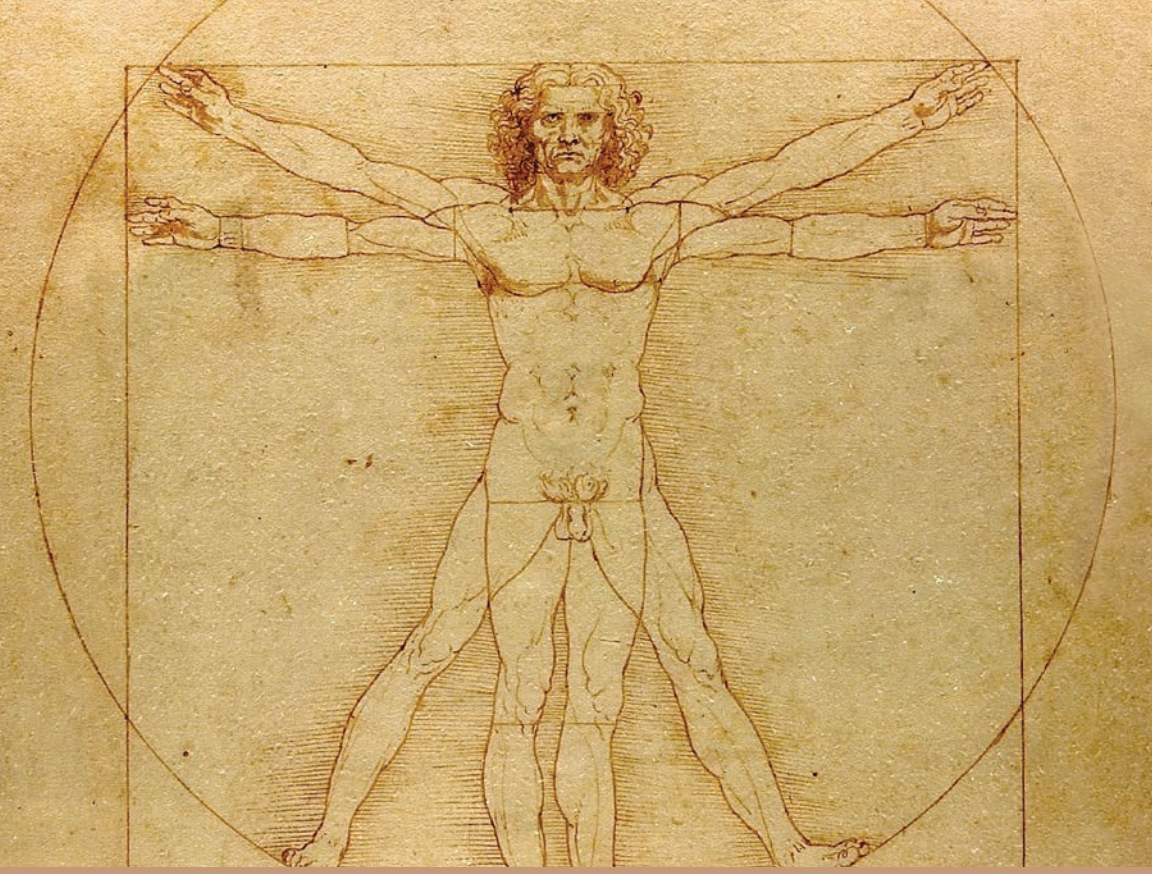
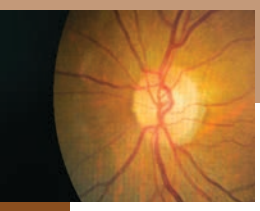
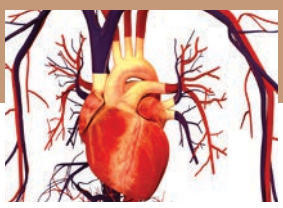
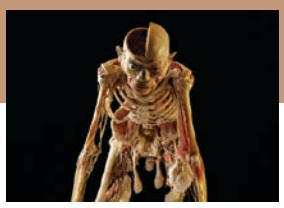








