Master of Science

Medical Biochemistry and Molecular Biology (International Program)

(Updated version, 2012)

1. Degree Program : Master of Science Program in Medical Biochemistry and Molecular Biology (International program)

2. Degree Offered : Master of Science (Medical Biochemistry and Molecular Biology)
: M.Sc. (Medical Biochemistry and Molecular Biology)

3. Responsible Department/Faculty

Department of Biochemistry, Faculty of Medicine, Khon Kaen University

Graduate School, Khon Kaen University

4. Objectives

The international program for M.Sc in Medical Biochemistry and Molecular Biology (Edited program, 2012) aims to produce MSc graduates who have the following features.

(1) An understanding of professional standards, principles and theories in Medical Biochemistry and Molecular Biology and related fields, to conduct research for solving complicated problems and creating new knowledge and transferring to the development of their academic or professional according to professional standards.

(2) The ability to use English to produce and publish scholarly work or knowledge in international level.

(3) The ability to use the science or mathematics and statistics or the research methodology in critical thinking or problem solving in operational or technical problems, complex and developing new knowledge.

(4) The ability to use computers and information technology in the pursuit of self and to innovate the academic work.

(5) Discipline, integrity and responsibility to themselves, their families, profession, society and the nation according to the research ethics, love and pride in region, institutions, and the nation.

(6) Leadership, understanding in social and cultural diversities, capability to work with others in both national and international level.

5. Curriculum

5.1 Total Credit Hours

Total credit hours for Type A 1 program not less than 36 credits

Total credit hours for Type A 2 program not less than 36 credits

5.2 Program structure (●noncredit course)

	Number of credits	
	Type A1	Type A2
1) Compulsory courses	2●	13
2) Elective courses	-	5
3) Thesis	36	18
Total	36	36

6. Courses

6.1 Compulsory courses

Type A 1 Program: the research-based course aims to emphasize high-quality Thesis for a total credit of not less than 36. No course work is required, but other subjects may be taken (though not for credit) with permission from the Thesis Advisory Committee.

363 891	Seminar in Medical Biochemistry and Molecular Biology I	noncredit
363 892	Seminar in Medical Biochemistry and Molecular Biology II	noncredit

Type A 2 Program: students must register at least 13 credits of the courses listed below or some additional course which will be notified later with the permission of the Program Executive Committee.

356 712 Cells and Molecular Biology	3(3-0-6)
356 713 Laboratory Techniques in Medical Sciences	2(0-6-3)
356 714 Medical Sciences Research Methodology	3(2-3-6)
363 702 Medical Biochemistry and Molecular Biology	3(3-0-6)
363 891 Seminar in Medical Biochemistry and Molecular Biology I	1(1-0-2)
363 892 Seminar in Medical Biochemistry and Molecular Biology II	1(1-0-2)

6.2 Elective courses:

Type A 1 Program: None

Type A 2 Program: students must register at least 5 credits of the courses listed below or some additional course which will be notified later with the permission of the Program Executive Committee.

362 712 Infection and Immunity I	2(2-0-4)
362 732 Bioinformatics	2(1-3-4)
363 701 Biochemistry for Graduate Student	3(3-0-6)
363 703 Experiments in Medical Biochemistry and Molecular Biology	2(0-6-3)
363 711 Medical Nutrition	2(2-0-4)
363 713 Advanced Molecular Biology of Genes	2(2-0-4)
363 715 Biochemistry and Molecular Biology of Cancer	2(2-0-4)
363 716 Medical Biotechnology	2(2-0-4)

363 718 Principles and Techniques in Molecular Biology 1(1-0-2)

363 719 Advanced Computational Molecular Biology 1(0-3-2)

363 895 Selected Topics in Medical Biochemistry and Molecular Biology II 2 1(1-0-2)

363 896 Selected Topics in Medical Biochemistry and Molecular Biology I 1(1-0-2)

6.3 Dissertation

Type A 1 Program:

363 898 Thesis 36 credits

Type A 2 Program:

363 899 Thesis 18 credits

7. Class Schedule (*new course ●non-credit course)

Course code	Year 1, First semester Course name	Credit Type A1	Type A2
356 712	Cells and Molecular Biology	-	3(3-0-6)
356 713	Laboratory Techniques in Medical Sciences	-	2(0-6-3)
363 891	Seminar in Medical Biochemistry and Molecular Biology I	1(1-0-2) ●	1(1-0-2) ●
xxx xxx	Electives	-	4
363 898	Thesis	9	-
363 899	Thesis	-	-
	Total credits registered	9	9
	Sum of the credits	9	9

Course code	Year 1, Second semester Course name	Credit Type A1	Type A2
356 714	Medical Science Research Methodology	-	3(2-3-6)
363 702	Medical Biochemistry and Molecular Biology	-	3(3-0-6)
363 892	Seminar in Medical Biochemistry and Molecular Biology II	1(1-0-2) ●	1(1-0-2) ●
xxx xxx	Electives	-	1
363 898	Thesis	9	-
363 899	Thesis	-	2
	Total credits registered	9	9
	Sum of the credits	18	18

Course code	Year 2, First semester	Credit	
	Course name	Type A2	Type A2
363 891	Seminar in Medical Biochemistry and Molecular Biology I	1(1-0-2) ●	1(1-0-2)
363 898	Thesis	9	-
363 899	Thesis	-	9
	Total credits registered	9	10
	Sum of the credits	27	28

Course code	Year 2, Second semester	Credit	
	Course name	Type A2	Type A2
363 892	Seminar in Medical Biochemistry and Molecular Biology II	1(1-0-2) ●	1(1-0-2)
363 898	Thesis	9	-
363 899	Thesis	-	7
	Total credits registered	9	8
	Sum of the credits	36	36