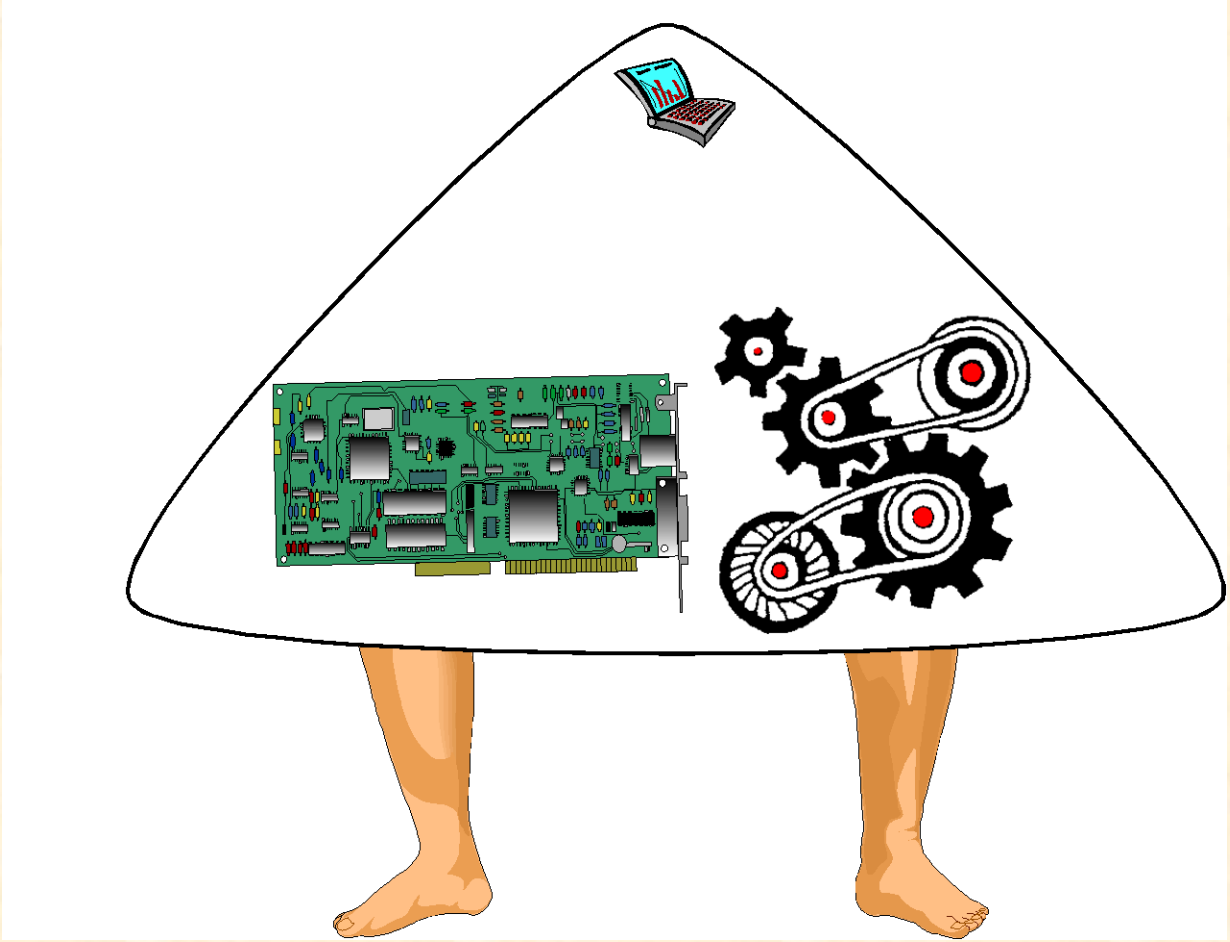
B.Eng (Hons) in Mechatronic Engineering

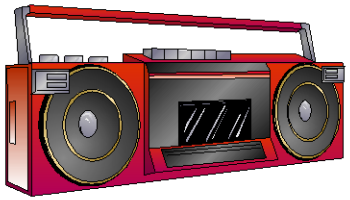
in the Department of Manufacturing Engineering and Engineering Management

