MU Degree Profile

Undergraduate Program	
1. Program Title (Thai) หลักสูตรวิทยาศาสตรบัณฑิต สาขาวิชาคณิตศาสตร์ประยุกต์ (หลักสูตรนานาชาติ) (English) Bachelor of Science Program in Applied Mathematics (International Program) **2. Degree Title** (Thai) วิทยาศาสตรบัณฑิต (คณิตศาสตร์ประยุกต์) (English) Bachelor of Science (Applied Mathematics)	
Program Overview	
Type of Program	Bachelor's Degree (International Program), Academic Program
Number of Credits	No less than 160 credits
Duration of Program/ Program Cycle	Four-Year Program
Program Status and Schedule of Program Start Dates	Revised Program 2020 Program start: Trimester I Academic Year 2020
Degree Offered	One degree of one major
Institution Offering Degree (collaboration with other institutions)	Mahidol University
Organization Certifying the Standards of the Program	-
Specific Data of the Program	
Purpose / Goal / Objectives	**Purpose / Goal**: Graduates will have knowledge and appreciation of the breadth and depth of mathematics.

	This includes the connections between various areas of mathematics, and between mathematics and other disciplines. They will be prepared for immediate participation in the workforce or for graduate study. **Objectives**: 1) Apply critical thinking and communication skills to solve applied problems 2) Use knowledge and skills necessary for immediate employment or acceptance into a graduate program 3) Maintain a core of mathematical and technical knowledge that is adaptable to changing technologies and provides a solid foundation for future learning
Distinctive Features	Minors are offered in three areas: applied mathematics, statistics, and decision making. Certificate in actuarial mathematics is also offered.
Academic System (semester/trimester/quarter system)	Trimester system
Advancement Path of the Graduates	
Career Opportunities	1) Graduates can work in research and development in commercial sector and in academia. 2) Graduates can work as actuaries or insurance sales agents in insurance industry. 3) Graduates can work in decision making or risk analysis section. 4) Graduates can work in government or private sector as statisticians and planners. 5) Graduates can work as data analysts in e-commerce companies.
Further Study after graduation	Master's Degree or Ph.D. in mathematics, applied mathematics, statistics, or financial

	mathematics/engineering
Educational Philosophy in Program Management	
Program Philosophy	Graduates will be world citizens who expertly apply knowledge and skills in Applied Mathematics for the benefit of mankind and the betterment of global society. In concert with Thailand 4.0 vision, the Applied Mathematics program produces graduates with lifelong learning habits through Mahidol University's constructivist learning philosophy and MUIC's liberal arts philosophy.
Strategy/ Practice in teaching and learning	1) Lecture 2) Learning-centered education with emphasis on - knowledge development - important skills in career development and living - encourage students to use their full potentials 3) Diverse teaching methods that serve the education objectives 4) Appropriate IT 5) Integrate theory and practice 6) Case studies with past experiences and current events 7) Group discussion 8) Group assignment
Strategy/Practice for Evaluating Learning Outcomes of Students	1) Evaluate knowledge and application in career using written examination 2) Students' activities, assignment, presentation, and seminar in course 3) Class attendance, class participation
Competencies Enhanced to the Students of the Program	
Generic Competence	**- English Communication:** Use academic writing skills to express opinion; apply critical and creative thinking through English communication; and develop a voice in written and

	spoken English that can be adapted to different audiences **- Life appreciation:** Demonstrate the ability to recognize, respect, and value diverse experiences for a healthy life **- Critical thinking:** Apply critical thinking to construct well-reasoned solutions or conclusions **- Global citizenship:** Examine the current state of the world and the connection between local and global issues **- Leadership:** Demonstrate the ability to take initiatives that bring about change for the well-being of the community **- Digital literacy:** Demonstrate the ability to use digital technology to manage communicate, and stimulate knowledge and reasoning
Subject-specific Competence	An ability to identify, formulate, abstract, and solve mathematical problems that use tools from a variety of mathematical areas, including algebra, analysis, probability, statistics, numerical analysis, and differential equations
Learning Outcomes of the Graduates	
PLOs	1) PLO1 Acquire the basic skills and conceptual understanding regarding differential, integral and multivariable calculus, as well as that of fundamental mathematical objects introduced in our core courses such as sets, functions, equations, vectors, matrices, and groups 2) PLO2 Use knowledge of content and mathematical procedures to solve problems and make connections between the different areas of mathematics 3) PLO3 Demonstrate intellectual curiosity and a strong propensity towards independent learning

	4) PLO4 Demonstrate mathematical thinking skills, progressing from a procedural and computational understanding of mathematics to logical reasoning, pattern recognition, generalization, and abstraction, and to a formal proof 5) PLO5 Apply concepts of scientific integrity and commit to professional ethics and responsibilities and norms of the profession 6) PLO6 Communicate mathematical ideas orally and in writing, with precision, clarity and organization, using proper terminology and notation 7) PLO7 Acquire proficiency in the use of technology and numerical techniques to assist in learning and investigating mathematical ideas and in problem-solving