



FACULTY OF ALLIED HEALTH SCIENCES



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The Faculty of Allied Health Sciences, Naresuan University was established in 1996 as one of the academic institutes for the preparation of allied health professionals in Thailand. Over the ensuing 18 years, the faculty has focused on providing strong professional programs, including Medical Technology, Cardio-Thoracic Technology, Radiological Technology, and Physical Therapy. Recently, in 2012, the Optometry program was established as one of the leading institutes to train needed optometrists.

In addition to the professional programs, the faculty also provides postgraduate programs extending the advanced knowledge in professions, such as Master of Science degrees in Medical Technology, Physical Therapy, Cardio-Thoracic Technology, and Medical Physics. Moreover, we also provide master and doctorate degree programs in Biomedical Sciences, a multidisciplinary approach, emphasizing fundamental knowledge or the core principles of diseases. The variety of research topics in biomedical sciences focusing on professional competency building and incubating quality researchers as well as producing high quality research serves to explain the pathological disorders, pioneering new therapeutic approaches and agents.

We are dedicated to finding ways of bringing new perspectives to established ideas, without compromising on quality and reaching up to become a leader in Allied Health Sciences.

Master of Science Program in Biomedical Sciences

Research Focus

- Infectious Diseases
- Molecular Immunology
- Cellular and Molecular Hematology
- Cell and Molecular Biology of Cancer
- Radiobiology
- Regenerative Medicine (Stem Cell Research and Tissue Engineering)
- Biomedical Engineering and Medical Innovation
- Biotechnology
- Cardiovascular Sciences

Structure of the Program

1. Credit Requirements*

Requirements	Option 1.1	Option 1.2
Coursework	-	24
- Core Course	-	15
- Electives	-	9
Required Non-credit Course	3	3
Thesis	36	12
Total	36	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Cell Biology and Cell Science	-	-	655501	3
Research Methodology in Health Sciences	-	-	655503	3
Biostatistics in Biomedical Sciences	-	-	655504	3
Research Techniques in Cell Biology	-	-	655514	3
Research Techniques in Molecular Biology	-	-	655515	3
Total	-	-	5	15

3. Electives

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Epidemiology	-	-	655523	2
Determination of Antimicrobial Resistance	-	-	655524	2
Medical Bioinformatics	-	-	655525	3
Advanced Immunological Techniques	-	-	655526	2
Review of Current Topics in Biomedical Sciences	-	-	655529	1
Biomedical Sciences Laboratory Technique	-	-	655530	2
Advance Biomedical Sciences Laboratory	-	-	655531	2
Research Techniques in Cardiovascular System	-	-	655532	3
Cellular and Molecular Physiology of Cardiovascular System	-	-	655533	3
Advanced Radiation Biology	-	-	655534	3
Molecular and Cellular Biology of Cancer	-	-	655535	3
Research Techniques in Radiation Biology	-	-	655536	2
Radiation Dosimetry	-	-	655537	2
Advanced Radiation Protection	-	-	655538	2
Digital Image Processing	-	-	655539	2
Application of Image Processing Techniques	-	-	655540	2
Advanced Research Techniques in Musculoskeletal System	-	-	655541	3
Advanced Movement Sciences of Upper Extremities	-	-	655542	3
Advanced Movement Sciences of Lower Extremities	-	-	655543	3
Total	-	-	19	≥9

4. Required Non-credit Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Ethics in Biomedical Science Research	655502	1	655502	1
Seminar 1	655570	1	655570	1
Seminar 2	655571	1	655571	1
Total	3	3	3	3

5. Thesis Credit Requirements

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Thesis 1, Option 1.1	655590	9	-	-
Thesis 2, Option 1.1	655591	9	-	-
Thesis 3, Option 1.1	655592	9	-	-
Thesis 4, Option 1.1	655593	9	-	-
Thesis 1, Option 1.2	-	-	655594	3
Thesis 2, Option 1.2	-	-	655595	6
Thesis 3, Option 1.2	-	-	655596	3
Total	3	36	3	12

