

Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science

Department of Biology

Mahidol University Degree Profile

Bachelor's Degree Program	
1. Program Title	
(In Thai)	หลักสูตรวิทยาศาสตรบัณฑิต สาขาวิชาทรัพยากรชีวภาพและชีววิทยาสภาวะแวดล้อม (หลักสูตรนานาชาติ)
(In English)	Bachelor of Science Program in Bioresources and Environmental Biology (International Program)
2. Degree Offered	
(In Thai)	วิทยาศาสตรบัณฑิต (ทรัพยากรชีวภาพและชีววิทยาสภาวะแวดล้อม)
(In English)	Bachelor of Science (Bioresources and Environmental Biology)
General information of the program	
Type of program	Bachelor's Degree (International Program), Academic Program
Total credits required	Plan A – no less than 126 credits of courses taken while studying at Faculty of Science, Mahidol University (MUSC) Plan B – no less than 83 credits of courses taken while studying at Faculty of Science, Mahidol University (MUSC) and no less than 43 credits of courses taken while studying at State University of New York, College of Environmental Science and Forestry (SUNY-ESF). If a student cannot continue or complete his/her study at SUNY-ESF, credits and courses can be transferred in accordance with Mahidol University and MUSC regulations.
Studying duration / Program cycle	4-Year Program
The program's status and opening schedule	1. Revised Program 2019 2. Program start: Semester I Academic Year 2019
Degree granting	One degree of one major



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science
Department of Biology

Degree-granting Institutions (MOU with other institutions)	Mahidol University, Thailand
Organization certifying the standards	-
Specific information of the program	
Purpose / Goals / Objectives	<p>Goals</p> <p>The goal of the Bioresources and Environmental Biology program is to produce bachelor degree graduates who meet the requirements and specifications of the national and international standards and expectations, and possess Mahidol core values. The graduates will be equipped with knowledge in different disciplines, professional skills, social skills, innovative and ethical mindset to serve future employment, graduate studies and social needs.</p> <p>Objectives</p> <p>To produce graduates who have the characteristics, knowledge and skills as follows:</p> <ol style="list-style-type: none"> 1. integrate and apply knowledge in bioresources and environmental biology and related sciences to address environmental and biological-related needs 2. demonstrate technical skills appropriate for the planning and development of research projects in bioresources and environmental biology or related fields 3. have responsibility for society, problem solving, and creative thinking as well as self-development 4. have teamwork, professional ethics, and



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science

Department of Biology

	formulate ideas and products to serve social needs
Distinctive features Distinctive features (Con.)	<ol style="list-style-type: none"> 1. Learners have opportunity to choose 4 study plans aboard through dual degree with SUNY-ESF. 2. Bioresources and Environmental Biology Program provides academic knowledge from diverse biological disciplines, including ecology and conservation, environmental sciences, environmental health, biotechnology, plant and animal diversity and other related areas. 3. Learners have opportunities to do internship with companies or any institutes they like. 4. They can choose to do senior projects that fit their needs in any specialties within the bioresources and environmental biology context. 5. Learners of the Bioresources and Environmental Biology Program will be trained to utilize integrative knowledge to solve problems and formulate sustainable solutions to serve social needs.
Educational system	Semester System
Graduates' advancement	
Career opportunities	<ol style="list-style-type: none"> 1. Researcher and research assistant in any government research unit, academic institutes or universities related to bioresources and environmental biology. 2. Teaching career as primary- and secondary-school teachers in the field of bioresources, environment and biology at any schools, especially in the English Program (EP) section. 3. Personnel performing quality control/assurance



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science

Department of Biology

<p>Career opportunities (Con.)</p>	<p>and conducting experiments and reports for biological and environmental-related issues in any companies or manufacturers</p> <p>4. Sale or marketing person in scientific instruments and chemical trading and services companies.</p> <p>5. Customer relations for biological or environmental product companies that require personnel with good command of English.</p> <p>6. Entrepreneur of the companies related to products or services in the field of bioresources and environmental biology.</p>
<p>Further fields of study</p>	<p>Graduates can continue their studies for higher degree in any fields of biotechnology, environmental sciences, environmental health, environmental resources engineering, ecology and conservation, plant science, zoology and much more at the SUNY-ESF providing that they spend their last year at SUNY-ESF.</p>
<p>Philosophy in program administration</p>	
<p>Educational philosophy</p>	<p>Our primary focus is on educating the learners, as for them to attain academic achievement through learning-centered education, outcome-based education and constructivism. To become a wisdom graduate, learners combine what they have learned so far with the new knowledge, and with experiential learning activities. While the role of a lecturer in the learning process is shift from an information provider to a coach or a facilitator creating challenge-based activities.</p>
<p>Strategy / teaching guidelines</p>	<p>The program is aware of student differences in backgrounds, strengths and weaknesses, interests, and learning styles. Therefore, a range of teaching styles are set through the diverse learning activities</p>



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science

Department of Biology

	<p>according to the learning outcomes including interactive lectures, laboratory practical, individual and group discussions and assignments, active research projects with emphasis on student's demonstration of ideas, logical reasoning, and problem-solving</p>
<p>Strategy / student's evaluation guidelines</p>	<p>The assessments and evaluations align with the teaching strategies and the desired learning outcomes such as written and oral examination, practical test, oral presentation, individual or group class participation and project-based research learning. Rubrics based on the objectives of the course are announced clearly and used to score the students' achievement.</p>
<p>Competences provided to the students</p>	
<p>Generic competences</p>	<ol style="list-style-type: none"> 1. Ethics: demonstrate moral and ethical behavior and be responsible in their own action including awareness of plagiarism 2. Critical thinking and analysis: be capable of analytical and critical thinking and be able to evaluate both general and scientific information with logical and systematic thinking 3. Creativity: be able to bridge research to innovation which further enhance basic knowledge. 4. Communication: be able to choose appropriate forms of English communication such as listening, speaking, reading and writing skills, depending on target audience and for academic purposes 5. Collaboration: be able to work with others appropriately and accept the difference



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science
Department of Biology

	<p>between people</p> <p>6. ICT: be able to choose the appropriate information technology for searching of information and data and be able to analyze the reliability of data from various sources.</p>
Subject-specific competences	<ol style="list-style-type: none"> 1. The use of tools and processes in biological and environmental sciences, to study in molecular, cellular and organismic levels of life in the environment and ecosystem, both in the laboratory and in the fieldworks with a code of ethics and professional conduct. 2. Basic knowledge and skills in zoology, plant science, industrial and environmental microbiology, environmental biotechnology for waste treatment, food crop planting and harvesting technology, plant and animal cell technology. 3. Integration of scientific and environmental knowledge for industrial use and environmental protection.
Graduates' learning outcomes	At the end of the program, successful students will be able to:
PLO1	Solve biological- and environmental-related problem logically and systematically at local, regional and global levels by applying interdisciplinary approaches.
PLO2	Carry out laboratory-based and field-based experiments to address biological and environmental impacts on sustainability with international standard methodologies.
PLO3	Create an independent project in bioresources and environmental biology, analyzed from scientific journals and laboratory reports along with



Degree Bachelor Master Doctoral

TQF 2 Bachelor of Science Program in Bioresources and Environmental Biology (International Program)

Faculty of Science

Department of Biology

	laboratory safety skills and professional code of conduct.
PLO4	Communicate concepts of bioresources and environmental biology clearly and purposefully with target audiences in English, in both written and oral forms with appropriate technologies in an organized manner.
PLO5	Work independently and coordinate with others to achieve team goals based on roles and responsibilities of an environmental biologist.