

Course Detail

Master of Sciences in Public Health Sciences

Course Title:	Master of Sciences in Public Health Sciences
Master Degree:	Master of Sciences (M.Sc. in Public Health Sciences)
Academic Institution:	College of Public Health Sciences, Chulalongkorn University
Duration:	August 2021 – July 2023 (2Years)

Background and Rational:

Health issues are fundamental to quality of life. That links to other matters of the people and society This world society and the future is a knowledge-based society. (Knowledge-based Society) Society is therefore very demanding of knowledge. To come and deal with the problem Social needs It is an incentive for senior academics in health to drive Always keen to invent new knowledge The Public Health Science Program aims to produce international scholars with the potential to independently acquire knowledge through scientific research methods. To develop the body of knowledge in the field of public health science, Especially in the field of herbal science and biomolecular technology in key national and regional issues. The curriculum is of great interest and in high demand by relevant scholars nationally, regionally and internationally By offering specialties in Public Health Sciences the Semester-based program provides a variety of types and duration of study to respond to students' needs as follow:

Herbal Sciences (plants, animals or minerals)

Extraction, isolation or purification of natural products from medicinal plants or some microorganisms. Chemistry of essential oils and their therapeutic effects.
Standardization of herbal drugs. Biological activities and underlying mechanisms of medicinal plants. Development of natural product-based medicines

Biomolecular technology

- In vitro cultivation and drug susceptibility test of malaria parasites.
- DNA analysis and gene mutations by using molecular techniques
- Gene diversity

Protein modifications

- Developing new bioconjugation techniques based on organic chemistry.
- Using some modified biomolecules for in vitro or in vivo studies.

Objectives:

1. To produce competent Master's both academically and research Become scholars and practitioners with the potential to independently pursue knowledge. Able to develop knowledge in the field of public health science Herbal Science Or the field of molecular technology

2. To develop research in public health science Herbal Science Or the field of molecular technology That can be applied to be applied to solve public health problems at the national, regional and international levels.

3. To develop academic studies in public health science, herbal science and biomolecular technology.

Course Synopsis and Methodology:**Curriculum Plan**

Course	Plan A2 (Credits)
Core Courses of public health	10
Major Compulsory Courses	3
Elective Courses	11
Thesis	12
Total (Credits)	36

Study plan

1 st Semester	2nd Semester	3 rd Semester	4 th Semester
Aug – Dec 2021	Jan – Jun 2022	Aug – Dec 2022	Jan – Jun 2023
<u>Core courses</u> Seminar in Public Health Sciences I (C-1) ❖ Analytical Technology in Public Health Sciences (C-3) ❖ Research Fundamental in Public Health Sciences (C -3)	<u>Core courses</u> ❖ Seminar in Public Health Sciences II (C-1) <u>Elective courses</u> ❖ Special Problems in Public Health Sciences II (E -2) ❖ Elective (E- 6)	❖ Thesis /Lab research ❖ Proposal Exam ❖ Academic conference presentation ❖ Article publication	❖ Thesis Exam
<u>Elective courses</u> ❖ Special Problems in	Specific courses due to area of interest (selected)		

Public Health Sciences I (E – 2)	❖ Application of Medicinal Plant Research II		
❖ Elective (E- 6) Specific courses due to area of interest (selected) ❖ Application of Medicinal Plant Research I ❖ Applied Molecular Biology Techniques in Public Health Sciences	❖ Traditional Medicine in Health Sciences I ❖ Current Research Topics in Biomolecular Technology		

Thesis Research Plan

- Summited Proposal Request within May
- Proposal Exam within June
- Laboratory During July to February
- Interplead Data within April
- Thesis Exam within May
- Summited full paper within July

Course Content

Code	Course	Credit
5300709	Special Problems in Public Health Sciences I SP PROB PBHLTH I Preliminary research project assigned by the advisor leading to the thesis.	2 (1-3-4)
5300710**	Special Problems in Public Health Sciences II SP PROB PBHLTH II Preliminary research project assigned by the advisor leading to the thesis.	2 (1-3-4)
5300711**	Seminar in Public Health Sciences I SEM PBHLTH I Literature review; information gathering; scientific reading skill; scientific presentation skill.	1 (1-0-3)

