Research projects

Research in the M.Sc. Programme is aimed for the finding and innovation of new knowledge and technology for the application in medical technology and other related fields. These researches included

- 1. Engineering of Biological and Chemical Polymers for Applications
- 2. Data Mining and Biomedical Informatics
- 3. Detection Tools and Analytical Process Development
- 4. Bioactive Compounds for Medical Applications
- 5. Infectious Diseases and Antibiotic Resistant Microorganisms
- 6. Molecular Genetics of Human Diseases and Cancer
- Stem Cell Research in Life Science 7.
- 8. Biosensor for Diagnostic and Medical Applications
- 9. Medical Imaging and Pattern Recognition Analysis
- 10. Area-based and Integrative Research for Well-Being and Sustainable Development of the Society
- 11. Molecular Informatics for Rational Design and Simulation of Biological and Chemical Entities
- 12. Food Safety and Environmental Pollution
- 13. Viruses and Neurodegeneration Research
- 14. Medical Laboratory Quality Management
- 15. Clinical and Educational Research
- 16. Aging and Non-Communicable Disease
- 17. Integrative Holistic Health and Wellness Research
- 18. Other related Research Area

Curricula

The curriculum structures are specified as Plan A(1) and Plan A(2). Plan A(1) is the curriculum for M.Sc. by research work only, whereas both course work and research work are required for Plan A(2).

Program Plan	Required Course (credit)	Elective Course (credit)	Thesis (credit)	Total (credit)
Plan A(1) (Research only)	-	-	36	36
Plan A(2) (Course work & Research)	12	≥ 12	12	36

Courses

		Required Courses	Credits (lecture-lab-self study)
SCID	500	Cell and Molecular Biology	3(3-0-6)
MTID	601	Clinical Laboratory Administration	2(1-2-3)
MTID	602	Seminar	2(2-0-4)
MTID	605	Research Methodology	3(2-2-5)
MTID	618	Clinical Laboratory Science I	2(2-0-4)



Elective Courses

Credits (lecture-lab-self study)

MTID 5	506	Design and Construction of Basic Clinical Laboratory Instrument	3(1-4-4)
MTID 6	606	Current Technology in Molecular Biology	2(2-0-4)
MTID 6	607	Internship in Medical Technology Laboratory	4(0-16-4)
MTID 6	808	Current Diagnostic Technology and Future Trends	2(2-0-4)
MTID 6	616	Modern Entrepreneurship	2(1-2-3)
MTID 6	617	Bioinformatics	2(1-2-3)
мтсн е	601	Advanced Clinical Chemistry	4(3-2-7)
мтсн е	607	Advanced Clinical Toxicology	2(1-2-3)
мтсн е	609	Clinical Nutrition	1(1-0-2)
мтсн е	610	Experimental Methods and Instruments in Clinical Chemistry	2(1-2-3)
мтсн е	611	Medical Molecular Genetics	2(2-0-4)
мтсн е	612	Selected Topics in Clinical Chemistry	1(1-0-2)
мтсн е	613	Biosensors in Clinical Chemistry	1(1-0-2)
MTMS 5	502	Current Topics in Hematology	2(2-0-4)
MTMS 6	605	Blood Bank Techniques and Immunohematology	2(1-2-3)
MTMS 6	609	Advanced Clinical Microscopy	4(3-2-7)
MTMI 6	601	Advanced Clinical Microbiology	3(3-0-6)
МТМІ 6	604	Current Methods in Clinical Immunology	2(1-2-3)
мтмі б	606	Current Methods in Clinical Microbiology	2(1-2-3)
MTMI 6	608	Enzymes and Microbial Products	1(1-0-2)
мтмі б	610	Selected Topics in Molecular Microbiology	1(1-0-2)
мтмі б	611	Cells and Tissue Culture Techniques	1(0-2-1)
MTMI 6	615	Emerging and Re-emerging infectious disease	2(2-0-4)
мтсм е	601	Population Health and Community Medical Technology	2(1-2-3)
мтсм е	602	Health Informatics	2(1-2-3)
мтсм е	503	Selected Topics in Medical Parasitology and Medical Entomology 2(2-0-4)	

Other elective graduate courses from other faculties/institutions can also be selected by the approval of academic advisor.

