DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE

3-YEAR PROGRAM
THESIS OPTIONS (DISSERTATION)

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.

ADMISSION REQUIREMENTS

QUALIFICATION FOR ADMISSION
Admission to the program is granted to applicants with:
1. **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.

2. GPA of at least 3.25 on a scale of 4.0, or equivalent
3. Three recommendation letters from lecturers or employers

ENTRANCE REQUIREMENTS
1. A completed application form
2. Official transcript of the previous university attended (2 copies)
3. Master’s degree certificate for Type 2.1 or Bachelor’s degree certificate for Type 2.2
4. Citizen Identification Card and Residence Registration - For Thai Applicants (2 copies)
5. Passport - For Non-Thai Applicants (2 copies)
6. Photographs formal attire, not in graduation gown (Six, 1x1-inch size)
7. 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

ADMISSION FEE
- Admission Fee: Baht 500
- AU English Proficiency Test: Baht 500
- 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
1st semester  August - December 2017
2nd semester  January - May 2018

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 2017 / 2018

<table>
<thead>
<tr>
<th>Admission Schedule</th>
<th>Semester 1/2017</th>
<th>Semester 2/2017</th>
<th>Semester 1/2018</th>
<th>Semester 2/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU English Proficiency Test</td>
<td>July 22, 2017</td>
<td>December 17, 2017</td>
<td>July 22, 2018</td>
<td>December 16, 2018</td>
</tr>
<tr>
<td>Examination Interview</td>
<td>July 22, 2017</td>
<td>December 20, 2017</td>
<td>July 24, 2018</td>
<td>December 18, 2018</td>
</tr>
<tr>
<td>AU Entrance Results</td>
<td>July 24, 2017</td>
<td>December 23, 2017</td>
<td>July 26, 2018</td>
<td>December 20, 2018</td>
</tr>
<tr>
<td>Registration Period</td>
<td>July 26 - August 11, 2017</td>
<td>January 3-13, 2018</td>
<td>July 30 - August 11, 2018</td>
<td>January 7-14, 2019</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>August 7, 2017</td>
<td>January 8, 2018</td>
<td>August 7, 2018</td>
<td>January 7, 2019</td>
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</tbody>
</table>

Application Filling Period
- AU English proficiency Test
- Examination Interview
- AU Entrance Results
- Registration Period
- Instruction Begins
# Ph.D. CS
## DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE

### CURRICULUM STRUCTURE

<table>
<thead>
<tr>
<th>Type 2.1 Coursework and Dissertation (Masters Degree Holder)</th>
<th>Type 2.2 Coursework and Dissertation (Bachelors Degree Holder)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Courses</td>
<td>Non-Credit</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>12 Credits</td>
</tr>
<tr>
<td>Dissertation</td>
<td>36 Credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48 Credits</strong></td>
</tr>
</tbody>
</table>

### 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 Computationality, 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 Computationality, 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 6380 Artificial Intelligence
- SC 6382 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

**Fee Description**
- 3-Years (6 Semesters)

<table>
<thead>
<tr>
<th>Enrollment Fees</th>
<th>THB</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matriculation Fee (Thai Students)</td>
<td>10,000</td>
<td>303</td>
</tr>
<tr>
<td>Matriculation Fee (non-Thai Students)</td>
<td>22,500</td>
<td>681</td>
</tr>
<tr>
<td>Student’s Activity Fee</td>
<td>7,000</td>
<td>213</td>
</tr>
</tbody>
</table>

**Registration Fees**
- Tuition Fee (THB 7,000 x 48 credits) | 336,000 | 10,182 |
- University Fee (THB 19,900 x 6 Semesters) | 119,400 | 3,618 |
- Annual Internet & Access Control Fee (THB 2,400/YEAR) | 7,200 | 219 |
- Annual Health & Life Insurance Fee (non-Thai Students, THB 5,000/YEAR) | 15,000 | 455 |

**Approximate Total for Thai Students** | 479,600 | 14,535 |
**Approximate Total for non-Thai Students** | 507,100 | 15,367 |

**Note:**
1. Tuition fee doesn’t cover the following:
   - Admission fee
   - Tuition fee for non-credit courses
   - Thesis Final Defense
   - All Academic Writing Course (15,000 THB)
2. The fees are subject to change at the university’s discretion without prior notice.
3. Currency exchange rate: US $1 = THB 33

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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
E-mail: gradadmission@au.edu

**ABAC CITY CAMPUS**
Zen @ Central World, 14th floor.
E-mail: citycampus@au.edu
Tel: +66 (2) 1009 115-8

**SUVARNABHUMI CAMPUS**
Tel: +66 (2) 300 4543-62 Ext. 1244
Tel: +66 (2) 719 1929
Website: www.grad.au.edu
E-mail: gradadmission@au.edu

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**IMPORTANT**
The 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.

Last updated: March 2018

The University Registrar