

Molecular Biotechnology Programme

分子生物技術學課程

Academic Counseling Session



Under the UV light there are some different!

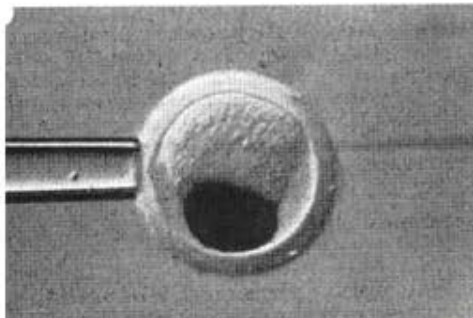
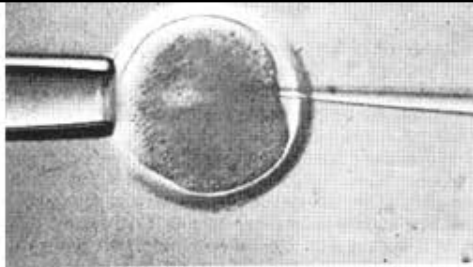
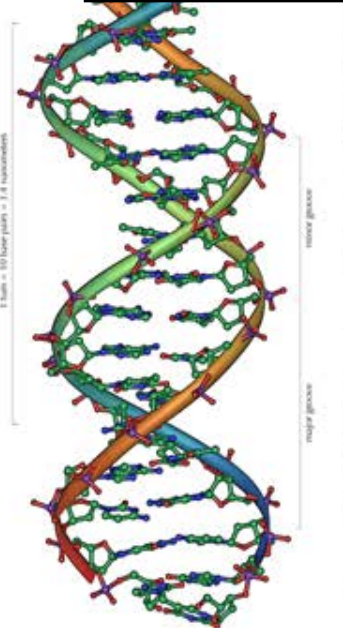


Molecular Biotechnology

between tg and non-tg cloned calves from the same donors



Emphasis: From Science to Technology



Engineering Rice for Beta-Carotene, Vitamin E, Iron, Protein and Iron and Zinc Bioavailability

Multi-Nutrient Stacking:

Vitamin E →

Iron →

Zinc →

Lysine/
High-quality
protein →

"Golden Rice"



Pro-vitamin A

Nutrient-rich rice
(ProVitaMinRice)
for humanitarian
use

Molecular BioTechnology

Programme

分子生物技術學課程

Our missions

High quality education in preparing for R & D in biotechnology
Training in scientific way of knowing and problem solving



Cell biology
Genetics
Biochemistry...



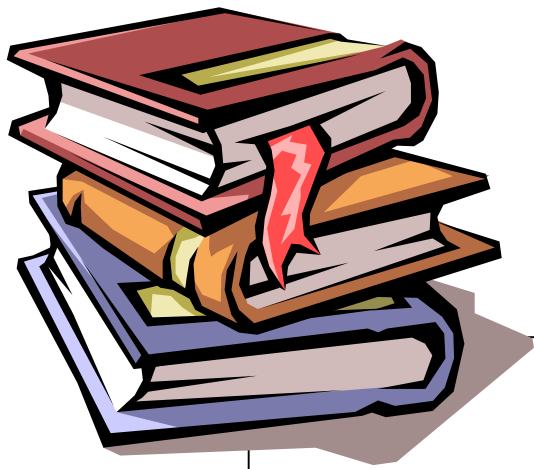
Animal Biotechnology



Plant Biotechnology



Microbial Biotechnology



MBTE Curriculum

Major courses (66 units)

**Required courses
(44 units)**

**Elective courses
(13 units)**

Recommended Course Pattern

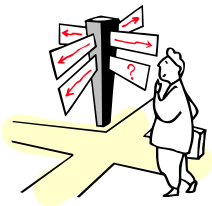
📎 First Year of Attendance 12 units

📎 Second Year of Attendance 17-19 units

📎 Third Year of Attendance 16-19 units

📎 Fourth year of Attendance 13- 19 units

Total: 66 units



A student shall **NOT** take less than 9 units nor more than 18 units of courses in a term


MBT Core Courses

- 📖 MBTE2000 Introduction to Molecular Biotechnology(3)
- 📖 MBTE2010 Diversity of life: Applications and Sustainability(2)
- 📖 MBTE3000 Business and Social Aspects of Biotechnology(3)
- 📖 MBTE3510 Medical Biotechnology
- 📖 MBTE4320 Genetic Engineering (3)
- 📖 MBTE4510 Plant Biotechnology (3)
- 📖 MBTE4520 Animal Biotechnology (3)
- 📖 MBTE4530 Microbial Biotechnology (3)
- 🧪 MBTE4033 Methods in Molecular Biotechnology Lab I (2)
- 🧪 MBTE4034 Methods in Molecular Biotechnology Lab II (2)