Thesis

		Credits (lecture-lab-self study)
MTID 69	98 Thesis (Plan A2)	12(0-48-0)
MTID 79	8 Thesis (Plan A1)	36(0-144-0)

Language

English is used as the medium in all activities.

Tuition Fees for International Programme Students

Items	Cost (Thai Baht)
1. Education Services Fee	
1.1 First semester	6,300 /semester
1.2 Second semester	5,600 /semester
2. Health Insurance	3,500 /year
3. Graduate Tuition fee	9,000 /credit
4. Thesis Registration Fee	
Master's Thesis Registration Fee	54,000 /thesis
(Plan A1: 36 credits)	
Master's Thesis Registration Fee	18.000 /thesis
(Plan A2: 12 credits)	,
5. Research Supplies Fee	150,000

Admission Requirements

Plan A1 (M.Sc. by research only) A candidate must

- Hold a Bachelor's degree in Medical Technology, Health Science or other related discipline with a minimum GPA 3.25
- 2. Have a TOEFL ITP score of at least 480, MU GRAD TEST score of 60, TOEFL Internet-based score of 54 or IELTS score of 5.0
- 3. Have at least 1 year working experience in related field
- 4. Have published an article in the field of Medical Technology or other related field
- 5. Exemption from the above conditions may be granted by the Programme Committee under exceptional circumstances

Plan A2 (M.Sc. by research and course work) A candidate must

- 1. Hold a Bachelor's degree in Medical Technology, Health Science or other related discipline with a minimum GPA 2.50 or
- Be a final year student in Medical Technology, Health Science or other related discipline with a minimum GPA 2.50
- Have a TOEFL ITP score of at least 480, MU GRAD TEST score of 60, TOEFL Internet-based score of 54 or IELTS score of 5.0
- 4. Exemption from the above conditions may be granted by the Program Committee under exceptional circumstances

For more details please contact

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THE FACULTY OF MEDICAL TECHNOLOGY MAHIDOL UNIVERSITY

Master of Science Programme in Medical Technology (International Programme)

The Master of Science in Medical Technology programme is designed to produce highly competent scholars and professionals capable of upgrading the academic development and new technology in the field medical technology, general and medical sciences in order to find solutions and solve the public health problems of the country and to improve quality of life of the people. In addition, graduates will promote study and research work in order to develop better clinical laboratory services, enhance the understanding of disease, and improve medical diagnosis and treatment of disease.

The programme emphasizes fundamental knowledge, advanced technology, knowledge integration together with cutting-edge research designed to equip graduates with strong academic and research competencies. In addition, the faculty has a broad spectrum of expertise and provides training opportunities in a wide range of disciplines. These include hematology, clinical microbiology, virology, immunology, clinical biochemistry, host-parasite interactions, and free radicals in biology, regulation of gene expression, molecular biology, medical laboratory equipment and imaging technology.

Graduates from this programme should be able to

- 1. follow advancement of academic and technology, issues and/or trends related to the profession and apply advanced laboratory knowledge to the evolving practice of medical laboratory science
- creatively develop systemic and critical thinking, integrate and apply knowledge to solve complicated problems in order to effectively investigate and/or troubleshoot realistic scenarios
- 3. conduct all involving research works to solve problem, improve work quality, achieve better work performance, and/or develop new knowledge and innovation
- 4. apply effective information technology skill and effective skill in dissemination and communication to exchange and sharing their academic/research findings or evidences using English to public in both national and international level
- demonstrate morals and ethics in academic, research, and profession and contribute to social responsibility
- 6. attain leadership and can work effectively as a team member
- 7. demonstrate idea and principle of entrepreneurship including innovation management