DOCTOR OF PHILOSOPHY IN **ANATOMY**

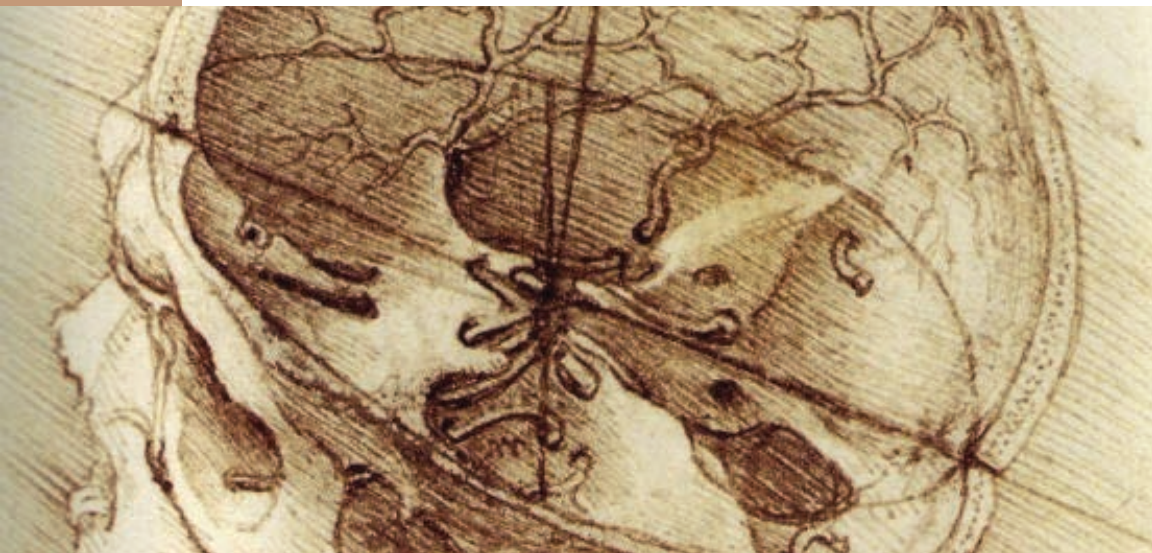
- FACULTY OF MEDICAL SCIENCE

DOCTOR OF PHILOSOPHY IN ANATOMY

Faculty members in the graduate programs of Anatomy work at the forefront of pre-clinic areas through a research-based curriculum not available in the Bangkok municipal area. We are proud of our faculty in receiving the prestigious Royal Golden Jubilee Research Grants, enabling our doctoral advisees to reap the benefits from it as scholarships. The Thailand Research Fund which sets high standards for their grantees vicariously acknowledges the quality of our program.

Doctoral students are encouraged to bring "routine to research" by exploring their daily work cases and developing them into dissertation topics. Students need not take any leave from their work to acquire a Ph.D.

Most of our applicants are medical doctors and other health service professionals, committed to top-up their expertise in the in-depth understanding of molecular cell biology and human structural anatomy. This opportunity provides a strong foundation for careers in cutting-edge research and practice concerning the molecular mechanism of human diseases.



Objectives

The purpose of this program is to:

1. Train well-rounded, knowledgeable experts in anatomy, capable of disseminating the knowledge in the study of anatomy.
2. Nurture students into cutting-edge researchers with up-to-date research abilities.
3. Produce graduates with broad vision and a systematic and analytical train of thoughts.
4. Guide graduates in topping-up existing anatomical discoveries and equipping them to be research project directors.
5. Produce graduates who possess work ethics with social responsibilities.

Admission

In accordance with the Graduate School Rules and Regulations. The program committee reserves the rights to require more qualifications as deemed appropriate.