Final Year Project courses (2-6 units):

- MBTE4906 Internship/Research in Molecular Biotechnology (2) *(Optional)*
- MBTE4904/4905 Literature Senior Seminar I/II (2/2)
- MBTE4901/4902/4903 Senior Experimental Project I/II/III (2/2/2)

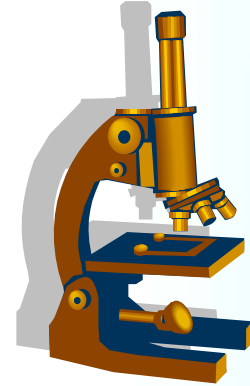
Major Required Courses

- BCHE2030 Fundamentals of Biochemistry (3)
 - BCHE3030 Methods in Biochemistry (3)
 - BCHE3050 Molecular Biology (2)
 - BIOL2120 Cell Biology (3)
 - BIOL2313 Genetics Lab (1)
 - BIOL2410 General Genetics (3)
 - BIOL3410 General Microbiology (3)
 - LSCI2002 Basic Lab Techniques in Life Sciences(2)
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Major Elective Courses:

1st Term:

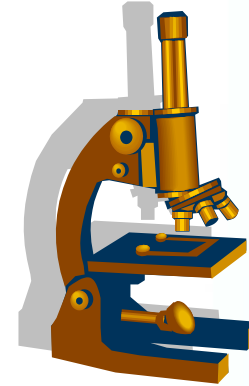
- ***BCHE3040 Proteins and Enzymes (3)***
- ***BCHE3080 Metabolism and Bioenergetics (3)***
- ***BCHE3680 Metabolism and Bioenergetics Lab (2)***
- ***BCHE4060 Basic and Applied Immunology (3)***
- ***BCHE4080 Biochemistry for Forensic Sciences***
- ***BIOL3420 Advanced Genetics and Epigenetics (3) (new)***
- ***BIOL3630 Animal Physiology (3)***
- ***BIOL4120 Developmental Biology (3)***
- ***BIOL4520 Plant Metabolism and Metabolic Engineering***
- ***LSCI2003 Scientific Conduct and Ethics (1)***
- ***CMBI4001 Protein Trafficking (1)***
- ***CMBI4002 Protein Folding (1)***
- ***CMBI4003 Signal Transduction (1)***
- ***CMBI4201 Genomics (1)***
- ***CMBI4202 Transcriptomics (1)***
- ***CMBI4203 Metabolomics (1)***



Major Elective Courses:

2nd Term:

- ***BCHE4030 Clinical Biochemistry (3)***
- ***BCHE4090 Biochemistry for Sport and Exercise (2)***
- ***BIOL2420 Population Genetics (1)***
- ***BIOL3310 Human Biology (3)***
- ***BIOL3530 Plant Physiology (3)***
- ***BIOL4032 Physiological investigations (2)***
- ***BIOL4310 Human Genetics (3)***
- ***BMEG2001 Introduction to Biomedical Engineering(2)***
- ***BMEG2011 Biomedical Engineering Laboratory (1)***
- ***CMBI3101 Biology of Model Organisms for Research (2)***
- ***CMBI4101 Cancer Cell Biology (1)***
- ***CMBI4102 Stem Cell Biology (1)***
- ***CMBI4103 Neuronal Cell Biology (1)***
- ***CMBI4301 Current Topics in Cell Biology (1)***
- ***CMBI4302 Current Topics in Molecular Biology (1)***
- ***CMBI4303 Current Topics in Biotechniques (1)***
- ***ESSC2600 Biosphere, Climate and the Environment(1)***
- ***LSCI1012 Introduction to Life Forms in the Biosphere (3) (new)***
- ***LSCI2003 Scientific Conduct and Ethics (2)***
- ***STAT3210 Biostatistics (3)***



Academic Advisory System

- An academic advisor to each student
- To provide academic counseling, personal guidance and help in his/her study
- To provide consultation on other academic matters, such as failure in course, academic probation etc.
- To meet students every term to discuss their programme of studies and review the study schemes with them on the course selection



You can experience and learn through.....

- Lectures
- Laboratories
- Tutorials
- Project discussions
- E-learning
- Visits



Experimental Senior Project/Literature Senior Seminar

- ❖ You can undertake an individual research/literature review project in the final year of study
- ❖ Under the supervision of a professor from (BCH, BIO, Medicine & overseas)
- ❖ With flexibility: 2-4 units
Half-year to one year
Starts at summer or Sept
- ❖ Project proposal, written report and oral presentation



Biotech Companies visits

HKIB

Shenzhen Kexing
Bioproducts Co., Ltd

DNA Clips Co. Ltd.

