



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
Industrial Centre

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**Manufacturing Projects  
Timetable & Project Briefs**

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**BENG (HONS) DEGREE IN MECHANICAL ENGINEERING**

**2001**

The Hong Kong Polytechnic University

Industrial Centre

Manufacturing Projects

BEng DEGREE IN MECHANICAL ENGINEERING, HKPU

(Summer 2001)

1. Project List

Proj. No.	Project Title	Supervisor
M1	Manufacturing of a Barrel Plating System	Mr. F Lau
M2	Intelligent RP & M Display Cabinet	Mr. M Wong
M3	X-Ray Machine I	Mr. CH Yu
M4	Vertical Sliding System for COMET Optical Scanning	Dr. TW Chan
M5	Mini Lathe	Mr. R Cheng
M6	Gangplank for KCR Station	Mr. R Cheng
M7	Longitudinal Sliding System for RE Scanning	Dr. TW Chan
M8	X-Ray Machine II	Mr. CH Yu
M9	Automatic chocolate packaging system	Mr. CK Lai
M10	Mini-4 Wheel Drive Racing Car Set	Mr. R Cheng

## 2. Staff contacts

<b>Supervisor</b>	<b>Room</b>	<b>Telephone</b>
Mr. CH Yu	U401e	2766 7612
Mr. SL Chan	W106	2766 7616
Dr. TW Chan	W503	2766 7601
Mr. R Cheng	W204d	2766 7628
Mr. M Wong	W501j	2766 7625
Mr. CK Lai	W402h	2766 7627
Mr. F Lau	W401f	2766 7615

## 3. Project Allocation

<b>GROUP NO.</b>	<b>PROJECT TITLE</b>	<b>STUDENT NAME</b>
M1	Manufacturing of a Barrel Plating System	CHAN Kin Ping HO Chi Ming LAI Siu Kei LIU Chi Wang WONG Chun Kit YIP Mo Ngai
M2	Intelligent RP & M Display Cabinet	CHAM Tai Cheong CHU Kin San HO Chun Yip LO Man Kwong Frankie WONG Kwok Keung YIP Wai King
M3	X-Ray Machine I	HO Man Yee LAM Sek Hung LAI Kwok Chi LO Wing Hong WONG Lai Ho YU Chui King

<b>GROUP NO.</b>	<b>PROJECT TITLE</b>	<b>STUDENT NAME</b>
M4	Vertical Sliding System for COMET Optical Scanning	CHAN Tik Fung HO Ming Sun LAM Chi Him LEUNG Yuh Chung Albert MAK YIU Wing YUEN Kwok Kit
M5	Mini Lathe	CHAN Wai Hon HOR Tin Lung LAU Kwun Wa SZE Lip Kit TONG Wai Sum William WONG NAM Ki
M6	Gangplank for KCR Station	CHAN Wai Yue HUN Kin Fo LEE Cheuk Yin TO Ching Nok WU Chun Pong YAU Chun On
M7	Longitudinal Sliding System for RE Scanning	AU Yeung Wai Lap CHENG Chi Teng KWOK Man Kit LEUNG Kai Man TING Shiu Lung YAN Ka Siu
M8	X-Ray Machine II	CHEUNG Mun Kin KWOK Wing Hei LAU Chun Ip LEUNG Wing Chuen TAM Chi Kin WONG Man Pan
M9	Automatic chocolate packaging system	LAM Wai Wing LAM Wai Yu CHAN Wai Hong CHENG Chi Keung LAW Wang Lei
M10	Radio Controlled Scale Model Will Car	FONG Ching Hei LAI Pak Kei LI Kam Lun TSANG Kwong Shing YIP Man Kit YIP Kai Wah

#### 4. Project Timetable

The IC operates 5 days a week from 0830 to 1700. Normal project days in the summer are from Monday to Thursday. In these project days, you have to follow the IC timetable and sign in/out from your supervisor's office. Friday is not a normal project day but you may at your discretion to work at your own pace. You should observe the IC rules related to timekeeping during the timetabled project periods.

During the timetabled project periods (ie Monday to Thursday), facilities will be available for manufacturing activities. It is anticipated there will be a high demand for the use of equipment in some of the workshops. You are therefore requested to plan your work carefully and make your booking in advance (normally 3 days). Any urgent requests should be made to the Unit In-charge of the Shop in which the work is to be done.

Work after 17:00 is not encouraged. You are advised to plan and monitor your progress carefully. However, if it is found that the projects cannot be completed on time, you have to make your own arrangement with your supervisor and the Unit In-charge on overtime work. It is better to work on a tight schedule at the early stage of the project in order to avoid any last minute rush.