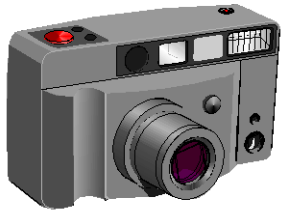


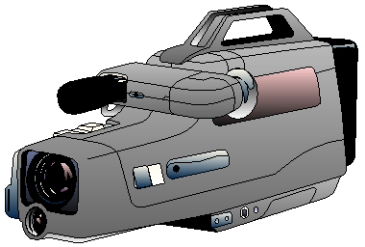
Most modern products require the integration of electrical and mechanical engineering -Mechatronics

Consider the following examples:

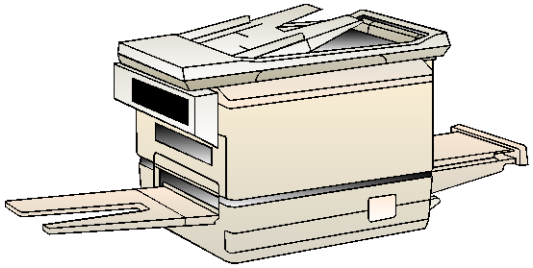
Consumer products :

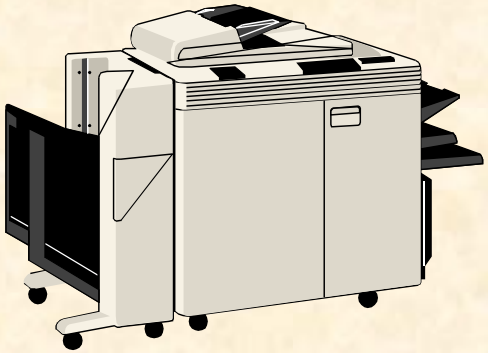


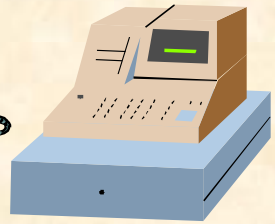




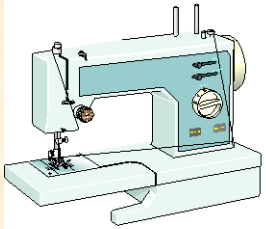
Office equipment:

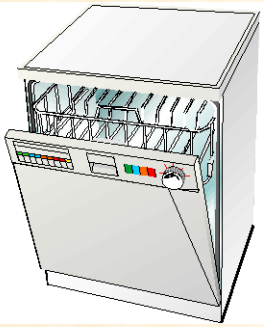


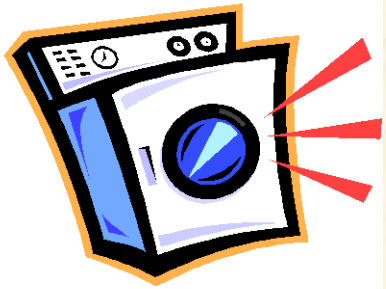




Home appliances:

