

FACULTY OF SCIENCE, MAHIDOL UNIVERSITY INTERNATIONAL BACHELOR PROGRAMS



Faculty of Science
Mahidol University

BIOMEDICAL SCIENCE
MATERIALS SCIENCE AND NANO ENGINEERING
BIORESOURCES AND ENVIRONMENTAL BIOLOGY
INDUSTRIAL MATHEMATICS



BIOMEDICAL SCIENCE

BACHELOR OF SCIENCE (BIOMEDICAL SCIENCE)

Course length 3.5 years

THIS COURSE....

- > provides you with the knowledge and skills in Biomedical science essential for careers in healthcare-based industries and organizations.
- > Double degrees with University of Sussex, UK

BIOMEDICAL SCIENCE @MUSC (INTERNATIONAL PROGRAM)

The Bachelor of Biomedical Science is designed to give you the extensive knowledge and skills to serve the needs of the country which is taking steps to become a medical hub in the ASEAN region.

The course can be undertaken in one of the three modules:

- **Molecular Biomedicine**
- **Diseases and Their Controls**
- **Regenerative Science and Anti-aging**

The students can pursue a specialized module in Biomedical Science from the beginning, or discover which areas are of most interest. Those who would prefer a broader qualification can further study in profession curricula in Thailand (Medicine, Dentistry, Pharmacy, etc.), and master/ Ph.D. degree in UK.



MUSC: a good start for your world-class education and research careers

STUDY PROGRAM

First year

General science backgrounds in Biology, Chemistry, Physics and Mathematics.

Second year

Biochemistry, Physiology, Anatomy, Bioinformatics, Cell and Molecular Medicine, and Microbiology, as well as providing fundamental scientific research skills in experimentation.

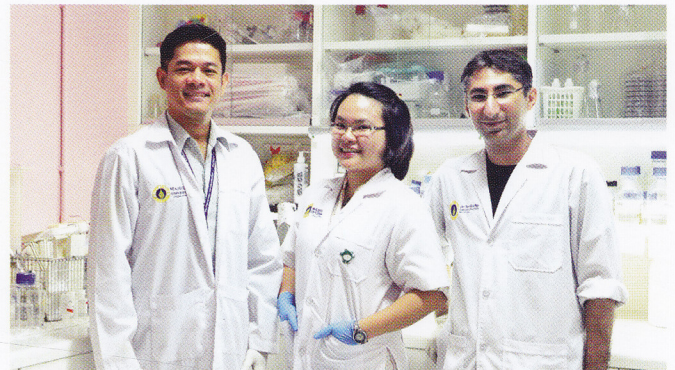
Third and fourth years

Pathology, Pharmacology, Genetic Skills in Research and Seminar in Frontier Biomedical Science, plus electives of your choice. Three choosable modules: Molecular Biomedicine, Diseases and Their Controls and Regenerative Science & Anti-aging.

DOUBLE DEGREES

The program has coordinated double degrees with extended postgraduate program in conjunction with University of Sussex, UK. This will provide unique opportunities for students to combine courses from more than one school, creating an interdisciplinary and intercultural experiences, and to pursue additional academic studies along with their undergraduate degrees.

More information on the double degree options for this course, please visit at www.sc.mahidol.ac.th/sim



CAREER OPPORTUNITIES

The graduates may find work in healthcare-based companies and organizations, including hospitals. R & D jobs are also available both in Thailand and overseas.

FURTHER STUDY

Further study in profession curricula (Medicine, Dentistry, Pharmacy, etc.), and 1 year master degree or Ph.D. degree in overseas, especially in UK.

STUDY FEES

Tuition fee and major fee per semesters are ~85,000 THB or ~2,500 USD. The overseas tuition fees at University of Sussex is ~8,500 GBP per semester.

