



Degree Level Bachelor's Grad.Dip. Master's Higher Grad.Dip. Doctoral Mahidol University International College and Faculty of Engineering
 TQF2 Bachelor of Engineering Program in Computer Engineering (International Program) Science Division and Department of Computer Engineering

MU Degree Profile



Undergraduate Program	
1. Curriculum Name	
Thai	หลักสูตรวิศวกรรมศาสตรบัณฑิต สาขาวิชาวิศวกรรมคอมพิวเตอร์ (หลักสูตรนานาชาติ)
English	Bachelor of Engineering Program in Computer Engineering (International Program)
2. Degree Title	
Full Title	Thai วิศวกรรมศาสตรบัณฑิต (วิศวกรรมคอมพิวเตอร์)
	English English Bachelor of Engineering (Computer Engineering)
Abbreviated	Thai วศ.บ. (วิศวกรรมคอมพิวเตอร์)
	English B.Eng. (Computer Engineering)
3. Program Overview	
Type of Program	Bachelor's Degree (International Program)
Number of Credits	No less than 170 credits.
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 Standard of the Program	-
4. Specific Data of the Curriculum	
Purpose / Goals /	To produce competent computer engineers with professional ethics, who can effectively research and develop software



	<p>and hardware products, and can provide computing services to both the government and private sectors in Thailand and overseas.</p> <p>We aim to develop not only students with technical competency but also will become responsible professionals, able to innovate sustainable, with moral and ethics, with sustainable for a multicultural world and has all Mahidol university graduate attributes.</p>
<p>Objectives</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. To produce engineering graduates with the knowledge, ability, and skill in computer engineering up to international standards who can apply their knowledge in order to work effectively in an increasingly globalized world. 2. To produce engineering graduates who can conduct effective analysis, research, and development in computer engineering in Thailand and overseas. 3. To produce engineering graduates with professionalism, leadership, ethics, who value environmental resources, and apply their knowledge for the benefit of humankind. 4. To encourage research and academic service in computer engineering and other related engineering disciplines. 5. To produce engineering graduates with good communication and team-working skills
<p>Distinctive Features</p>	<ol style="list-style-type: none"> 1. The program aims for competent graduates in designing and developing computer related system such as computer networks, hardware, embedded system and other digital systems with strong theoretical and practical skills 2. This program provides a lot of opportunities for student with a lot of hand-on experience in computer using various



	<p>tools in well-equipped laboratories.</p> <p>3. The program aims for good understanding in computer and be able to communicate effectively with various groups of people and has an ability to work in team responsibly.</p> <p>4. Compulsory Internship with and optional cooperative education for students to be able to gain real world experience before graduating with a good co-supervision from lecturers.</p>
Academic system	Trimester system
Advancement Path of the Graduates	
Career Opportunities	<ul style="list-style-type: none"> - Computer engineers - Software engineers - Data engineers and knowledge engineers - System analyst - System and network administrator - IT consultants and system audits in various fields. - Faculty position, teaching, or teaching assistant in the field of computing for academic institutions and international schools - Business owner, Entrepreneur in a cooperate or startup company
Further Study after graduation	<p>Continue their studies for a higher degree in various fields of computing and related disciplines inside the country or aboard.</p> <p>Graduates will have background knowledge in mathematics, problem solving skill, computer applications and communication skills. Graduates will be able use the background gained from the program to broaden their knowledge and easily pursue their degree in many different discipline.</p>