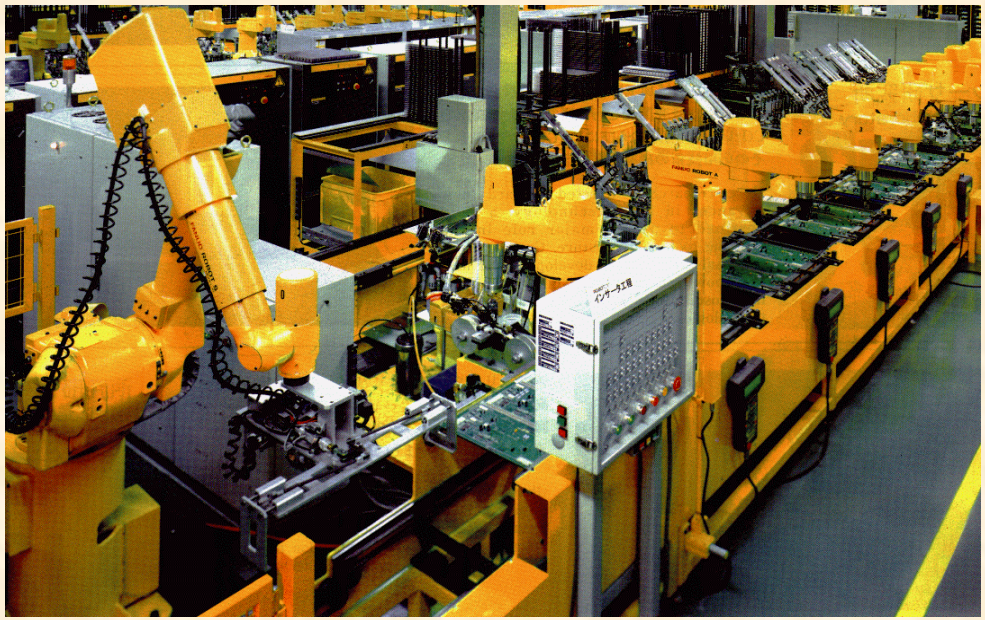






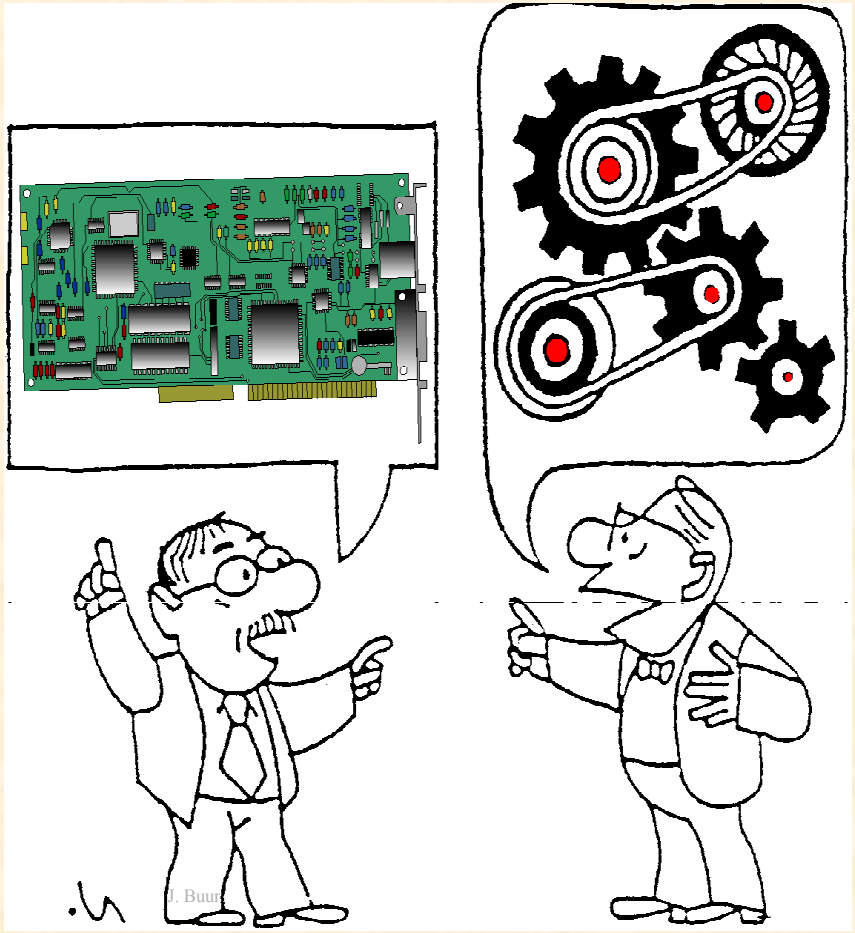
in addition to many consumer products, most