5300712	Seminar in Public Health Sciences II SEM PBHLTH II Systematically reading and evaluating scientific papers; scientific presentation and discussion skill.	1 (1-0-3)
5300727	Standardization of Medicinal Plants STD MED PL Principles of qualitative and quantitative standardization of medicinal plants including macroscopic and microscopic analyses of crude drugs, physicochemical properties.	2 (2-0-6)
5300750	Biomolecular Technology in Malaria BIOMOL TECH MAL Cellular and particle structures and functions of cells, basic knowledge of their genetic materials, genes and gene regulation, the way to collect these samples and their cultivation, basic molecular biology techniques which may be used to study living organisms, using malaria as a case study, ethical issues.	3 (3-0-9)
5300751	Application of Medicinal Plant Research I APP MED PL RES I Principles and system of classification, nomenclature and identification of medicinal plants from the morphology, habitat, phylogeny, microscopic structure, chemical composition and biological activity, principles of molecular genetics and application of the concepts and scientific methods in medicinal plant research.	3 (2-3-7)
5300752	Application of Medicinal Plant Research II APP MED PL RES II Preclinical research methodology, clinical trial and socio-medical sciences in Thai traditional medicine, genomic, proteomic and metabolomic application in medicinal plants research.	3 (2-3-7)
5300753	DNA-Based Technology in Medicinal Plant Research DNA MED PL RES Principle and concept in molecular genetics, structures, functions and properties of genes in the molecular level, DNA recombination and the application of DNA-based technology, the use of bioinformatics for searching and analyzing information from the bio-information database from medicinal plant and herb researches.	3 (2-3-7)

5300754**	Analytical Technology in Public Health Sciences Research ANAL TECH PBHLTH Fundamental and advance laboratory techniques for biological, physiochemical and molecular analysis, knowledge and practical skills experience relevant to research in Public Health Sciences.	3 (2-3-7)
5300755	Applied Molecular Biology Techniques in Public Health Sciences APP MOL PBHLTH Principle of the selected basic molecular biology techniques, practice in laboratory and its application to public health sciences research.	3 (2-3-7)
5300756	Current Research Topics in Biomolecular Technology CURR RES BIOMOL Modern molecular technologies; analyzing, presenting and commenting articles from high quality journals.	3 (2-3-7)
5300757**	Research Fundamental in Public Health Sciences RES FUND PBHLTH Preclinical research methods, clinical research methods, animal models, ethical consideration.	3 (2-3-7)
5300758	Traditional Medicine in Health Sciences I TRAD MED HLTH SC I Medicinal properties in traditional medicine, in vitro scientific biological activities, application in health sciences	3 (2-3-7)
5300759	Traditional Medicine in Health Sciences II TRAD MED HLTH SC II Medicinal properties in traditional medicine, in vivo scientific biological activities, clinical research, application in health sciences	3 (2-3-7)
5300811	THESIS	12 credits

Graduation Conditions:

- Pass Standard of English (CUTEP 45 / IELTS 4.5 / TOEFL 450)
- Pass Proposal & Thesis Examination
- 1 international Publication or Proceeding
- Submitted Full paper & CU I Thesis to Graduate School
- Completed Register of Graduation

Applicant Qualifications:

An interested person with good command of English and bachelor degree in Related fields

Document Required:

- Application form of TICA

<http://tica.thaigov.net/main/en/relation/75500-TIPP-Application-form.html>

- Transcript

- Recommendation Letter

- English Test

- **CU-TEP 45**

- **IELTS 4.5**

- **TOEFL 450**

- **Certify document Graduated from University where certify by OCSC
or Study in English Official Language Country**

- Application form of Chula

<http://www.cphs.chula.ac.th/index.php/component/phocadownload/file/298-application-form>

- **Statement of purpose and area(s) of interest (1 page)**

- **A copy of your identification document (Passport).**

Contact:

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***The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/territories.