

木材系擬新增選修課程及中英文摘要

課 程	學 分	頁 碼
木質材料自動化加工	2	附 1-1
木質材料自動化加工實習	1	附 1-1
生質能概論	2	附 1-2
表現技法及實習	2	附 1-2
人因工程	2	附 1-2
室內設計 3D 繪圖及實習	2、1	附 1-3
室內裝修實作	3	附 1-3
門窗木工及實習	2、1	附 1-3
家具木工及實習	2、1	附 1-3
家具設計 3D 繪圖及實習	2、1	附 1-4

木質材料自動化加工(2 學分)

傳授木材工業自動化加工之基礎知識，簡介機械視覺、自動演算及數值控制等概念。主要內容為教導木工用電腦數值控制加工機，含數值控制基本觀念、電腦數值控制花鈹機之指令、程式設計、定位模之製作、立體圖文繪製及加工，雷射加工機之應用軟體、向量圖、點陣圖、外框、封閉區塊、開口區塊、交叉區塊、雷射切割及雷射雕刻，立體圖文自動轉換及逆向工程設備之應用等。培養學生成為自動化加工知行能力兼備的專業人才。

Woodworking Processing Automation

Introducing the state of art for woodworking processing automation, machine vision, automatic computing, numerical control and related background. The topics covers programming practice for (computer) numerical controlled machine, components of woodworking CNC router, and fundamental procedures on programming numerically, operations of Laser engraver, CNC router and relate application.

木質材料自動化加工實習(1 學分)

訓練學生具備自動化加工之基本知識及實務應用電腦數值控制加工機械、電腦輔助軟體及立體物件逆向工程等能力。設計為校內實習，練習自動化加工用電腦軟體、機械視覺逆向工程設備、電腦數值控制花鈹機及雷射加工機；校外實際參與生產線，見習木料自動鋸切與分配系統、自動演算裁板系統、數控花鈹機、全自動木質板加工系統及化妝單板生產線等。

Woodworking Processing Automation Practice

Training students to know the automation related background. The topics covers computer courses and furniture factor courses. Computer courses: learning the computer programs, operations of machine vision equipment, CNC router and Laser engraver. Furniture

factor courses: automatic sawing and admeasuring system, automatic computing system of panel sawing, NC router, panel processing automation system and the production line for fancy veneer.

生質能概論(2 學分)

本課程說明生物質原料轉換為能源之方式與應用，包含生物質原料之種類、轉換機制之軟硬體及原理、生質能之應用型式、生質能潛勢及生質能之特點，簡介京都議定書與碳權、碳交易及環境之關係，討論生質能與潔淨能源、環境、地區、能源轉換效率及能源型式等之關係，以明瞭生物質原料轉換能源與生質能應用對文明發展、環境衝擊之緩解及未來遠景。

Biomass Energy (Bio-energy) Introduction

It is an introduction of the transform methods and utilizations of biomass energy (or bio-energy). The lecture covers Kyoto Protocol, biomass, transform mechanism, utilization, potential and the advantages of bio-energy. To know the effects of bio-energy utilization on releasing environment shock, developing civilization, and the feature. By means of investigating the relationships among the biomass, clear energy, environment, effects of transformation, and using types of energy.

表現技法及實習(2 學分)

設計表現技法課程的主要目的是訓練學生熟練各種圖形的繪製技巧。課程內容包含設計概念與設計圖的表達方法。課程最主要的部分是各種圖形的繪製方法與技巧的熟習。設計表現技法主要是作為設計表達的進階訓練，包括平面圖、立面圖、剖面圖及透視圖的繪製。此外本課程也訓練學生配合設計圖面練習模型製作。本課程是學生未來從事空間設計、室內設計、產品設計的基礎。

Presentation Practicum and Practice

The objective of this course is to familiarize the students with the presentation method of design . Course content includes design concept and the presentation of design in drawing. The core of the course is familiarization of the method and skills of diagrams drawing. Design Drawings Presentation Practicum provides the advance training of presenting design ideas in two-dimensional, three-dimensional, section and perspective drawings, as well as producing . This course is a pre-requisite for students pursuing a career in space planning, interior design,

