits.

(2) 122 credits of courses are provided, including 39 credits of theoretical courses taking proportion of 32.5%, 65 credits of practical courses taking proportion of 54.17% and 18 credits of internship courses taking proportion of 15%.

##### 二、學分數：

(一)最低畢業學分數 72 學分，必修為 39 學分，最低選修為 33 學分。

(二)總開課學分數 122 學分，其中理論課程 :39 學分 比例 32.5%，實作課程 : 65 學分 比例 54.17%，實習課程 : 18 學分 比例 15%。

Besides studying basic mechanical engineering theory, the curriculum planning allows students to understand the current needs and directions of the industry through industry introductions and forums. The main courses are mechanical design, precision manufacturing and electromechanical integration automation.

課程規畫除了學習基礎機械工程的理論以外，透過產業概論與論壇讓學生了解目前產業界的需求與方向，主要學習的課程為，機械設計、精密製造及機電整合自動化等三個方向。