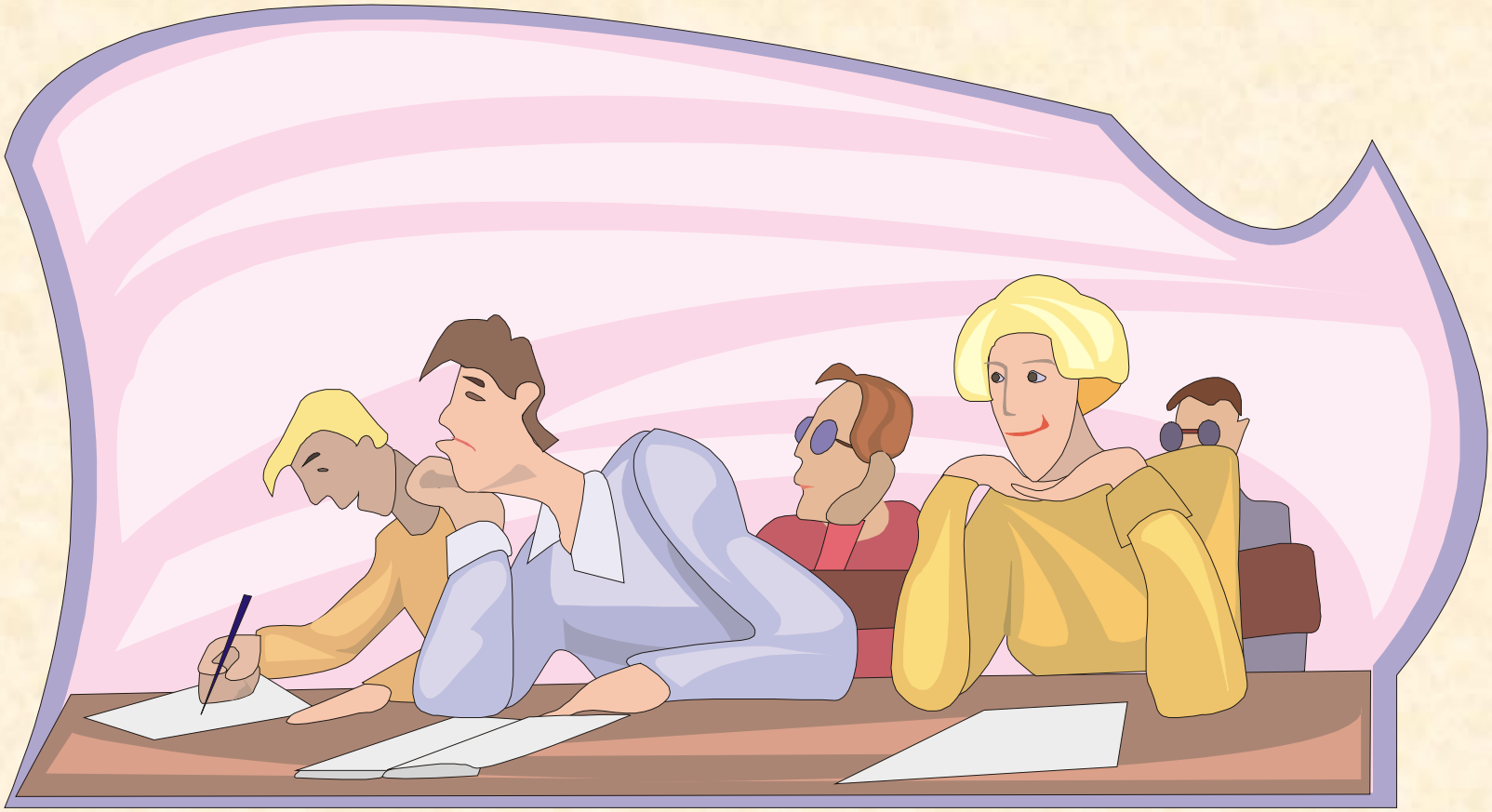
industrial projects also require integration of mechanical and electronic engineering - Mechatronics



There is a communications gap between the specialists in narrow disciplines:

Best designs are made by engineers who understand both aspects of the problem, thus, there is a strong need of Mechatronic Engineers.



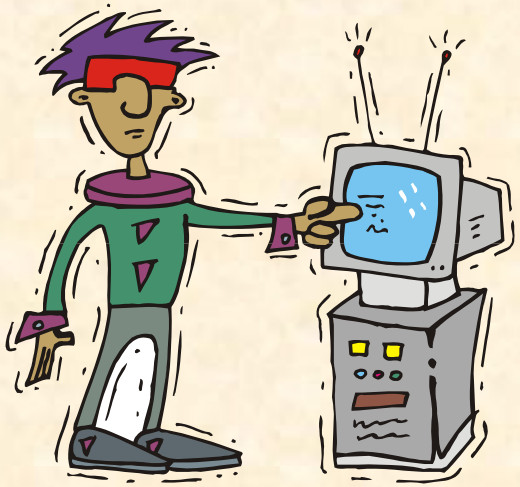


What will you learn in the program of Mechatronic Engineer?

