

Department of Medical Laboratory Science and Biotechnology

Introduction

History

Department of Medical Laboratory Science and Biotechnology (DMLSB) of Yuanpei University was accredited by the Ministry of Education in 1964, and started to admit undergraduate students in 1965. After that, a graduate program (Master of medical laboratory science and biotechnology) was approved in 2007. The success story of the Department already spans for more than five decades. Today, the DMLSB is the first of Taiwan's foremost organizations of vocational education on medical laboratory technology.

Features

Curriculum

Courses emphasized in both clinical laboratory science and state-of-art biotechnology. Improving students' bench skills by intensive laboratory courses and hospital practical training. The curriculum content is multidisciplinary, incorporating studies in areas, such as Immunology, Microbiology, Histology, Physiology, Pathology, Blood Banking, Parasitological, Clinical Microscopy, Clinical Physiology, Clinical Serology and Immunology, Clinical Microbiology, Clinical Chemistry, Laboratory Quality Assurance and Clinical Hematology. In order to comply with practical training protocol, the Department has been aggressively recruiting preeminent teaching hospitals as practical training sites for DMLSB students. For the master's program, the DMLSB aims to the skills for enhancing student's knowledge and specialties on basic and clinical related subjects as well as abilities on application of foreign languages and applied biotechnology.

Faculty

The faculty and staff in the department maintain diverse medical technologist and biotechnology interests, and they are also good at their skill sets with these technologies. The number of full-time teachers at the department is 11, containing 1 professor, 6 associate professors, 3 assistant professors and 1 lecturer.

Facilities

There are five basic science laboratories, six clinical laboratories, six biotechnology laboratories and five medical research laboratories in this department. The equipments available include ultracentrifuge, HPLC, High-performance Capillary Electrophoresis, PCR controller, Protein purification and analysis apparatus, phase-contrast microscope, reverse-phase microscope, multiple users synchronized instructional microscope, automatic biochemical analyzer, ELISA reader, phase-contrast fluorescence microscope and facilities for both eukaryotic and prokaryotic cell culture.

Career Development

Medical technologists after passed the national license exam may work in a variety of settings such as hospitals, doctors' offices, and clinics, and public health centers. They may also work in research or industrial settings, or serve as clinical laboratory scientists, also known as medical technologists. Intensive training in practical lab skills also makes advanced studies in graduate programs an excellent choice for the graduates.

Degrees Offered

■ Bachelor ■ Master

■ Mission & Objectives

1. Enhancing student's knowledge and specialties on basic and clinical related subjects as well as abilities on application of foreign languages and computational skill.
2. Establishing graduate program in biotechnology.
3. Establishing preventive medical research laboratory in the hope of offering the diseases screening services for communities.
4. Improving course curriculum for both undergraduate and graduate programs.



Educational Objectives

Program	Objectives
Undergraduate	<ol style="list-style-type: none"> 1. Cultivating professionals of medical technology that equally emphasize theories and practice. 2. Understanding the concept of Holistic Care, and implementing social concern and professional ethics. 3. Cultivating information technology, communication, and teamwork abilities. 4. Cultivating the global view and to understand the difference of multi-cultures.
Graduate	<ol style="list-style-type: none"> 1. Ability to cultivate innovation, think independently, and solve problems. 2. Ability to cultivate communication and expansion of international view. 3. Handling the modern professional knowledge and ability of medical technology.

Core Competences

Program	Competences
Undergraduate	<ol style="list-style-type: none"> 1. Possess the theoretical foundation of professional management. 2. Possess the ability of teamwork, analysis, and solving problems. 3. Possess the global awareness of multi-cultures. 4. Possess the ability to think independently. 5. Grasp the latest development trend of relevant issues of medical technology.
Graduate	<ol style="list-style-type: none"> 1. Possess knowledge and ability of medical technology profession. 2. Possess ability to analyze and solve problems. 3. Possess international view of medical technology. 4. Possess innovating application ability of medical technology profession. 5. Possess research ability of health medical technology new knowledge.

Curriculum

Undergraduate Program of Department of Medical Technology, Yuanpei University(Academic Year 2014)			
Year 1			
Required	Credits	Elective	Credits
Chemistry (1)	2		
Chemistry Experiment (1)	1		
Biology (1)	2		
Biology Experiment (1)	1		
Chemistry (2)	2		
Chemistry Experiment (2)	1		
Biology (2)	2		
Organic Chemistry	2		
Organic Chemistry Experiment	1		
Year 2			
Required	Credits	Elective	Credits
Analytical Chemistry	2		
Analytical Chemistry Experiment	1		
Biochemistry Experiment (1)	1		
Physiology	2		
Physiology Experiment	1		
Parasitological	2		
Parasitological Experiment	1		
Microbiology (1)	2		
Microbiology Experiment (1)	1		
Year 3			
Required	Credits	Elective	Credits
Biostatistics and Software	2		
Hematology	2		
Hematology laboratory	1		
Seminar	1		
Clinical Bbiochemistry Examination (1)	2		
Clinical Biochemistry Examination Experiment (1)	1		
Clinical Physiology Examination	2		