人因工程(2 學分)

本課程傳授人因工程之基礎知識，藉人體計測(anthropometric)資料、活動姿勢、動作頻率、動作負載、環境狀態、空間尺度、物件性質及物品功能等內容，使學生瞭解環境、設施、物體、動作與人體尺寸間所構成之人因工程，以及人因工程與生理、心理、健康及運作機能互相影響之關係，進而活用於木建築、室內空間、家具及產品之設計。

Ergonomics

The topic of this course include: anthropometric data, actions, frequency of action, loading, environment, dimensions, the physic properties and functions of products, and the

relationships among those. By means of knows that affecting the physiology, psychology, health and operating functions. The students could make the good design for wood frame construction, interior decoration, furniture and products.

室內設計 3D 繪圖及實習(2、1)

本課程以教導學生學習與使用電腦 3D 繪圖軟體，使同學具備製作出各式各樣的電腦 3D 模型，並應用於室內設計課程中。且藉由對不同案例的繪製練，讓學生們更能充分運用電腦 3D 繪圖軟體的優點，加以整合設計出出色的作品來。

3D Sketch for Interior Design

Guiding students to be familiar with skills using computer 3D sketch software. Training the attendants to handle or create various types of 3D models and applied to interior design courses. The attendants can fully employ the advantages of computer 3D sketch software through the practice on several different case studies and produce an integrated design project.

室內裝修實作(3)

本課程目的在教導學生能依照施工圖使用裝潢木工機器與手工具製作及組裝簡易木屬成品(如櫥櫃、地板、天花板、隔間...等相關工程)。並能依照施工圖繪製簡易施工圖說。

Interior Decoration Practice 3

The course is designed to guide the attendants how to make or assemble some basic wood products such as cabinet, floor, ceiling, partition and etc., according to job sketches and teach them how to use professional woodworking machines for finishing jobs and woodworking hand tools. The attendants are able to produce concise sketches from official detailed job description sketches.

門窗木工及實習(2、1)

本課程目的在教導學生能依工作之特性，選擇配合與靈活運用各種木工手工具及木工機器，製作結構複雜之室內外門窗、外框及組件。在圖學方面能依草圖或實物圖片繪製三視圖、結構圖等詳細施工圖

Woodworking for Door and Window 2, 1

The course is designed to guide the attendants how to make complicate woodworking structures such as doors, windows, sash frames and components for either indoor or outdoor applications. The exercises on producing detailed engineering sketches or structural sketches based on draft sketches or physical pictures are carried out.

家具木工及實習(2、1)

本課程目的在教導學生能選擇配合與靈活運用各種木工手工具及木工機器，製作工模及製作較複雜之家具及其組件(如几、桌、椅、櫃等)。在圖學方面能依

草圖或實物圖片繪製三視圖、結構圖、立體圖等詳細施工圖。

Woodworking for Furniture 2,1

The course is designed to guide the attendants how to make working dies and complicate wooden furniture products such as table, chair, cabinet, and related components through proper selection and well practice from all kinds of hand tools and woodworking machines. The exercises on producing detailed engineering sketches or structural sketches based on draft sketches or physical pictures are carried out.

家具設計 3D 繪圖及實習(2、1)

本課程以教導學生學習與使用電腦 3D 繪圖軟體，使同學具備製作出各式各樣的電腦 3D 模型，並應用於家具設計課程中。且藉由對不同案例的繪製練，讓學生們更能充分運用電腦 3D 繪圖軟體的優點，加以整合設計出出色的作品來。

3D Sketch for Furniture Design 2,1

Guiding students to be familiar with skills using computer 3D sketch software. Training the attendants to handle or create various types of 3D models and applied to furniture design courses. The attendants can fully employ the advantages of computer 3D sketch software through the practice on several different case studies and produce an integrated design project.