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Doctor of Philosophy Programme in Computer Science (International Programme)

หลักสูตร ปรัชญาดุษฎีบัณฑิต สาขาวิชา วิทยาการคอมพิวเตอร์ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Information and Communication Technology

คณะเทคโนโลยีสารสนเทศและการสื่อสาร

Expected number of students to be accepted all year round : 5 Students

#### Admission Requirements

A candidate must:

1. hold a Master's degree in one of the following fields: computer science, computer engineering, or computer related areas with a minimum grade point average of 3.5;
2. have a TOEFL score of at least 500, TOEFL computer-based score of 173, TOEFL Internet-based score of 61, or IELTS score of 5.

Those who do not have any of the test scores specified above will have to take the English Proficiency Examination of the Faculty of Graduate Studies on the specified examination day.

Exemptions from the above conditions may be granted by the Programme Committee and the Dean of the Faculty of Graduate Studies under exceptional circumstances.

#### Curriculum Structure

	Credit
<b>Plan 1</b>	
Courseworks	Non-Credit
Dissertation	48
<b>Plan 2</b>	
Required Courses	9
Elective Courses	3
Dissertation	36

			Credit
<b>Plan 1</b>			
Students with Plan 1 must enroll 3 Seminar Courses (Non-Credit)/Audit			
ITCS	671	Seminar in Computer Science I	1(1-0-2)
ITCS	672	Seminar in Computer Science II	1(1-0-2)
ITCS	673	Seminar in Computer Science III	1(1-0-2)
<b>Plan 2</b>			
<b>Required Courses</b>			
ITCS	531	Mathematics for Computer Science	3(3-0-6)
ITCS	532	Foundations of Computational Science	3(3-0-6)
ITCS	671	Seminar in Computer Science I	1(1-0-2)
ITCS	672	Seminar in Computer Science II	1(1-0-2)
ITCS	673	Seminar in Computer Science III	1(1-0-2)
<b>Elective Courses</b>			
<b><i>1.Information and Database Technology Category</i></b>			
ITCS	628	Data Mining and Knowledge Discovery	3(3-0-6)
ITCS	629	Knowledge Engineering	3(3-0-6)
ITCS	682	Advanced Database Systems	3(3-0-6)
<b><i>2.Networking and Communication category</i></b>			
ITCS	551	Service Oriented and Cloud Computing	3(3-0-6)
ITCS	554	Information Security Management	3(3-0-6)
ITCS	634	Queuing Modeling in Computer Communication Networks	3(3-0-6)
ITCS	638	Networks and Distributed Systems Security	3(3-0-6)
ITCS	653	Advanced Computer Architecture	3(3-0-6)
ITCS	687	Advanced Computer Security	3(3-0-6)
<b><i>3.Artificial Intelligence Category</i></b>			
ITCS	660	Heuristic Methods for Optimization	3(3-0-6)
ITCS	661	Advanced Artificial Intelligence	3(3-0-6)
ITCS	662	Advanced Pattern Recognition	3(3-0-6)
ITCS	663	Image and Signal Processing	3(3-0-6)
ITCS	665	Natural Language Processing	3(3-0-6)
ITCS	667	Advanced Computer Vision	3(3-0-6)
<b><i>4.Software Engineering</i></b>			
ITCS	642	Software Engineering Management	3(3-0-6)
ITCS	644	Software Quality Assurance	3(3-0-6)
ITCS	646	Requirements Engineering	3(3-0-6)
ITCS	651	Model-Driven Design and Development	3(3-0-6)
ITCS	657	Validation and Verification	3(3-0-6)
<b><i>5.Other Elective Courses</i></b>			
ITCS	571	Numerical Methods for Mathematical Optimization	3(3-0-6)
ITCS	695	Independent Study	3(0-6-3)

## Dissertation

ITCS	699	Dissertation (Plan 2)	36(0-108-0)
ITCS	898	Dissertation (Plan 1)	48(0-144-0)

\* These may change in cases where there are suggestions for the improvement of the curriculum

## Additional advantages of the programme

The new curriculum of our PhD degree in Computer Science now has two study plans. The first plan is to do PhD dissertation only, and no need to take any courses. The plan gives an opportunity for students with strong determination to do research and may graduate with a shorter time. The second plan is to both study course work and do PhD dissertation. The number of required credits for core courses has been reduced. In addition, elective courses are grouped into sub-categories which include database systems, network systems and security, artificial intelligence, and software engineering.

Students also have the opportunity to do exchange with foreign universities such as University College London (UCL), one of the top computer science universities in England, and Tokyo University of Agriculture and Technology (TUAT), They are our partners, All the courses and credits taken at those universities can be transferred to Mahidol University.

For research topics, our professors have various research projects including intelligent systems research, network systems research, security research, software engineering research, data search engine research, database research, bioinformatics research, and health informatics research.

## Details of Scholarships

The Faculty of ICT offers a number of full-time scholarships with the reduced tuition fee and monthly allowance of 20,000 Baht per month to outstanding students with good background in research experiences.

## Additional information for applicants

To admit to the PhD program, all applicants must pass both English interview and proposal presentation after they presented to the admission committee of the Faculty.

## Application Process

Application is only available via online application at [www.grad.mahidol.ac.th](http://www.grad.mahidol.ac.th)

## Proposal / Concept Paper

1. List of papers published in the international conferences/journals.
2. Statement of purpose describing your intended area of research as well as the brief description of your experiences.
3. CV or Resume

## Required Documents

Prepare the following required documents to submit via online admission system or post :

- Two (2) recent photographs (1x1 inch in size)
- A copy of an applicant's degree certificate or a letter of graduation certification (for an applicant with a degree completion) 2 copies
- A letter certifying that an applicant is currently in the last semester prior to graduation (for an applicant seeking for a degree) 2 copies
- A detailed transcript of a degree (for an applicant with a degree completion) 2 copies
- A grade report with course names and grades received from the first to the current semester prior to graduation 2 copies
- A copy of Thai identification card or a passport 2 copies
- A copy of house registration certification for Thai applicants 2 copies
- A copy of proof of payment.

## Submitting all documents via online admission system.

- All documents must be in PDF format (maximum size 2 MB)
- Recent photograph must be in JPEG format only (maximum size 2 MB)

**Job option after graduation**

1. Computer Science Specialist in Education Places
2. Computer Scientist
3. Computer Science Researcher
4. IT Project Manager

Further information about the programme and scholarship may be obtained from the Director of Graduate Studies, Computer Science :

1. Assoc. Prof. Supachai Tangwongsan (E-mail : [supachai.tws@mahidol.ac.th](mailto:supachai.tws@mahidol.ac.th))
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[sudsanguan.nga@mahidol.ac.th](mailto:sudsanguan.nga@mahidol.ac.th))

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**Program Coordinator**

Miss. Thunyathorn Suthijaroen (E-mail : [thunyathorn.sut@mahidol.ac.th](mailto:thunyathorn.sut@mahidol.ac.th))

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**Note** 1. For more education information : [www.grad.mahidol.ac.th](http://www.grad.mahidol.ac.th)  
: [www.ict.mahidol.ac.th](http://www.ict.mahidol.ac.th)

For more information please contact The Student Admission Section.  
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