Master of Science Program in Cardio-Thoracic Technology

Research Focus

- Echocardiography in Congenital Heart Diseases
- Advanced Application for Quantitative Echocardiogram
- Development of Non-invasive Devices for Early Detection of Cardiovascular Diseases

Structure of the Program

1. Credit Requirements*

Requirements	Option 1.2
Coursework	24
- Core Courses	21
- Electives	3
Required Non-credit Courses	4
Thesis	12
Total	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.2	
	Course No.	Cr.
Congenital Heart Diseases and Acquired Heart Diseases	652511	2
Advanced Echocardiography in Children	652512	3
Advanced Echocardiography in Adults	652513	3
Clinical Echocardiography 1	652514	3
Clinical Echocardiography 2	652515	5
Clinical Echocardiography 3	652516	5
Total	6	21

3. Electives

Requirements	Option 1.2	
	Course No.	Cr.
Advanced Non-invasive Cardiac Examination	652521	3
Research Techniques in Cardiovascular System	655532	3
Cellular and Molecular Physiology of Cardiovascular System	655533	3
Total	3	≥3

4. Required Non-credit Courses

Requirements	Option 1.2	
	Course No.	Cr.
Research Methodology in Health Science	652571	3
Seminar	652572	1
Total	2	4

5. Thesis Credit Requirements

Requirements	Option 1.2	
	Course No.	Cr.
Thesis 1, Option 1.2	652591	3
Thesis 2, Option 1.2	652592	3
Thesis 3, Option 1.2	652593	6
Total	3	12

Master of Science Program in Medical Physics

Research Focus

- Tumor Delineation for Radiation Oncology
- Dosimetry in Radiation Therapy
- Treatment Planning Algorithm
- Radiobiology Relevant to Cancer Therapy
- Medical Digital Image Processing
- Monte Carlo Simulation for Radiology

Structure of the Program

1. Credit Requirements*

Requirements	Option 1.2
Coursework	24
- Core Courses	12
- Electives	12
Required Non-credit Courses	7
Thesis	12
Total	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.2	
	Course No.	Cr.
Radiation Physics and Dosimetry	658511	3
Physics and Instrumentations in Radiology	658512	3
Radiation Biology and Radiation Protection	658513	3
Digital Image Processing for Medical Physicists	658514	3
Total	4	12

3. Electives

Requirements	Option 1.2	
	Course No.	Cr.
Radiation Dosimetry and Quality Assurance of Radiation Therapy Modalities	658520	3
Clinical Application in Radiation Therapy	658521	2
Application of Radiation Biology in Clinical Oncology	658522	2
Practical Work in Radiation Therapy for Medical Physicists	658523	2
Radiation Dosimetry and Quality Assurance of Diagnostic Radiology Modalities	658524	3
Medical Imaging Informatics	658525	2
Application of Radiation Protection in Diagnostic Radiology	658526	2
Practical Work in Diagnostic Radiology for Medical Physicists	658527	2
Radiation Dosimetry and Quality Assurance of Nuclear Medicine Modalities	658528	3
Clinical Application in Nuclear Medicine	658529	2
Application of Radiation Protection in Nuclear Medicine	658530	2
Practical Work in Nuclear Medicine for Medical Physicists	658531	2
Total	12	≥12

4. Required Non-credit Course

Requirements	Option 1.2	
	Course No.	Cr.
Research Methodology in Health Science	658510	3
Anatomy and Physiology for Medical Physicists	658515	2
Seminar 1	658570	1
Seminar 2	658571	1
Total	4	7

5. Thesis Credit Requirements

Requirements	Option 1.2	
	Course No.	Cr.
Thesis 1, Option 1.2	658590	3
Thesis 2, Option 1.2	658591	3
Thesis 3, Option 1.2	658592	6
Total	3	12

Master of Science Program in Medical Technology

Research Focus

- Laboratory Medicine, including Clinical Chemistry, Hematology, Immunology, Immunohematology, and Microbiology
- Molecular Technique for Diagnosis
- Routine to Research for Improvement of Analytical Performance of Testing and Patient Care
- Quality Control, Quality Assessment, and Total Quality Management
- Point of Care Testing

