



Chulabhorn Graduate Institute (CGI)





BACKGROUND

The Chulabhorn Graduate Institute (CGI) is a multidisciplinary post-graduate academic institute established in 2005, presently offering Master's and Doctoral degree programs in Applied Biological Sciences: Environmental Health, Environmental Toxicology, and Chemical Biology. Significant financial contributions from both the Chulabhorn Foundation and governmental sectors are annually allocated for student scholarships. Participating teaching faculty members at the CGI comprise Ph.D. staff from the Chulabhorn Research Institute (CRI) and other leading universities in Thailand, as well as from world-renowned academic and research institutions around the globe.

The aim of the CGI is to employ the most recent interactive teaching techniques used in leading educational institutions in the USA and elsewhere to train students to be effective thinkers and leaders in their fields of expertise, to better serve their countries' needs towards sustainable development.

APPLIED BIOLOGICAL SCIENCES PROGRAM

Environmental contaminants contribute substantially to the emergence of many diseases of great public health significance. The development of cancers, chronic lung diseases, asthma, Alzheimer's disease and other neurological dysfunctions, as well as immunological disorders, is either known or suspected to be associated with environmental exposures to toxic agents.

A major challenge that we are facing in the today's world is to understand how these environmental exposures affect human biology and health, as well as how we can apply the knowledge gained from sciences, such as biology and chemistry, to reduce morbidity and premature deaths.



The goal of the Applied Biological Sciences curriculum is to prepare students for careers in public health, drug discovery and development, and related fields that deal with the application of modern biology to practical contemporary problems. The program is research-oriented and focuses on method development and more detailed technical issues.

Areas of Research

- Development of technology for environmental health
- Impact of pollutants on human health
- Environmental exposures and pathophysiologic end points: immune-mediated diseases, neurological disorders, cardiovascular and lung diseases, as well as cancers
- Mechanistic studies on how environmental agents influence human health and the development of diseases
- Development and validation of biomarkers of exposure, susceptibility, and effect
- Molecular and cellular analysis of environmental modulation of microbial diseases
- Drug development

CHEMICAL BIOLOGY PROGRAM



Chemical Biology emphasizes the interface between chemistry and biology, as well as its potential applications in other fields. The main objective of the program is to educate and provide students with integrative, cutting-edge, interdisciplinary training in research for future drug discovery efforts. The training is designed to address a pressing need for well-qualified chemical biologists to tackle biological problems using chemical tools. The knowledge and expertise resulting from this multidisciplinary research will be transferred to academia, industry and, ultimately, to society.

At present, students may choose to undertake their research work in the areas of natural products chemistry, medicinal chemistry, and organic synthesis. Current projects may involve, but are not limited to, one or more of the aforementioned areas. Research in natural products chemistry includes the isolation, structure elucidation, and biological evaluation of bioactive natural compounds identified via systematic chemotaxonomic investigations of Thai plants, marine organisms, and microorganisms. In organic synthesis, students may work on the development of chemically-efficient, environmentally-friendly synthetic methods for preparing compounds of biological significance or novel scaffolds for further medicinal chemistry studies with the goals of improving the physicochemical properties of drug-like candidates and gaining valuable insights into the possible mode(s) of action.

ENVIRONMENTAL TOXICOLOGY PROGRAM



The rapid development of many countries within the region has led to the widespread use of chemicals in industry, agriculture, public health, and even in each of our own houses. This has resulted in significant chemical contamination and the ultimate deterioration of the environment, leading to unavoidable impacts on the economy, society, and the health of the people. In addressing these problems, there is a pressing need for experts in the field of Environmental Toxicology, which is a field requiring knowledge spanning several inter-related sciences. In keeping with the national policy to nurture high quality personnel in the fields of science and technology, CGI has opened a graduate program in Environmental Toxicology to address this need through the training of a new generation of scientists who will develop excellent problem solving skills and become the driving force for conceiving innovation in the years to come. Research activities include elucidation of mechanisms through which chemical and biological agents in the environment induce pathogenesis; study of the effects of environmental pollutants and industrial chemicals as modifiers of physiological and pathological status and the influence of host factors, such as nutritional status and pre-existing diseases, on the toxicity and carcinogenicity of chemicals; as well as development of new methods for detection of environmental toxicants.

CURRICULUM

Master's Degree Programs:

Coursework:	24	credits
Thesis research:	12	credits
Duration:	2-2.5	years

Doctoral Degree Programs:

Students holding a Master's degree:

Coursework:	24	credits
Thesis research:	36	credits
Duration:	3-4	years

Students holding a Bachelor's degree:

Coursework:	24	credits
Thesis research:	48	credits
Duration:	4-5	years

Classes : Regular or modular forms (2-semester system)

- 1st semester: June-September
- 2nd semester: November-February

Special Features:

- CGI presently offers international programs with some of the core courses taught by faculty from world-renowned institutions, such as Massachusetts Institute of Technology, Harvard University, Imperial College, Johns Hopkins University, New York University, Tulane University, University of Aarhus, University of Florida, and Utrecht University.

- Opportunities exist for outstanding students to receive full scholarships that cover tuition and monthly stipends for the approved duration of their studies.

- Links have been established with many leading academic and research institutions in Europe and North America to conduct collaborative research and to supervise students' thesis research, with the opportunity for Ph.D. students to receive research training in those institutions following the completion of their coursework.

- In certain cases, students have the opportunity of entering into a dual-track degree program, receiving degrees from both CGI and the partner institution, e.g. Utrecht University.

- Students who excel in their programs have opportunity for highly regarded job placements at leading educational and research institutions in Thailand, including CRI and the CGI.



Admission

- Applications are accepted until November for admission to the 1st semester of the following year.
- Selection is based on application evaluations and interviews.
- Application forms are available at <http://www.cgi.ac.th>

Admission Requirements:

Prospective students who have completed their studies in one of the following fields are encouraged to apply:

Sciences: Chemistry, Biology, Biological Sciences, Biochemistry, Biotechnology, Genetics, Microbiology, Molecular Biology, Environmental Sciences

Medical Sciences: Medicine, Medical Technology, Nursing, Pharmacy or Pharmaceutical Sciences

Students from other related fields are also welcome

- **Master's Degree Programs:** Candidates must hold a Bachelor's degree or its equivalent with a cumulative GPA of at least 3.00.
- **Doctoral Degree Programs:** Candidates should hold a Master's degree or its equivalent with a GPA of at least 3.50. Candidates holding a Bachelor's degree with First Class Honors are also eligible.
- All candidates must also attain an official test score on IELTS, TOEFL, CU-TEP, or the CGI English Qualification Examination, above the minimum score required by the programs.

Financial Assistance

Scholarships are available for highly qualified candidates, covering tuition fees and monthly stipends for the approved duration of study provided the student's academic status is in good standing.

Further Information

For further information and application forms, please contact the Division of Academic Support or visit the CGI website.



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