STUDY LOCATIONS

- Mahidol University, Salaya Campus, Nakhon Pathom, Thailand
- University of Sussex, UK



MATERIALS SCIENCE AND NANO ENGINEERING

BACHELOR OF SCIENCE (MATERIALS SCIENCE & NANO ENGINEERING)

Course length *4 years*

MATERIALS SCIENCE AND NANO ENGINEERING @MUSC (INTERNATIONAL PROGRAM)

THIS COURSE....

- > provides you with the knowledge and skills in Materials Science and Nano Engineering through exceptional teaching research and industry partnerships.
- > leading industry-linked program
- > internship training in leading industries e.g. Western Digital (Thailand) Co., Ltd. and Siam Cement Group

The Bachelor of Materials Science and Nano Engineering is designed to prepare graduates for science-based industries with understanding of insightful theories and applications of frontier materials science and nano engineering together with innovation perspectives.

Three choice modules are

- **Functional and Electronic Materials**
- **Biomedical Materials**
- **Materials in Chemical Industries**

The program is an industrial-linked curriculum to support the relevant industrial needs. The strong collaborations have been well-established with renowned organizations such as National Nanotech Center (NANOTEC), National Metal and Materials Technology Center (MTEC), Western Digital (Thailand) Co., Ltd. and Siam Cement Group.



MUSC: a good start for your world-class education and research careers

STUDY PROGRAM

First year

Fundamental basic science including Chemistry, Physics, Biology and Mathematics together with Nanotechnology Concept and Engineering Drawing.

Second year

Basic Knowledge in Materials; e.g. Ceramics, Metallurgy, Materials for Biological and Medical Applications, Thermodynamics, Engineering Mechanics, Molecular Quantum Mechanics.

Third and fourth years

Materials Science and Engineering core subjects; e.g. Polymer, Solid State Physics, Semiconductor and Nanoelectronics, Industrial Processes, Marketing and Entrepreneurship, Internship, Senior Project, Seminar.

Selected courses in three choice modules; e.g. Magnetic and Electronic Materials, Thin Film Technology and Nanofabrication, Nanotechnology in Drug Delivery, Nanotechnology in Polymer Science.

ACADEMIC OPPORTUNITIES

The program offers an opportunity to extend your study in College of Management, Mahidol University for 1 year MBA program. The additional MBA degree will help student to be a specialist in both scientific research and organization management. The graduated students in both fields have a very high opportunity to work in a very high rank company or build up their own entrepreneurship.



CAREER OPPORTUNITIES

Your final year will include an internship in a leading company which enhances a chance for the future career. However students are free to choose a job in the technological companies worldwide.

EXTENDED STUDIES

- 1 Year MBA with College of Management, Mahidol University
- Master/ Ph.D. degree in NanoPhysics and Nano materials program, Universite du Maine. Le Mans, France
- Master/Ph.D. degree in Materials Science and Engineering program, Mahidol University

STUDY LOCATIONS

- Mahidol University, Salaya Campus, Nakhon Pathom, Thailand

STUDY FEES

Tuition fee and major fee per semesters are approximately 85,000 THB or 2,500 USD



BIORESOURCES AND ENVIRONMENTAL BIOLOGY

BACHELOR OF SCIENCE (BIORESOURCES AND ENVIRONMENTAL BIOLOGY)

Course length 3.5 years

BIORESOURCES AND ENVIRONMENTAL BIOLOGY
@MUSC (INTERNATIONAL PROGRAM)

THIS COURSE....

- > provides you with the specialist skills in Bioresources and Environmental Biology.
- > double degrees with the State University of New York (SUNY), US
- > attend the best American Cranberry Lake Biological Field laboratory

The Bachelor of Bioresources and Environmental Biology is an integrated program that pursues and practices the coexistence of humans and nature, and investigates the relationships among nature, organisms and humans.

The program aims to develop and promote the skills and capacities of students to be recognized at international level, as well as establishing collaborative academic and research activities with The State University of New York (SUNY), USA.



MUSC: a good start for your world-class education and research careers

STUDY PROGRAM

First year

Fundamental courseworks in all required basic science subjects including Mathematics, Physics, Chemistry and Biology.