Clinical Physiology Examination	1		
Experiment			
Medical Mycology	2		
Clinical Microbiology Examination (1)	2		
Clinical Microbiology Examination	1		
Experiment (1)			
Blood Banking	2		
Clinical Biochemistry Examination (2)	2		
Clinical Biochemistry Examination	2		
Experiment (2)			
Clinical hematology and blood bank laboratory	1		
Clinical hematology	2		
Clinical Serology and Immunology Examination	2		
Clinical Immunology and Serology Examination Experiment	1		
Clinical Microbiology Examination (2)	2		
Clinical Microbiology Examination	1		
Experiment (2)			
Clinical Microscopy Examination	2		
Clinical Microscopy Examination	1		
Experiment			
Medical Molecular Examination	2		
Year 4			
Required	Credits	Elective	Credits
Histopathological Techniques and Cytology Practice	1		
clinical biochemistry practice	2		
Practice of Clinical Physiology	1		
blood bank practice	1		
clinical hematology practice	2		
clinical microbiology practice	1		
Practice of Clinical Microbiology	3		
Molecular Diagnosis of Medicine Practice	1		
Special Topics of Medical Technique	2		

Graduate Program of Department of Healthcare Management, Yuanpei
University(Academic Year 2014)

Year 1

Required	Credits	Elective	Credits
Chinese Literature and Thought(I)			
Practical English(I)	2		
Management	2		
Introduction to Health Services	3		
Human Biology	3		
Introduction to Health	2		
Mental Health	3		
Introduction to Preventive Medicine(I)	3		
Medical English	1		
	1		

Year 2

Required	Credits	Elective	Credits
Chinese Literature and Thought(II)	2		
Practical English(II)	2		
Information Capability and Literacy	2		
Physiology	3		
Public Health	3		
Nutrition	3		



Faculty and Staff

Name	Yu-Jen Chen
Title	Associate Professor
Education Background	Ph.D., Toxicology, College of Medicine , National Taiwan University, 1999
Areas of Specialization	Hematology
Email	yjchen@mail.ypu.edu.tw
Office	H301;H303
Phone	886-3-5-381183 ext. 8179

Name	Ming-Li Liou
Title	Professor
Education Background	Ph.D. Institute of Molecular Medicine National Tsing Hua University
Areas of Specialization	Clinical Microbiology & Genomics
Email	d918229@yahoo.com.tw
Office	H205
Phone	886-3-5-381183 ext. 8179

Name	Hai-Lung Wang
Title	Associate Professor
Education Background	Ph.D., Institute of Life Sciences, National Defense Medical Center, Taiwan (R.O.C.)
Areas of Specialization	Neuroscience, clinical physiology
Email	hailung@mail.ypu.edu.tw
Office	H305
Phone	+886-3-5381183 ext. 8170

Faculty and Staff

Name	Yung-Liang Chen
Title	Associate Professor
Education Background	Ph.D., Biochemistry, College of Medicine , Nation Taiwan University, 1993 M.S., Biochemistry, College of Medicine , Nation Taiwan University, 1987 B.S., Medical Technology, College of Medicine , National Taiwan University, 1984
Areas of Specialization	Clinical biochemistry
Email	yungliang@mail.yust.edu.tw
Office	H312
Phone	03-5381183 ext. 8331

Name	Chih-Ping Hsu
Title	Associate Professor and Chair of Creative Center
Education Background	Ph.D., Department of Life Science, National Tsing-Hua University, Taiwan (R.O.C.)
Areas of Specialization	Cancer Cell Biology, Natural Products, Technology Invention
Email	hsucp@mail.ypu.edu.tw
Office	H302
Phone	+886-3-5381183 ext. 8166

Name	Chih-Hung Hung
Title	Associate Professor
Education Background	Ph.D., Institute of Biochemistry, National Taiwan University, Taiwan (R.O.C.)
Areas of Specialization	Protein chemistry, Biotechnology, Molecular biology
Email	chihhung@mail.ypu.edu.tw
Office	H304
Phone	+886-3-5381183 ext. 8169

Faculty and Staff

Name	Chien-Min Kung
Title	Associate Professor
Education Background	M.D., Department of Clinical Laboratory Sciences and Medical Biotechnology, National Taiwan University, Taiwan (R.O.C.)
Areas of Specialization	Clinical Virology, Clinical Serology and Immunology, Medical Technology.
Email	jameskung@mail.ypu.edu.tw
Office	H204
Phone	+886-3-5381183 ext. 8186

Name	Ying-Hsi Lin
Title	Assistant Professor
Education Background	Ph.D., Department of Plant Pathology and Entomology, National Taiwan University, Taiwan (R.O.C.)
Areas of Specialization	Biotechnology, Molecular biology, Vector control, Insecticide resistance
Email	yhlin@mail.ypu.edu.tw ; d86624105@ntu.edu.tw
Office	H309
Phone	+886-3-5381183 ext. 8165

Name	Jiun-Han Chen
Title	Assistant Professor
Education Background	Ph.D., in Life Science, National Defense Medical Center, Taiwan (R.O.C.)
Areas of Specialization	Infectious disease, Cardiovascular diseases
Email	jhchen@mail.ypu.edu.tw
Office	H202
Phone	+886-3-5381183 ext. 8181

Faculty and Staff

Name	Ting-Yu Kao
Title	Associate Professor
Education Background	Ph.D., Institute of Physiology, National Yang-Ming University, Taiwan (R.O.C.)
Areas of Specialization	Anatomy, Physiology, Pathology
Email	tingyu@mail.ypu.edu.tw
Office	H311
Phone	+886-3-5381183 ext. 8171

Name	Wein-Shiang Tsai
Title	Instructor
Education Background	M.S., Institute of Biology, Fu Jen Catholic University, Taiwan (R.O.C.)
Areas of Specialization	Biology, Cell biology
Email	twspal@gmail.com
Office	H308
Phone	+886-3-5381183 ext. 8163

Research

The research interests of faculty have been focused on basic research including gene cloning and transformation, protein engineering, anti-oxidant studies and cancer research, as well as clinical applications such as development of drug detecting and molecular diagnosis kits and production of vaccine.