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# Ph.D. CS DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE

3-YEAR PROGRAM (for Master's degree holder) or  
4-YEAR PROGRAM (for Bachelor's degree holder)

The Doctor of Philosophy Program in Computer Science will serve to

- Prepare researchers in the field of computer science who are capable of developing new computing technology.
- Produce highly knowledgeable university Instructors in the field of computer science whose in-depth understanding of the knowledge critical thinking, and ability to assimilate new knowledge into their instruction will lead to the development of high quality computer scientists.

## QUALIFICATION FOR ADMISSION

Admission to the program is granted to applicants with:

- Type 2.1 : Coursework and Dissertation (Master's degree holder)**  
Master's degree in Computer Science or equivalent, or in other related technical fields, from the institutions accredited by the Ministry of Education, Thailand or by the official accreditation organization of the country where the institution is based.
- Type 2.2 : Coursework and Dissertation (Bachelor's degree holder)**  
Bachelor's degree in Computer Science or equivalent, or in other related technical fields, from the institutions accredited by the Ministry of Education, Thailand or by the official accreditation organization of the country where the institution is based.
- GPA of at least 3.25 on a scale of 4.0, or equivalent
- Three recommendation letters from lecturers or employers

## ENTRANCE REQUIREMENTS

- A completed application form
- Official transcript from the previous university attended (2 copies)
- Master degree certificate for Type 2.1 or Bachelor degree certificate for Type 2.2
- Citizen Identification Card and Residence Registration - For Thai Applicants (2 copies)
- Passport - For Non-Thai Applicants (2 copies)
- Photographs formal attire, not in graduation gown (Six, 1x1-inch size)
- Letter of recommendation from former instructors or employers at the time of the application (3 letters)

*Note: All documents must be endorsed with signature and submitted in person within the last day application period. Otherwise, the application will not be considered and the applicant will not be allowed for the Admission interview.*

**DURATION:** 3 years for Master's degree holder /  
4 years for Bachelor's degree holder

**ADMISSION FEE** 1,000 THB  
(AU English Proficiency Test and Interview)

## EXEMPTION

The AU English Proficiency Test can be exempted depending on which of the following conditions you satisfy.

- a TOEFL score of (iBT) 90 or an IELTS (Academic) score of at least 6.5 (Validation: Two years)
- a Bachelor's degree or a higher degree from native English speaking countries (e.g. USA, Canada, UK, and New Zealand)

## STUDY SYSTEM

1 <sup>st</sup> semester	August - December
2 <sup>nd</sup> semester	January - May

## VENUE & CLASS HOURS

» **Hua Mak Campus,**  
Ramkhamhaeng 24 Road

Mon. - Fri.	6.30 P.M. - 9.30 P.M.
Sat. - Sun.	9.00 A.M. - 5.00 P.M.

## GRADUATION REQUIREMENTS

### Type 2.1 and 2.2: Coursework and Dissertation

- Have completed all the courses of the curriculum
- Have obtained a cumulative grade point average of at least 3.00
- Have passed the proficiency test of English
- Have passed the qualifying examination
- Have passed the dissertation defense
- Have the dissertation /part of dissertation published or obtained an acceptance of its publication in a national or international journal approved by the Academic Committee of the department. For Type 2.2, have the dissertation /part of dissertation published or obtained an acceptance of its publication in an additional international conference with peer review.
- Have obtained library and financial clearance from the University
- Have demonstrated good behavior and discipline

## ADMISSION SCHEDULE

Admission Schedule	Semester 1/2020 (June - October 2020)	Semester 2/2020 (November - February 2021)
Application Deadline	Wed. 20 May 2020	Tue. 20 October 2020
AU EPS Test and Interview	Sat. 23 May 2020	Sat. 24 October 2020
Entrance Results	Tue. 26 May 2020	Tue. 27 October 2020
Registrar Period	1 - 5 June 2020	2 - 6 November 2020
Instruction Begins	Mon. 22 June 2020	Mon. 23 November 2020

### CURRICULUM STRUCTURE

#### Type 2.1 Coursework and Dissertation

(Masters Degree Holder)

Foundation Courses	Non-Credit
Elective Courses	12 Credits
Dissertation	36 Credits
<b>Total</b>	<b>48 Credits</b>

#### Type 2.2 Coursework and Dissertation

(Bachelors Degree Holder)

Required Courses	9 Credits
Elective Courses	15 Credits
Dissertation	48 Credits
<b>Total</b>	<b>72 Credits</b>

### STUDY PLAN FOR TYPE 2.1\*

#### FIRST YEAR

##### FIRST SEMESTER

Three Elective Courses

##### SECOND SEMESTER

One Elective Course  
Qualifying Examination

#### SECOND YEAR

##### FIRST SEMESTER

SC 9000 Dissertation

##### SECOND SEMESTER

SC 9000 Dissertation  
Prospectus Examination

#### THIRD YEAR

##### FIRST SEMESTER

SC 9000 Dissertation

##### SECOND SEMESTER

SC 9000 Dissertation  
Dissertation Examination

\*: Applicants who do not studied some foundation courses in their previous degree will have to take them.