Medium of Instruction

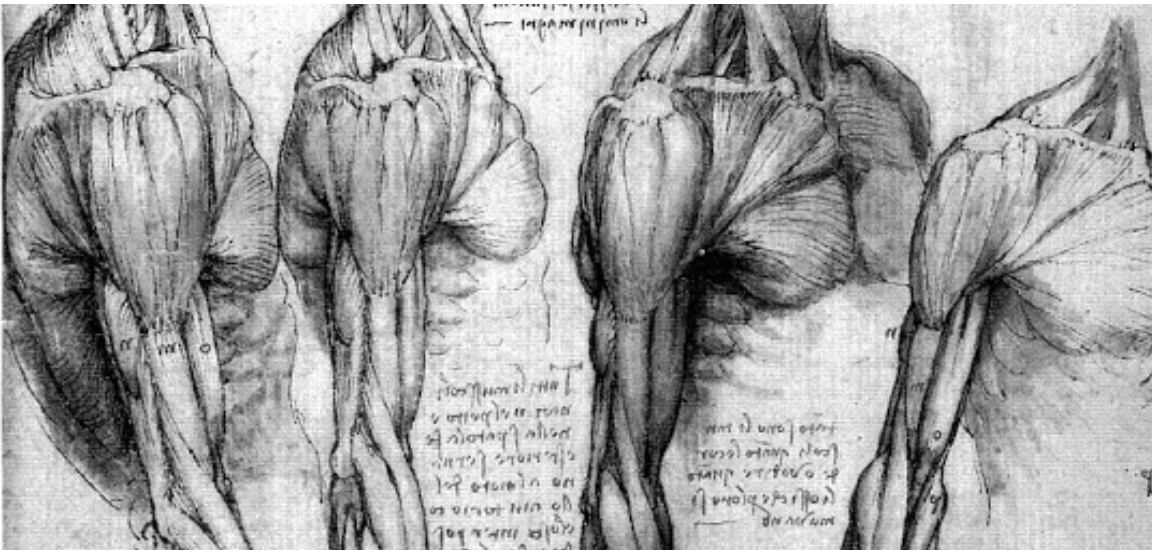
Thai and English

Research Focus

- Reproductive Biology
- Molecular Neurobiology
- Cell and Tissue Biology
  - Cancer
  - Stem Cells
  - Electron Microscopy
- Gross Anatomy
- Alternative Thai Medicine
  - Reproduction

Requirement for Graduation

In accordance with the Graduate School Rules and Regulations and in compliance with the Research Grant's conditions when applicable.



Doctor of Philosophy in **Anatomy**

FACULTY OF MEDICAL SCIENCE

Structure of the Program

1. Credit Requirements. *

Requirements	Option 1.1	Option 1.2	Option 2.1	Option 2.2
Coursework	-	-	12	24
Core Courses	-	-	6	18
Electives	-	-	6	6
Required Non-credit Courses	4	7	4	7
Dissertation	48	72	36	48
Total	**48**	**72**	**48**	**72**

* Minimum credits required.

2. Core Courses

Requirements	Option 1.1		Option 1.2		Option 2.1		Option 2.2	
	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.
Regional Anatomy I	-	-	-	-	-	-	419511	3
Neuroanatomy	-	-	-	-	-	-	419521	3
Microscopic Anatomy	-	-	-	-	-	-	419531	3
Advanced Human Anatomy	-	-	-	-	419611	3	419611	3
Advanced Cell and Tissue Biology	-	-	-	-	419641	3	419641	3
Cell Biology	-	-	-	-	-	-	422513	3
Total	**0**	**0**	**0**	**0**	**2**	**6**	**6**	**18**

3. Electives

Requirements	Option 1.1		Option 1.2		Option 2.1		Option 2.2	
	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.
Reproductive and Developmental Biology	-	-	-	-	419613	3	419613	3
Advanced Microscopic Studies for Cells and Tissues	-	-	-	-	419614	3	419614	3
Cytology of Immune System	-	-	-	-	419615	3	419615	3
Functional Human Anatomy	-	-	-	-	419616	3	419616	3
Research topics in Anatomy	-	-	-	-	419617	3	419617	3
Molecular Neurobiology	-	-	-	-	419621	3	419621	3
Two Dimensional and Three Dimensional Studies of Body Structures	-	-	-	-	419631	3	419631	3
Total	**0**	**0**	**0**	**0**	**7**	**≥6**	**7**	**≥6**

4. Required Non-credit Courses.

Requirements	Option 1.1		Option 1.2		Option 2.1		Option 2.2	
	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.
Seminar 1	419696	1	419696	1	419696	1	419696	1
Seminar 2	419697	1	419697	1	419697	1	419697	1
Seminar 3	419698	1	419698	1	419698	1	419698	1
Seminar 4	419699	1	419699	1	419699	1	419699	1
Research Methodology in Health Sciences	-	-	422510	3	-	-	422510	3
Total	**4**	**4**	**5**	**7**	**4**	**4**	**5**	**7**