Second year

Specialized subjects in Genetics, Microbiology, Botany, Biochemistry and Molecular Biology.

Third and fourth years

Diversified biological courses including Zoology, Ecology, Evolution, Ornithology, Biological conservation and research oriented projects as well as field survey & Biological stations.

DOUBLE DEGREES

The program offers students an opportunity to earn two degrees from Mahidol University and/ or the State University of New York (SUNY), USA concurrently in four years of study.

More information on the double degree options for this course, please visit at www.sc.mahidol.ac.th/sim

CAREER OPPORTUNITIES

Career opportunities include employment with the Environment Agencies of government and private sectors, researcher, lecturer, ranger, and work on environmental matters and sustainability with industries and companies.

FURTHER STUDY

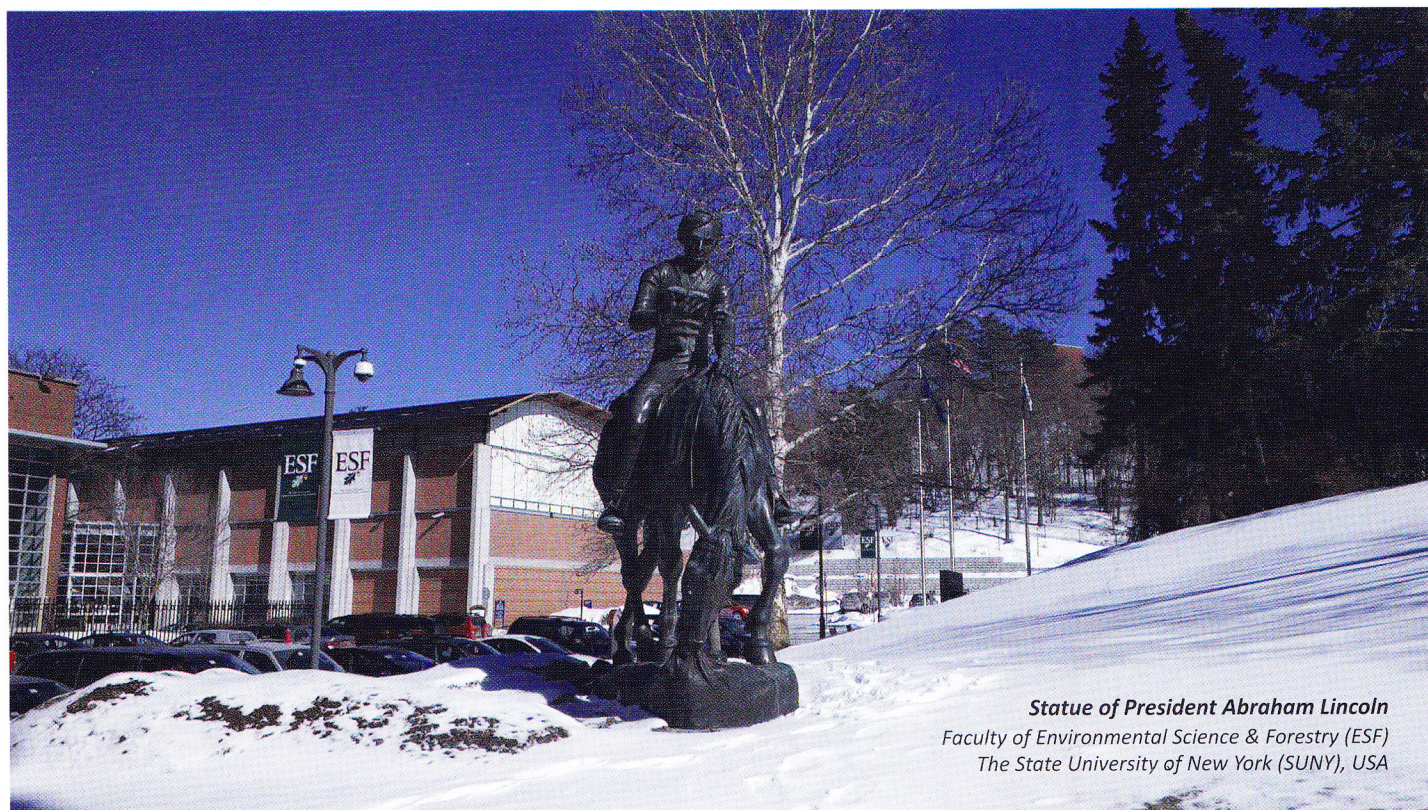
- 1 year master degree in various scientific fields in SUNY and other universities in USA.
- Eligible to enter Medical school in New York