Structure of the Program

1. Credit Requirements*

Requirements	Option 1.1	Option 1.2
Coursework	-	24
- Core Courses	-	12
- Electives	-	12
Required Non-credit Course	3	3
Thesis	36	12
Total	36	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Cell Biology and Cell Science	-	-	655501	3
Biostatistics in Biomedical Sciences	-	-	655504	3
Advanced Knowledge in Medical Technology	-	-	651511	3

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Advanced Medical Technology Laboratory Administration	-	-	651512	3
Total	-	-	4	12

3. Electives

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Biomarkers for Laboratory Diagnosis	-	-	651521	2
Laboratory Interpretation and Clinical Correlation	-	-	651522	2
Advanced Clinical Chemistry	-	-	651523	2
Advanced Hematology and Clinical Microscopy	-	-	651524	2
Advanced Clinical Microbiology	-	-	651525	2
Advanced Clinical Immunology and Immunohematology	-	-	651526	2
Epidemiology	-	-	655523	2
Determination of Antimicrobial Resistance	-	-	655524	2
Medical Bioinformatics	-	-	655525	3
Advanced Immunological Techniques	-	-	655526	2
Total	-	-	10	≥12

4. Required Non-credit Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Research Methodology and Ethics in Medical Technology Research	651501	1	651501	1
Seminar 1	651591	1	651591	1
Seminar 2	651592	1	651592	1
Total	3	3	3	3

5. Thesis Credit Requirements

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Thesis 1	651593	9	651597	6
Thesis 2	651594	9	651598	6
Thesis 3	651595	9	-	-
Thesis 4	651596	9	-	-
Total	4	36	2	12

Master of Science Program in Physical Therapy

Research Focus

- Health Promotion and Management
- Clinical Physical Therapy
- Community Physical Therapy
- Human Motion Analysis
- Biomechanics of Human Movement
- Exercise and Rehabilitation

Structure of the Program

1. Credit Requirements*

Requirements	Option 1.1	Option 1.2
Coursework	-	24
- Core Courses	-	14
- Electives	-	10
Required Non-credit Courses	5	5
Thesis	36	12
Total	36	36

* Minimum credits required

2. Core Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Biostatistics for Physical Therapy	-	-	654511	2
Health Promotion and Management	-	-	654512	3
Clinical Decision and Differential Diagnosis Screening in Physical Therapy	-	-	654513	3
Evidence-based Physical Therapy Practice	-	-	654514	3
Health Education in Physical Therapy	-	-	654515	3
Total	-	-	5	14

3. Electives

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Advanced Physical Therapy in Musculoskeletal Disorders	-	-	654521	3
Advanced Physical Therapy in Neurological Disorders	-	-	654522	3
Advanced Physical Therapy in Cardiopulmonary Conditions	-	-	654523	3
Advanced Physical Therapy in Pediatrics	-	-	654524	3
Advanced Physical Therapy in Community	-	-	654525	3
Exercise for Health Promotion	-	-	654526	3
Health Technologies in Rehabilitation	-	-	654527	2
Application of Motor Control in Neurological Conditions	-	-	654528	2
Advanced Early Detection in Pediatrics	-	-	654529	2
Problem-based Learning in Childhood Disability	-	-	654530	2
Clinical Pathophysiology and Pharmacology for Physical Therapy	-	-	654531	2
Advanced Clinical Practice in Physical Therapy	-	-	654532	3
Total	-	-	12	≥10

4. Required Non-credit Courses

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Research Methodology in Health Science	654510	3	654510	3
Seminar in Physical Therapy 1	654570	1	654570	1
Seminar in Physical Therapy 2	654571	1	654571	1
Total	3	5	3	5

5. Thesis Credit Requirements

Requirements	Option 1.1		Option 1.2	
	Course No.	Cr.	Course No.	Cr.
Thesis 1	654590	9	654594	3
Thesis 2	654591	9	654595	3
Thesis 3	654592	9	654596	6
Thesis 4	654593	9	-	-
Total	4	36	3	12