### STUDY PLAN FOR TYPE 2.2

#### FIRST YEAR

##### FIRST SEMESTER

SC 6201 Advanced Computing Systems

SC 6202 Computability, Complexity and Algorithms

SC 6212 Programming Languages and Compiler

##### SECOND SEMESTER

Three Elective Courses

Qualifying Examination

#### SECOND YEAR

##### FIRST SEMESTER

Two Elective Courses

SC 9000 Dissertation

##### SECOND SEMESTER

SC 9000 Dissertation  
Prospectus Examination

#### THIRD YEAR

##### FIRST SEMESTER

SC 9000 Dissertation

##### SECOND SEMESTER

SC 9000 Dissertation

#### FORTH YEAR

##### FIRST SEMESTER

SC 9000 Dissertation

##### SECOND SEMESTER

SC 9000 Dissertation  
Dissertation Examination

### COURSES

#### FOUNDATION COURSES (REQUIRED COURSES)

SC 6201	Advanced Computing Systems
SC 6202	Computability, Complexity and Algorithms
SC 6212	Programming Languages and Compiler

#### ELECTIVE COURSES

SC 6319	Computer Network and Internet Security
SC 6324	Principles of Software Engineering
SC 6360	Artificial Intelligence
SC 6362	Data Mining
SC 6365	Natural Language Understanding and Processing
SC 6399	Graduate Seminar in Computer Science
SC 6601	Cloud Computing and Big Data
SC 6602	Data Analysis and Visualization
SC 6603	Data Warehousing and Business Intelligences
SC 6604	Database Management Systems
SC 6610	Pattern Recognition and Machine Learning
SC 6611	Neural Networks and Deep Learning
SC 6612	Blockchain Technology and Cryptocurrency
SC 6613	Recommender Systems
SC 6620	Computer Graphics
SC 6621	Computer Vision
SC 6622	Augmented and Virtual Environments
SC 6630	User Interface and User Experience (UI/UX)
SC 6631	Web Technology, Applications and Security
SC 6632	Mobile Computing
SC 6640	Principles of the Theory of Computation
SC 6633	Ubiquitous Computing and Internet of Things (IoT)
SC 6400-99	Selected Topics in Computer Science
SC 6500-99	Directed Individual Study in Computer Science
SC 8311	Parallel Algorithms
SC 8322	Image Processing
SC 8323	Computational Models of Decision Making
SC 8324	Natural Language Processing
SC 8350	Computer and Data Security
SC 8354	Advanced Computer Communications
SC 8380-599	Advanced Topics in Computer Science

#### DISSERTATION

SC 9000 Dissertation

### ESTIMATED FEES

#### 3 YEARS

Installments	Thai Students (THB)	Non Thai Students (THB)	(US\$)
1 <sup>st</sup> Installments	106,300	123,800	4,127
2 <sup>nd</sup> Installments	94,100	94,100	3,137
3 <sup>rd</sup> Installments	109,100	114,100	3,803
4 <sup>th</sup> Installments	109,100	109,100	3,637
5 <sup>th</sup> Installments	84,100	89,100	2,970
6 <sup>th</sup> Installments	96,100	96,100	3,203
<b>Total</b>	<b>597,600</b>	<b>625,100</b>	<b>20,837</b>

#### 4 YEARS

Installments	Thai Students (THB)	Non Thai Students (THB)	(US\$)
1 <sup>st</sup> Installments	127,300	144,800	4,827
2 <sup>nd</sup> Installments	109,100	109,100	3,637
3 <sup>rd</sup> Installments	115,100	120,100	4,003
4 <sup>th</sup> Installments	109,100	109,100	3,637
5 <sup>th</sup> Installments	84,100	89,100	2,970
6 <sup>th</sup> Installments	96,100	96,100	3,203
7 <sup>th</sup> Installments	84,100	89,100	2,970
8 <sup>th</sup> Installments	84,100	84,100	2,803
<b>Total</b>	<b>807,800</b>	<b>840,300</b>	<b>28,010</b>

#### IMPORTANT

The provisional information statements set forth in this catalog should not be construed as the basis of any contract between a student and this institution. As such Assumption University reserves the right to change any provision listed in this catalog, including, but not limited to academic requirements for graduation. Every effort through the Office of Graduate Studies, will be made to keep students advised of any such changes.

The University Registrar

#### APPLY AT

##### Hua Mak Campus

Admissions Center "P" Building, 1<sup>st</sup> floor,  
Ramkhamhaeng 24 Road, Bangkok 10240 Thailand

##### Office hours:

Monday – Friday	08:30 A.M. - 05:00 P.M.
Saturday	08:00 A.M. - 04:30 P.M.
Sunday	08:00 A.M. - 02:00 P.M.

##### ABAC Professional Training Center

ZEN @Central World, Level 14  
4, 4/5 Rajdamri Rd., Phatumwan  
Bangkok 10330 Thailand

##### Office hours:

Monday - Friday	10:00 A.M. to 06:00 P.M.
Saturday - Sunday	10:00 A.M. to 06:00 P.M.

##### Suvarnabhumi Campus

Admissions Center SR101,  
88 Moo 8 Bang Na-Trad Km.26, Bangsangthong,  
Samuthprakarn, Thailand 10540

##### Office hours:

Monday - Friday	08:30 A.M. to 05:00 P.M.
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### UNIVERSITY ADMISSIONS CENTER (UNIAD)

#### HUA MAK CAMPUS

Tel. +66 (2) 300 4543-62 Ext.1244  
Tel. +66 (2) 719 1929  
Website : www.grad.au.edu  
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#### SUVARNABHUMI CAMPUS

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### GSATM ADMISSIONS CENTER

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