CK life Sciences

Asia Molecular
Diagnostics Lab.

Hong Kong Institute of Biotechnology Ltd

Institute of Chinese Medicine

MBT broadens students' horizons.....

Summer Internship Programme

- **Objectives**

To learn and experience biotech research and business operation in **overseas** labs and companies

- **Period**

2nd year, summer

- **Some of the placement organizations**

- School of Medicine, University of California, **USA**
- M.D. Anderson Cancer Center, Texas, **USA**
- Donald Danforth Plant Science Center, **USA**
- University of Oklahoma Health Sciences Centre, **USA**
- Law Offices of Albert WK Chan, New York, **USA**
- Toronto Western Research Institute (TWRI), **Canada**
- University of Heidelberg, Heidelberg, **Germany**
- University of Regensburg, **Germany**
- Health Research Institutes, **Taiwan**

Together with the active participation in the University Exchange Programme

- Around 30 % of **MBT** students enriched their university life with these valuable **overseas** experiences in the last 3 years



We have plenty of Internship and Exchange opportunities



Law Offices of Albert
Chan, New York



Visiting Examiner meeting students

Prof. Jane E. Aubin
University of Toronto, Canada
10 - 20 April 2004



The students are confident in their abilities, can source, assimilate and analyze information critically, and effectively communicate their ideas

Prof. Virginia Walbot
Stanford University, USA
17 to 28 Feb, 2001



MBT Programme is a high-class offering that is competitive internationally

Prof. J Derek Bewley
University of Guelph, Canada
19 - 31 May 2008; 6-14 April 2010



MBT is attracting students who are very strong academically and who are willing to work hard to achieve the prescribed learning objectives



Renowned Scientists visiting



Symposium in Biotechnology for the 21st Century: Applications and Training



Prof. Virginia Walbot “Regulation of Mu Transposons in Maize and Their Utility in Gene Tagging and Cloning”

Symposium In Molecular Biotechnology



The Nobel Laureate, Dr. Richard Roberts “My life in Scientific Research”



Prof. Jane E. Aubin “Regulation of Bone Formation”

MBT graduates go to.....

Further studies: (68%)

- **Local and overseas Institutes**
 - USA (e.g. Yale University, UC Berkeley)
 - Canada (e.g. University of British Columbia)
 - Europe (e.g. Cambridge, Oxford)

Research (Post-doctoral fellowship):

- (e.g. University of Washington, University of Cincinnati, New England Bio Labs)

Government, Education, Publication:

- A.O., E.O., secondary school teachers,...

Medicine & Pharmacology:

- Manager, clinical research associate, representatives, ...

Business & Finance:

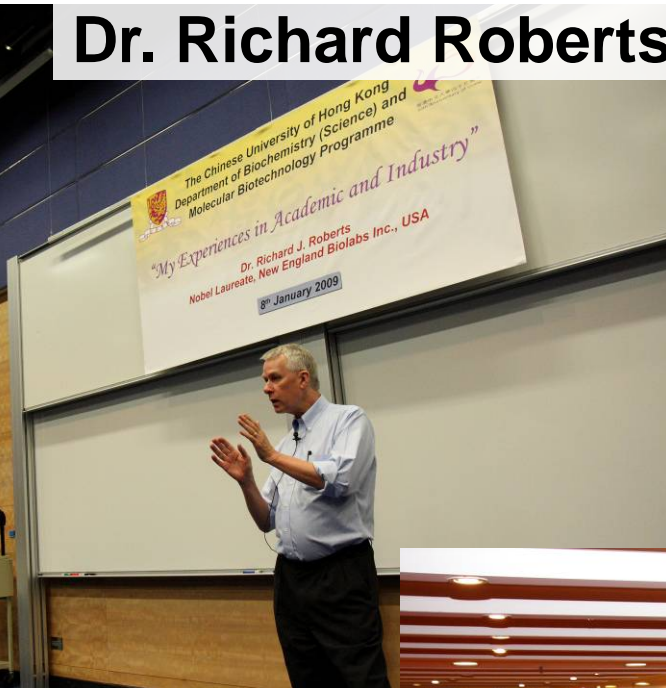
- Management trainee, H.R. officer, P.R. officer, ...

And more ~



MBT 10th Anniversary in 2008

Seminar of Dr. Richard Roberts



Symposium "Molecular Biotechnology in the 21st Century"



10th

Anniversary Reunion Banquet



MBT 20th Anniversary in 2018



MBT 20th Anniversary Symposium



MBT 20th Anniversary Banquet

Welcome to MBT!!