Mechanical Engineering

Motion Control

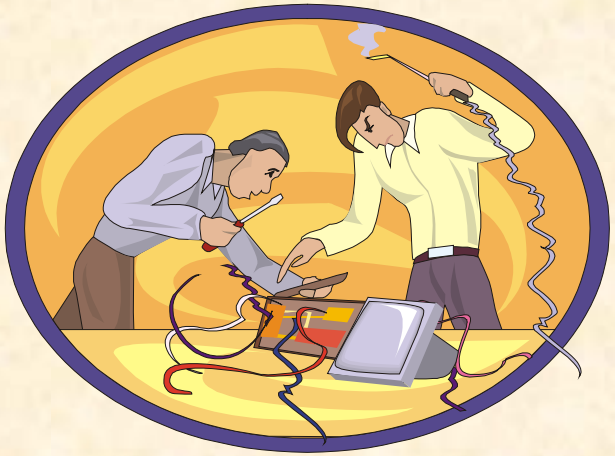
Electronic Engineering



Computing

Project Management

Information Technology



Department of Manufacturing Engineering and Engineering Management

Prepared by Dr. Peter W. Tse

City University of Hong Kong

CAREERS IN MECHATRONIC ENGINEERING

- By virtue of their education and training, the mechatronic engineering graduates are employed as: Product Designer, Product Manager, Plant Engineer/Manager, Automation Engineer, Service Engineer/Manager, Development Engineer, Project Engineer, Sales Engineer.
- As they gain more experience, their employment scope is further widened to take up managerial positions.
- With further training, they can be employed in positions like Quality Engineer, Reliability Engineer, Testing Engineer, etc.

Graduate Employment Survey

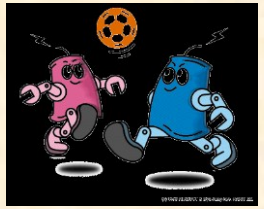
(within the 1st 6 months after final examination)

BEng (Hons) in Mechatronic Engineering

Yr of Grad-uation	Mean starting salary ($)	Min. starting salary ($)	Max. starting salary ($)	No. of graduates	Employed	Un-employed	Further studies	Not seeking employ-ment
1995	10,281	8,500	14,000	33	27 (81.8%)	2 (6.1%)	4 (12.1%)	
1996	10,587	8,000	18,000	35	31 (91.2%)		3 (8.8%)	
1997	11,309	9,000	18,000	41 *	34 (82.9%)	2 (4.9%)	4 (9.8%)	1 (2.4%)
1998	9,768	7,500	18,965	39	24 (64.9%)	6 (16.2%)	7 (18.9%)	
1999	9,745	5,000	17,460	34	28 (82.4%)	2 (5.9%)	4 (11.8%)	
2000								

Note: * two graduates are employed by KMY Instruments Inc. at San Jose, CA 95131, USA

Development of Micro-Robot Soccer Team for the World Championship



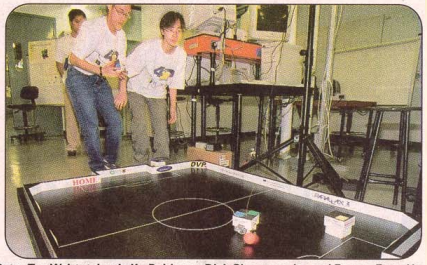
South China Morning Post | Monday October 4 1999 3

news Young Post

Students on the ball with robotics

Aspiring engineers produce artificial football players

LUCIA LI



Field success . . . (from left) Alden Leung Chee-ho, Arthur Chan Ngai-lam, Dr Peter Tse Wai-tat, Louie Ko Pui-hang, Dick Chan man-ho and Franco Fong Ho show off their prize-winning 'players'. RIGHT: The soccer-playing robots are programmed to operate on their own during a match. Pictures by K Y CHENG

Five mechatronic engineering students made history by representing Hong Kong for the first time in the Federation of International Robot Soccer Association World Championship in Brazil.

The team came third in the group competition against Brazil, Canada and champions South Korea. Fifteen teams took part in the contest.

Louie Ko Pui-hang and Alden Leung Chee-ho, third year mechatronic engineering students at the City University of Hong Kong (CityU), teamed up with three other classmates to design three hand-sized soccer-playing robots.

The students used different technologies, including robotics, computing, image processing and artificial intelligence to make the robots.

"The project really interested me. It was so different from ordinary class projects, and soccer is a familiar subject as most boys like the game," Mr Ko said.

The 22-year-old student modelled the computer program for the robots after real-life Brazilian football players.

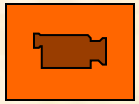
Mr Leung, 21, said: "The competition gave me a chance to exchange not only football skills with other students, but also hardware and software skills."

The project, supervised by Dr Peter Tse Wai-tat, assistant professor of the Department of Manufacturing Engineering and Engineering Management at CityU, was made possible with a $110,000 teaching development grant from CityU vice-president Professor Edmond Ko Inq-ming.