STUDY FEES

Tuition fee and major fee per semesters are ~85,000 THB or, ~2,500 USD. (~5,000 USD/semester in SUNY, USA-under MOU between MU and SUNY.

STUDY LOCATIONS

- Mahidol University, Salaya Campus, Nakhon Pathom, Thailand
- The State University of New York (SUNY), USA



Statue of President Abraham Lincoln
Faculty of Environmental Science & Forestry (ESF)
The State University of New York (SUNY), USA

INDUSTRIAL MATHEMATICS

BACHELOR OF SCIENCE (INDUSTRIAL MATHEMATICS)

Course length 3.5 years

INDUSTRIAL MATHEMATICS @MUSC (INTERNATIONAL PROGRAM)

THIS COURSE....

- > provides you with the specialized knowledge and skills in modeling and optimizing industrial processes and internship with leading industrial companies
- > offers double degrees from Mahidol University, Thailand and Curtin University, Australia

The Bachelor of Industrial Mathematics focuses on

- Developing computational and necessary skills to prompt students for future implementation in diverse industries
- Finding optimal strategies in supply chain and inventory management to help with strategic decision-making and policy designing
- Gaining a better insight into how to use computational techniques to proficiently manage resource systems to obtain maximum profits and to investigate industry-related problems
- Acquiring knowledge that can be applied to locate business problems and find possible ways to unravel such complex problems via various case studies



STUDY PROGRAM

First year

Fundamental coursework in all required basic science subjects including Mathematics, Chemistry, Physics and Biology together with Scientific Computing

Second year

Basic knowledge in statistics, programming, supply chain modeling and optimization techniques

Third and fourth years

Core industrial optimization subjects including Stochastic Processes, Logistic Modeling, Production Planning, Industrial Project and Internship in leading industrial companies.

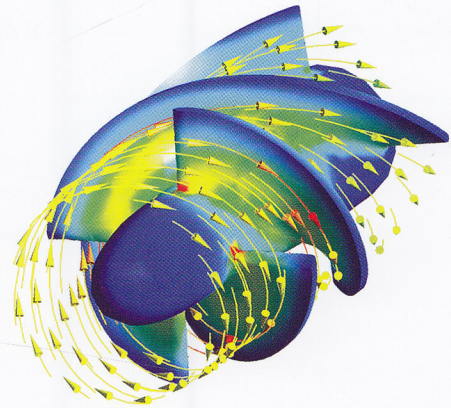
DOUBLE DEGREES

The program offers students an opportunity to earn two degrees from Mahidol University, Thailand and/ or the Curtin University, Australia concurrently in 3.5 years of study.

More information on the double degree option for this course, please visit at www.sc.mahidol.ac.th/sim

CAREER OPPORTUNITIES

Planner, inventory specialist, production coordinator, traffic analyst, market researcher, financial analyst, and business entrepreneur