Students are reminded that the project must be completed before making the presentation.

	<b>ACTIVITIES</b>	<b>LOCATION</b>	<b>DURATION</b>
1	Induction	Cinema, U202, IC	08:30-10:15 Fri, Week 22
2	Detailed design and planning	Design Office, IC	Week 22-29 Every Friday (A.M.)
3	Machining, fitting and fabrication	Machine Shops, IC	Week 42
4	Heat-treatment, welding and electro-plating	Ground Floor, IC	Week 43
5	Assembly, testing and commissioning	Project Shops, IC	Week 44
6	Preparation for presentation	Project Offices, IC	Week 45
7	Presentation	IC Common Room, W502d, IC	08:30-17:00 Thursday, Week 45

## 5. Headquarters for students

Project headquarters for meetings, assembly and testing work are allocated as follows:

<b>Group</b>	<b>PROJECT TITLE</b>	<b>HEADQUARTER</b>
M1	Manufacturing of a Barrel Plating System	W401
M2	Intelligent RP & M Display Cabinet	W501
M3	X-Ray Machine I	U401
M4	Vertical Sliding System for COMET Optical Scanning	W503
M5	Mini Lathe	U204
M6	Gangplank for KCR Station	U204
M7	Longitudinal Sliding System for RE Scanning	W503
M8	X-Ray Machine II	U401
M9	Automatic chocolate packaging system	W402
M10	Mini-4 Wheel Drive Racing Car Set	U204

## 6. Points to be noted by MU project students

### 6.1 Safety Matters

You are required to discuss with your supervisor any potential hazards that may be associated with the project.

Suitable safety shoes and aprons are to be worn at all times while working in the IC workshops.

Safety precautions are to be taken in all workshop operation/processes, assembly and trial tests. (Your project supervisor will assess your working methods as part of the project assessment.)

### 6.2 Progress Report

Daily Report - It is expected that you will keep in contact with your supervisor and report to him the daily progress of your work.

Weekly Report - Weekly formal meetings are to be held with your supervisor. The meetings are to be chaired by a leader and minutes should be taken by a secretary nominated by the group.

Project Dairy - You are strongly advised to keep a daily project diary of what has been done during the day. This would help you in preparing your final report as well as the presentation at the end of the project.

### 6.3 Materials

Your Supervisor will advise you on this matter. Usually materials can be obtained from the IC store. You have to complete a Material Requisition Form giving details of the

material/part you want. The MRF has to be signed by your supervisor before drawing material from the store.

A minimal sum of petty cash is made available for the purchase of small items below HK\$500. The cost of bought out parts/material can be refunded only when the following conditions are met:

- a. Prior approval is obtained from your Supervisor before the material is purchased.
- b. Valid purchasing receipts are provided.
- c. The receipts must clearly indicate the cost, proper description of the items (in English) and the title of the project.

Stationary, photos and slides for the project presentation/report are to be borne by the students. You should make your own plan in taking photos/slides in the course of manufacturing.

#### **6.4 Booking of Facilities**

The IC-S1 Form "Application for IC Facilities" is to be used for booking workshops facilities. Before booking, you should consult the Unit Leader concerned to check whether the equipment will be available at the time required.

The form should be endorsed by your supervisor and it should be submitted to the Unit Leader concerned 3 days in advance. Should you have any urgent request for equipment booking, you should put it through your Supervisor who will make special arrangement for your request.

At least 1 lathe and 1 milling machine will be allocated for each project group in the Basic Machine Shop or the Toolroom for the manufacturing of parts. Any special machine such as CNC, grinding machine, boring machine can be booked through the relevant section leader.

#### **6.5 Use of CAD Facilities**

Detailed drawings are to be done in the IC CAD Rooms as allocated by your supervisor.

You are not allowed to bring any floppy diskettes into the IC CAD Rooms. If drawing data backup is required, you must bring along several new floppy diskettes with your name printed on each diskette and pass them to a designated DO staff/TA who will format the floppy diskettes for you. It should be noted that no floppy diskette is allowed to be used in the Design Office except those formatted by the DO staff. All these floppy disks should be returned to the DO after each day's work.

You are not allowed to access any software except that for CAD purposes. Unauthorised access to IC computers is not allowed except those specifically assigned by DO staff.

You have the responsibility to tidy up the workplace after use.

#### **6.6 Project Presentation**

This is an important part of the project. You are reminded to leave sufficient time for the preparation of the presentation. Good planning would usually help.

#### **6.7 Marking Scheme**

The marking scheme consists of two parts - the project and the presentation.

#### **6.8 Final Report**

You have to hand in a final report within 2 weeks upon completion of the project.