M.S. CS
MASTER OF SCIENCE IN COMPUTER SCIENCE

2-YEAR PROGRAM, THESIS AND NON-THESIS OPTIONS
The Master of Science Program in Computer Science aspires to produce graduates who are capable of working efficiently in technology-oriented environments. In order to meet this philosophy, the curriculum emphasizes:

- True understanding of the principles of major topics in Computer Science.
- Analytical approaches in solving problems and decision making based on technology and research methodology.
- Innovative skills to create research work that is worthy in both academic and computer applications.

ADMISSION REQUIREMENTS
QUALIFICATION FOR ADMISSION
The following admission requirements (recommended) for any prospective students to enter the program:
1. Bachelor’s degree from an accredited institution.
   The applicants must graduate from the following academic fields: Computer Science, Information Technology, Telecommunications Science, Engineering or related field.
2. Three recommendation letters from lecturers or employers.
3. Required GPA of at least 2.5

ENTRANCE REQUIREMENTS
1. A completed application form
2. Official transcript from the previous university attended (2 copies)
3. Bachelor’s degree certificate (2 copies)
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.

ADMISSION SCHEDULE 2018 / 2019

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Filling Period</td>
<td>December 15, 2018</td>
<td>July 21, 2019</td>
<td>December 14, 2019</td>
</tr>
<tr>
<td>AU English Proficiency Test</td>
<td>December 16, 2018</td>
<td>July 22, 2019</td>
<td>December 15, 2019</td>
</tr>
<tr>
<td>Examination Interview</td>
<td>December 18, 2018</td>
<td>July 24, 2019</td>
<td>December 16, 2019</td>
</tr>
<tr>
<td>AU Entrance Results</td>
<td>December 20, 2018</td>
<td>July 26, 2019</td>
<td>December 18, 2019</td>
</tr>
<tr>
<td>Registration Period</td>
<td>January 7-14, 2019</td>
<td>July 29 - August 9, 2020</td>
<td>December 23 - January 6, 2021</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>January 7, 2019</td>
<td>August 5, 2019</td>
<td></td>
</tr>
</tbody>
</table>

ADMISSION FEE
AU English Proficiency Test and Interview Baht 500
Admission Fee Baht 500

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
- 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
2nd 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.

DURATION: 2 years

GRADUATION REQUIREMENTS
Plan A: Coursework and Thesis
1. Have completed all the courses of the curriculum.
2. Have obtained a cumulative grade point average of at least 3.00.
3. Have passed the thesis defense.
4. Have a publication or obtain an acceptance of a publication related to the content of the thesis in a journal or an international conference proceeding and which is approved by the Academic Committee of the department.
5. Have obtained library and financial clearance from the University.
6. Have demonstrated good behavior and discipline.
7. Have passed Research Planning and Management Seminar.

Plan B: Coursework and Independent Study
1. Have completed all the courses of the curriculum.
2. Have obtained a cumulative grade point average of at least 3.00.
3. Have passed the comprehensive examination.
4. Have passed the project presentation.
5. Have obtained library and financial clearance from the University.
6. Have demonstrated good behavior and discipline.
7. Have passed Research Planning and Management Seminar.
# M.S. CS
## MASTER OF SCIENCE IN COMPUTER SCIENCE

### STUDY PLAN

**Thesis Option (Plan A)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparatory Courses</td>
<td>12</td>
</tr>
<tr>
<td>Required Courses</td>
<td>9</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>15</td>
</tr>
<tr>
<td>Thesis</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
</tr>
</tbody>
</table>

**Coursework and Independent Study (Plan B)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparatory Courses</td>
<td>Non-credit</td>
</tr>
<tr>
<td>Required Courses</td>
<td>9</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>24</td>
</tr>
<tr>
<td>Project</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
</tr>
</tbody>
</table>

### YEAR 1

**Semester 1**

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

**Semester 2**

- Plan A: Three Elective Courses

### YEAR 2

**Semester 1**

- Plan A: Two Elective Courses + SC 7000 Thesis
- Plan B: Three Elective Courses

**Semester 2**

- Plan A: SC 7000 Thesis
- Plan B: Two Elective Courses + SC6900 Master Project + Comprehensive Examination

### CURRICULUM

#### Preparatory Courses

- ES 5001 English for Graduate Study
- SC 5211 Computer Programming & Data Structure
- SC 5201 5212 Computing Systems

#### 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

**Thesis**

- 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

### Independent Study

- SC6900 Master Project

### Fee Description

#### Total fee

<table>
<thead>
<tr>
<th>Total fee</th>
<th>THB</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximate total for Thai students</td>
<td>337,400</td>
<td>10,224</td>
</tr>
<tr>
<td>Approximate total for non-Thai students</td>
<td>359,900</td>
<td>10,900</td>
</tr>
</tbody>
</table>

#### Note:

1. The total fee above doesn’t cover the followings:
   - Admission fee
   - Tuition fee for non-credit courses
   - Text books
   - Thesis Final Defense/Comprehensive Examination
   - AU Academic Writing Course (15,000 THB)

2. The fees are subject to change at the university’s discretion without prior notice.
3. The currency exchange rate: US $1 = THB 33

---

**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.

Last updated: February 2019

The University Registrar