



Mahidol University
International College

SCIENCE

www.muic.mahidol.ac.th

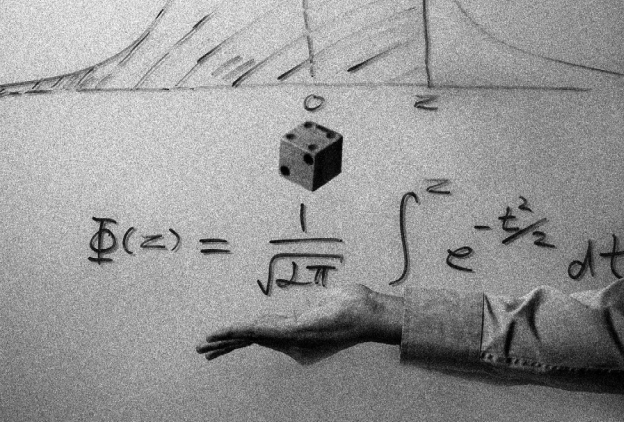
SCIENCE

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BACHELOR OF SCIENCE (B.SC.)

**HOW DID LIFE BEGIN? WILL WE EVER CURE CANCER?
CAN COMPUTERS GET ANY FASTER?
HOW DO WE FEED 7.5 BILLION OF THE
WORLD'S HUMAN POPULATION?
IS TIME-TRAVEL POSSIBLE?**

We believe our students can answer these questions as they explore the fascinating nature of science and the science of nature with us here at MUIC. We aim to develop students that are highly proficient in critical thinking and active learning, and we have challenged ourselves in producing highly competent science graduates for a globalized world. Our program offers majors in Applied Mathematics, Biological Sciences, Chemistry, Computer Science, Environmental Science, Food Science and Technology, and Physics – with courses designed not only to provide them the basic knowledge, but also associated skills and aptitude.



APPLIED MATHEMATICS:

From its inception, mathematics has proved to be an indispensable tool for understanding the world around us. Mathematics plays a fundamental role both in the realm of science and of commerce and finance. It also provides solid foundation for various fields of study especially in science. Applied Mathematics major at MUIC features well-rounded education in science, humanity, arts, and business. We offer three tracks of emphasized study: Applied Mathematics, Financial Mathematics, and Statistics. We also offer certificate in Actuarial Mathematics and minor in Applied Mathematics.

CAREER OPPORTUNITIES:

Research and development in commercial sector or in academia, actuary in insurance policy design, data management, decision making position, statistician and planner in government or private sector, cryptologist in national security department

BIOLOGICAL SCIENCES:

The Science of Life and its application for the sustainable development of human society.

Biological Sciences encompasses all aspects of living organisms and thus constitutes an engine for practical innovation aimed at solving challenges facing our planet and all Life within it, including humanity. At MUIC the Biological Sciences Program is firmly founded on a broad General Education requirement, studied alongside peers from all other MUIC programs, providing the opportunities and cultural, ethnic, and national perspectives needed to develop your critical thinking skills. For you it means that in addition to your excellent science preparation, you will gain a deep appreciation of how the abilities you have developed at MUIC interact with the practical worlds of commerce, industry and society. In short, you will be well-prepared to face the challenges of an uncertain future. The MUIC Biological Science offers 5 modules: Ecology & Conservation, Biotechnology, Bioinformatics, Medical Science and Health & Wellness Science.

CAREER OPPORTUNITIES:

- Healthcare profession as clinical medical doctors and dentists
- Health and wellness counselors
- Principal or assistant scientists in laboratory and field research programs
- Professors and teachers



COMPUTER SCIENCE:

How is AI created? How to harness big data? How much faster can computers become? Make yourself job ready now and relevant in the future. The science of computing is transforming the world at a breathtaking pace. Learn not only to make excellent use of the state-of-the-art technology but also to play an active role in creating and driving technology of the future. Our courses emphasize both theoretical rigor and real-world considerations. Through your academic advisor's expert help, you can customize your education to your passion and interest. Jump start your career with our specialized courses in machine learning/AI, data science, analytics engineering, bioinformatics, and more. In addition, we offer a trendy Data Analytics & Software Engineering track, which will train you to be specialists in working with and efficiently handling large and complex data.

CAREER OPPORTUNITIES:

- Software Engineer: design, develop, and deploy your own dream software or work in a team of developers.
- Data Scientist/Platform Engineer: use data to uncover hidden secrets in science and hidden solutions to business challenges.
- Digital Entrepreneur: start a new business venture in the digital world.
- Further study in fields related to computing.

ENVIRONMENTAL SCIENCE:

Are you concerned by the environmental and social problems that our society faces?

This program provides a background in the fields of pollution prevention and control, waste management, environmental planning, occupational health and safety, ecosystem restoration, and social science. Students will learn how to practice proper collecting, handling and analysis of air, soil, water, food and biological samples. They will also obtain the skills necessary to interpret environmental data and to disseminate that information to a wide audience.

CAREER OPPORTUNITIES:

- Officer in relevant government agencies
- Consultant in non-government organizations
- Specialist in environmental quality maintenance, community environment and environmental quality assessment

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CHEMISTRY:

Chemistry is one of the most versatile branches of science. Chemistry reaches far into the fields of foods, drugs, cosmetics, petroleum, materials, forensic science and nanotechnology. The Chemistry Program at Mahidol University International College reflects and is built upon the changes that have occurred in the discipline over the last few decades. At MUIC we offer tracks of electives for the chemistry students. Key subjects, other than the track electives, are analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry and senior research project.

CAREER OPPORTUNITIES:

Private sector and government departments, in local and international chemical, petrochemical, pharmaceutical and cosmetic manufacturing industries. Business ownership or regional representative of applied chemical and cosmetic industry are also career opportunities.

FOOD SCIENCE AND TECHNOLOGY:

Ever want to see your own food product commercialized?

If so, then a degree in Food Science may be right for you. It's fun to taste your lab experiments. It's exciting to see your concept developed into commercial food products, with application of various scientific disciplines along the way. Those who enjoy to work more in the kitchen can opt for Culinary Science concentration, where a more sophisticated cooking skill can be developed.

CAREER OPPORTUNITIES:

- Product Development Scientist, Sensory Scientist
- Research Chef, Culinary Scientist
- Food Marketing, Food Supply Chain Management
- Food Safety, Quality Assurance, Process Engineer

PHYSICS:

Gain cutting-edge experience in the world of physics.

If you plan to land anywhere from NASA, Wall Street, to a luthier workshop in Cremona, this is where you begin. Physics program encourage students to learn not only the fundamentals concepts of natural phenomena but also the applications by employing powerful computational techniques. You can appreciate the beauty of nature to its fullest form, and utilize the fundamental knowledge for humankind. Whether you want to predict the trajectory of a space shuttle to Mars, the bubbles to options pricing in economics, or the vibration of violin strings, Physics is your indispensable tool.

CAREER OPPORTUNITIES:

- Researcher in academic and research institute
- Scientist and engineer in business company
- Specialist in research and development department of government agencies



MUIC BIOLOGICAL SCIENCES PATHWAY PROGRAMS

AUGUST 2019.



REMARK : : :
IN PROGRESS : : :

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