5. Dissertation Credit Requirements.

Requirements	Option 1.1		Option 1.2		Option 2.1		Option 2.2	
	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.	Course No.	Cr.
Dissertation 1 Option 1.1	419651	8	-	-	-	-	-	-
Dissertation 2 Option 1.1	419652	8	-	-	-	-	-	-
Dissertation 3 Option 1.1	419653	8	-	-	-	-	-	-
Dissertation 4 Option 1.1	419654	8	-	-	-	-	-	-
Dissertation 5 Option 1.1	419655	8	-	-	-	-	-	-
Dissertation 6 Option 1.1	419656	8	-	-	-	-	-	-
Dissertation 1 Option 1.2	-	-	419661	9	-	-	-	-
Dissertation 2 Option 1.2	-	-	419662	9	-	-	-	-
Dissertation 3 Option 1.2	-	-	419663	9	-	-	-	-
Dissertation 4 Option 1.2	-	-	419664	9	-	-	-	-
Dissertation 5 Option 1.2	-	-	419665	9	-	-	-	-
Dissertation 6 Option 1.2	-	-	419666	9	-	-	-	-
Dissertation 7 Option 1.2	-	-	419667	9	-	-	-	-
Dissertation 8 Option 1.2	-	-	419668	9	-	-	-	-
Dissertation 1 Option 2.1	-	-	-	-	419671	9	-	-
Dissertation 2 Option 2.1	-	-	-	-	419672	9	-	-
Dissertation 3 Option 2.1	-	-	-	-	419673	9	-	-
Dissertation 4 Option 2.1	-	-	-	-	419674	9	-	-
Dissertation 1 Option 2.2	-	-	-	-	-	-	419681	8
Dissertation 2 Option 2.2	-	-	-	-	-	-	419682	8
Dissertation 3 Option 2.2	-	-	-	-	-	-	419683	8
Dissertation 4 Option 2.2	-	-	-	-	-	-	419684	8
Dissertation 5 Option 2.2	-	-	-	-	-	-	419685	8
Dissertation 6 Option 2.2	-	-	-	-	-	-	419686	8
Total	**6**	**48**	**8**	**72**	**6**	**36**	**6**	**48**

Course Descriptions

419511 Regional Anatomy I 3(2-3-5)

Fundamentals of gross anatomy of the human body, such as muscles, bones, and joints including blood vessels, nerve supplies, and lymphatic drainage in the regions of the back, upper extremities, lower extremities, thoracic wall, and thoracic visceral organs.

419696 Seminar I 1(0-2-1)

Seminar with emphasis on encouraging students to learn how to search, read, and criticize articles and published papers, and practice oral presentations in the seminar on selected and current topics in medical science.

419697 Seminar II 1(0-2-1)

Seminar on selected and recent trends in biomedical science.

419698 Seminar III 1(0-2-1)

Extensive seminar on selected and current trends in biomedical science.

419699 Seminar IV 1(0-2-1)

Seminar on advanced research in biomedical science.

419611 Advanced Human Anatomy 3(3-0-6)

Inquiry into the essential concepts in anatomy and structures and functions of various organ systems in the body including investigating for related current research.

419613 Reproductive and Developmental Biology 3(3-0-6)

Normal and abnormal processes, regulatory mechanisms of human reproduction, development of stem cell biology, and molecular approaches in reproductive and developmental biology.

419614 Advanced Microscopic Studies for Cells and Tissues 3(3-0-6)

Advanced techniques for the study of cells and tissues with emphasis on various types of microscopes, their applications for research and pathological diagnosis, and microscopic applications for molecular approaches in reproductive and developmental biology.

419615 Cytology of Immune System 3(3-0-6)

Fundamentals of immunology, anatomy and cytology of the immune system and immunological responses, immunological disorders, and analytical techniques used in the laboratory including its applications for clinics and research.

419616 Functional Human Anatomy 3(3-0-6)

Studies of the regional functional anatomy of the human body related to human characteristics of postures and movement with emphasis on normal activities and dysfunctions.

419617 Research Topics in Anatomy 3(3-0-6)

Review of selected, current, and advanced research in anatomical sciences.

419621 Molecular Neurobiology 3(3-0-6)

Genetics and molecular biology of the nervous system with the emphasis on the functions of the nervous system in nerve impulse transmission, neurotransmitters, and receptors.

419631 Two and Three Dimensional Studies of Body Structures 3(3-0-6)

Morphometric and stereological methods for two dimensional studies, dimensional studies quantitatively and qualitatively of the body structures of the cells in tissues and organs.

419641 Advanced Cell and Tissue Biology 3(3-0-6)

Contemporary views of structural biology of subcellular organelles and cells constituting various mammalian tissues with emphasis on selected topics on advancement of cell and tissue biology.