6. Educational Management System	
Program Philosophy	<p>To produce competent computer engineers with professional ethics, who can effectively research and develop software and hardware products by providing learning environment with a combination of theoretical and practical knowledge for student. Thus, our educational philosophy is implicit in the original Latin educere, to lead forth; we guide students to a comprehensive and broad understanding of state-of-the-art interdisciplinary science to enable them to become responsible professionals, able to innovate sustainable, pragmatic solutions for a multicultural World.</p> <p style="padding-left: 40px;">Outcome based education is implement with student as the centered of the learning experience. Constructivism teaching and Learning-centre education philosophy are combined in the curriculum to allow students to reach their personal potential and cultivating a passion to innovate and insatiable curiosity to learn well beyond school.</p> <p style="padding-left: 40px;">Graduates will be able to apply their skills for research and development to solve novel problems using their computer engineering knowledge.</p>
Strategy/ Practice in teaching and learning	<p>The curriculum implements our philosophy via strong liberal arts requirements and supportive student-faculty interaction fostering dual aims: individual achievement, and ultimately a more altruistic and harmonious global society. Teaching strategy follows the outcome-based-learning style, in which the objectives of the program are established by feedback from faculty members, students, alumni, parents, and employers. Courses within the program are then designed to fulfill the objectives. The curriculum puts heavy emphasis on</p>



	<ul style="list-style-type: none"> • Encouraging inquisitive and curious minds; • Developing independent learners; • Focusing on hand-on experience through real-life problems; and • Fostering teamwork skills
<p>Strategy/Practice for Evaluating Learning Outcomes of Students</p>	<p>Different methods of formative and summative evaluation are used, for example, written examination, practical test, presentation, class participation and project-based learning. Rubrics based on the objectives of the course are used to score the students' achievement. The program aims to provide both internal and external assessments, training students to assess themselves realistically, and arranging for opportunities to be assessed by instructors, experts, and peers. Students receive grades according to the criteria stated in Mahidol University's regulations on undergraduate studies as well as MUIC's regulations and/or announcements.</p>
<p>7. Competencies Enhanced to the Students of the Program</p>	
<p>Generic Competences</p>	<ul style="list-style-type: none"> - Global citizenship: Understand diverse cultures and beliefs and recognize how these institutions influence people's behavior and shape society around the globe. - Life appreciation: Ability to develop behaviours and mindset toward an appreciation of creative healthy, active, sustainable lifestyle. - Critical thinking with innovative ideas: Ability to analyse problems, propose informative solutions that incorporate variety of perspectives and achieve progressive results. - Efficiency communication: Ability to communicate with people with multicultural backgrounds. - Leadership : Ability to work collaboratively with multidisciplinary background with a sense of altruism, harmony and social responsibility .



	<p>- Digital literacy: Understand online safety and digital culture and its influence on society, the implementation of media and data ethics in an online environment.</p>
Subject-specific Competences	<p>- Knowledge: Apply engineering knowledge for sharing and work as a team member in people in a professional world.</p> <p>- Design: Ability to apply and develop computer system for problem solving using computer engineering knowledge</p> <p>- Problem Solving: Ability to apply computer engineering knowledge or other sciences solve computer-related problems innovatively.</p> <p>- Apply tools appropriately: Ability to choose and use hardware or software tools appropriately to manage the work effectively.</p> <p>- Pursue New knowledge: With fast changing technology in a computer world, ability to pursue new knowledge is a must for computer engineering graduates. Ability to learn new technology individually is required using their background knowledge to update their knowledge to be able be more competent in a professional world.</p>
8. Program Learning Outcomes	
PLOs	<p>At the end of the program, successful students will be able to:</p> <p>PLO1: Analyze ethical impacts of computer usage to personals, organizations, social, and the rights and value of others.</p> <p>PLO2: Integrate computer engineering knowledge with other related sciences and pursue new knowledge in computer engineering.</p> <p>PLO3: Evaluate the computer requirements and identify the appropriate engineering knowledge and tools for effective problem solving in computer applications.</p>



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	<p>PLO4: Generate potential solutions for problem solving with computer engineering knowledge and skills.</p> <p>PLO5: Perform good communication skills with various groups of engineers and facilitate team members in various problem solving situations both as a leader and a follower.</p> <p>PLO6: Create a related computer engineering development based on information technology in mathematics or applied statistics.</p>
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