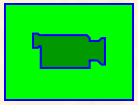
Dr Tse said the project raised students' interest in designing world-class mechatronic products and helped them develop team spirit by working together in a hi-tech environment.

The micro-robot soccer tournament is played by two teams, each consisting of three robots – forward, defender and goalkeeper. Three human team members design a pre-set program for the host computer which is dedicated to vision processing and location identifying. In short, the match is played without any human operators.

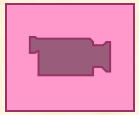
Design of Micro-Robots



Final Competition 1



Final Competition 2

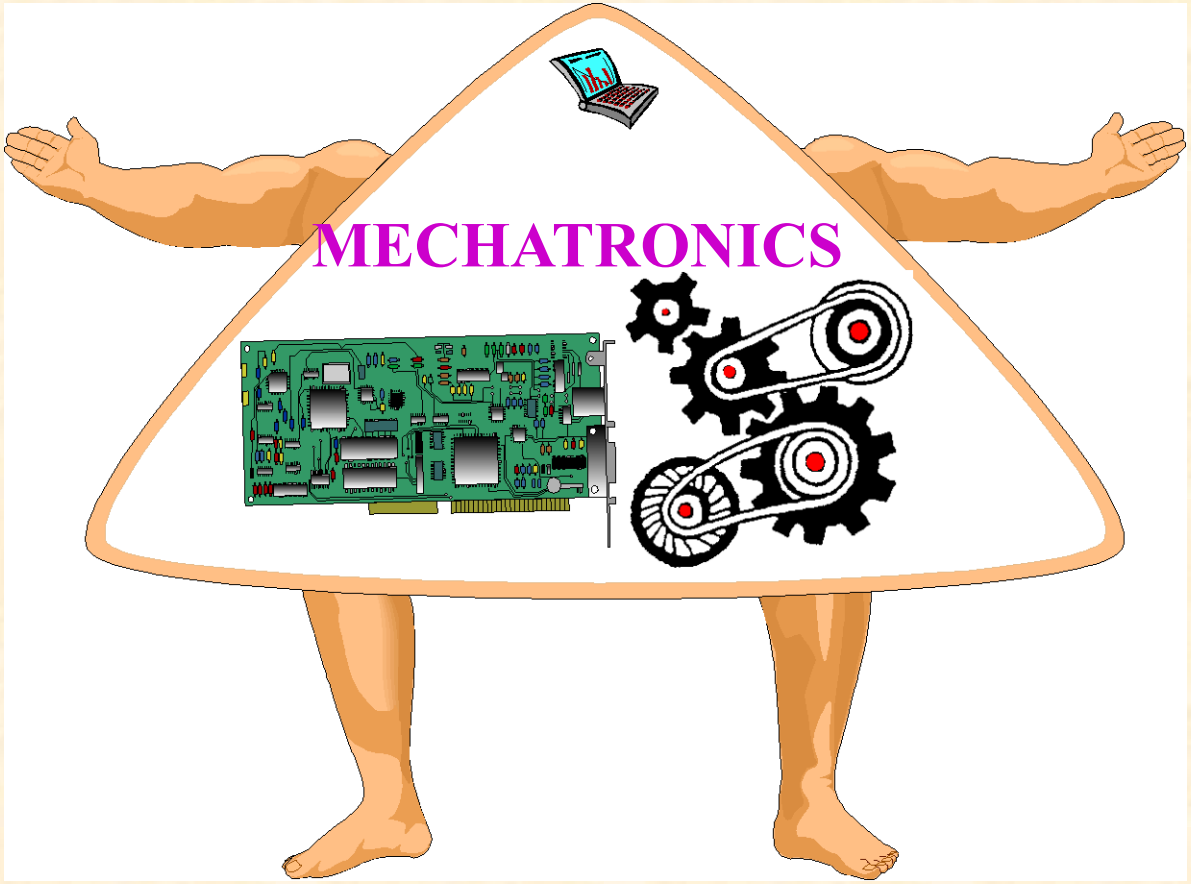


Department of Manufacturing Engineering and Engineering Management

Prepared by Dr. Peter W. Tse

City University of Hong Kong

For engineers who wish to stand on both legs



Mechatronic Engineering Students - study one degree, learn two disciplines.

Department of Manufacturing Engineering and Engineering Management

Prepared by Dr. Peter W. Tse

City University of Hong Kong