FURTHER STUDY

Master of Science in Industrial Engineering at Curtin University, Australia

STUDY FEES

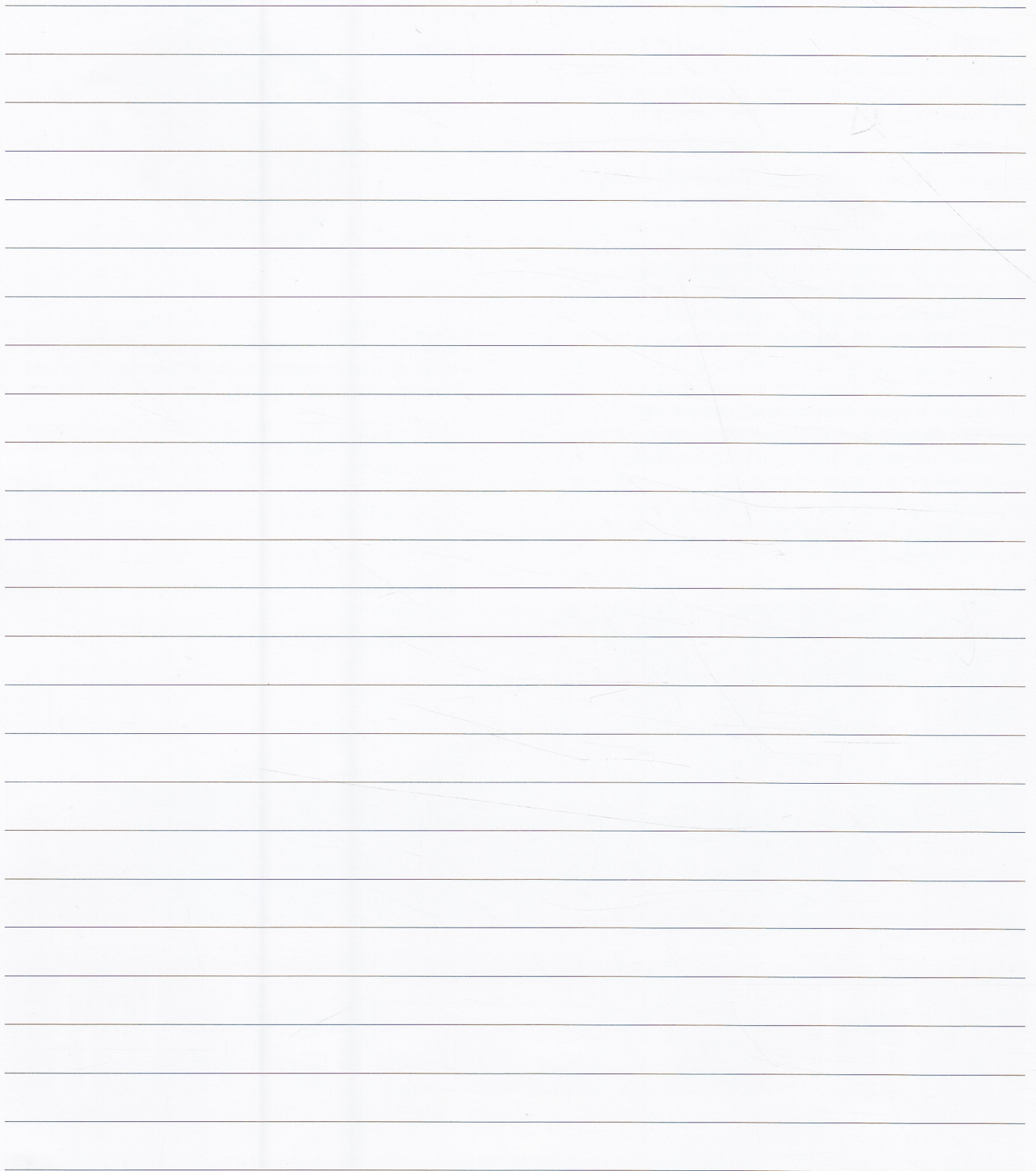
Tuition and fees are ~85,000 THB per semester. The overseas tuition and fees at Curtin University are ~12,500 AUD per semester

STUDY LOCATIONS

- Mahidol University, Salaya Campus, Nakhon Pathom, Thailand
- Curtin University, Australia



Curtin University, Australia







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