419651 Dissertation I, Option 1.1 8Credits

Identifying the research question and writing a research proposal describing the significance and purposes of the study and research methodologies in brief including an extensive review of the literature.

419652 Dissertation II, Option 1.1 8Credits

Nomination of the dissertation supervisory committee to the Graduate School and submission of the dissertation title to advisors.

419653 Dissertation III, Option 1.1 8Credits

Extensive research, report on the progress of research to the dissertation advisors, and passing the qualifying examination.

419654 Dissertation IV, Option 1.1 8Credits

Extensive research, report on the progress of research to the dissertation advisors, and passing the dissertation proposal defense examination.

419655 Dissertation V, Option 1.1 8Credits

Extensive research, report on progress of the research to the dissertation advisors, and preparation of a scientific manuscript for publication under a standard peer-review process.

419656 Dissertation VI, Option 1.1 8Credits

Summary of all research data, passing the dissertation defense, compliance with dissertation corrections if any, and submission of the complete dissertation to the Graduate School.

419661 Dissertation I, Option 1.2 9 Credits

Identifying the research question and writing a research proposal describing the significance and purposes of the study and research methodologies in brief including an extensive review of literature.

419662 Dissertation II, Option 1.2 9 Credits

Nomination of the dissertation supervisory committee to the Graduate School and submission of the dissertation title to advisors.

419663 Dissertation III, Option 1.2 9 Credits

Extensive research and passing the qualifying examination.

419664 Dissertation IV, Option 1.2 9 Credits

Extensive research, report on the progress of research to the dissertation advisors, and passing the dissertation proposal defense examination.

419665 Dissertation V, Option 1.2 9 Credits

Extensive research and report on progress of research to the dissertation advisors.

419666 Dissertation VI, Option 1.2 9 Credits

Extensive research and report on progress of research to the dissertation advisors.

419667 Dissertation VII, Option 1.2 9 Credits

Extensive research and preparation of a scientific manuscript for publication under a standard peer-review process.

419668 Dissertation VIII, Option 1.2 9 Credits

Summary of all research data, passing the dissertation defense, compliance with dissertation corrections if any, and submission of the complete dissertation to the Graduate School.

419671 Dissertation I, Option 2.1 9 Credits

Nomination of the dissertation supervisory committee to the Graduate School and submission of the dissertation title to advisors.

419672 Dissertation II, Option 2.1 9 Credits

Extensive research, report on progress of the research to the dissertation advisors, and passing the qualifying examination.

419673 Dissertation III, Option 2.1 9 Credits

Extensive research, report on progress of the research to the dissertation advisors, passing the dissertation proposal defense examination, and prepare a scientific manuscript for publication under a standard peer-review process.

419674 Dissertation IV, Option 2.1 9 Credits

Summary of all research data, passing the dissertation defense, compliance with dissertation corrections if any, and submission of the complete dissertation to the Graduate School.

419681 Dissertation I, Option 2.2 8 Credits

Identifying the research question and writing a research proposal describing the significance and purposes of the study and research methodologies in brief including an extensive review of literature.

419682 Dissertation II, Option 2.2 8 Credits

Nomination of the dissertation supervisory committee to the Graduate School and submission of the dissertation title to advisors.

419683 Dissertation III, Option 2.2 8 Credits

Extensive research and passing the qualifying examination.

419684 Dissertation IV, Option 2.2 8 Credits

Extensive research, report progress of the research to the dissertation advisors, and take the dissertation proposal defense examination.

419685 Dissertation V, Option 2.2 8 Credits

Extensive research and preparation of a scientific manuscript for publication under a standard peer-review process.

419686 Dissertation VI, Option 2.2 8 Credits

Summary of all research data, passing the dissertation defense, compliance with dissertation corrections if any, and submission the complete dissertation to the Graduate School.

422510 Research Methodology in Health Sciences 3(3-0-6)

Definitions, characteristics and goals of research, research methodologies, types of research, determination of research questions, variables and hypothesis, data collection, data analysis, research proposal and research report writing, research evaluation, research applications, ethics in research, and advanced research techniques in health sciences.

422513 Cell Biology 3(3-0-6)

Introduction to cells, cell organization and functions, bio membranes, cellular amygdala, genetic information and mechanisms, protein synthesis, degradation, transportation, cytoskeleton, cell signaling, cell cycles and programmed cells death, cell communications, stem cells, and selected topics in cell biology.