ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969

# GRADUATE STUDIES

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# 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 environment. 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.*

### 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 tield.
2. GPA of at least 2.5 out of 4.0 or equivalent
3. English Proficiency Test and Interview Entrance Examination

### ENTRANCE REQUIREMENTS

1. A completed application form
2. Official transcript of the previous university attended (1 copy)
3. Bachelor's degree certificate (1 copy)
4. Citizen identification card and house registration (1 copy) - for Thai applicants
5. Passport (1 copy) - for Non-Thai applicants
6. Three (1x1.5 inches) photographs (formal attire, not in graduation gown)
7. Letter of recommendation from former instructors or employers at the time of the application (2 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 FEE

1,000 THB

### 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, New Zealand and Australia)

### 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**

- Have completed all the courses of the curriculum.
- Have obtained a cumulative grade point average of at least 3.00.
- Have passed the thesis defense.
- 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.
- Have obtained library and financial clearance from the University.
- Have demonstrated good behavior and discipline.
- Have passed Research Planning and Management Seminar

**Plan B: Coursework and Independent Study**

- Have completed all the courses of the curriculum.
- Have obtained a cumulative grade point average of at least 3.00.
- Have passed the comprehensive examination.
- Have passed the project presentation.
- Have obtained library and financial clearance from the University.
- Have demonstrated good behavior and discipline.
- Have passed Research Planning and Management Seminar.

**Vincent Mary School of Science and Technology**
4th Fl., A building, Huamak campus,
Ramkhamhaeng 24 Rd., Bangkok,
Thailand
Tel: 02-300-4543 ext.1340

## Admission Schedule

| Admission Schedule | Semester 1/2021 (June - October 2021) | Semester 2/2021 (November 2021 - February 2022) |
|---|---|---|
| Application Deadline | Wed. 19 May 2021 | Wed. 20 October 2021 |
| AU English Proficiency Test and Interview | Sat. 22 May 2021 | Sat. 23 October 2021 |
| Entrance Results | Tue. 25 May 2021 | Tue. 26 October 2021 |
| Registration Period | 1 - 5 June 2021 | 1 - 5 November 2021 |
| Instruction Begins | Mon. 7 June 2021 | Mon. 8 November 2021 |

## STUDY PLAN

| Thesis Option (Plan A) | |
|---|---|
| Preparatory Courses | Non-credit |
| Required Courses | 9 credits |
| Elective Courses | 15 credits |
| Thesis | 12 credits |
| **Total** | **36 credits** |

| Coursework and Independent Study (Plan B) | |
|---|---|
| Preparatory Courses | Non-credit |
| Required Courses | 9 credits |
| Elective Courses | 24 credits |
| Master Project | 3 credits |
| Comprehensive Examination | Non-credit |
| **Total** | **36 credits** |

### YEAR 1

**Semester 1**

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

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**Semester 2**

Plan A Three Elective Courses

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### YEAR 2

**Semester 1**

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

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**Semester 2**

Plan A SC 7000 Thesis
Plan B Two Elective Courses + SC6900 Master Project + SC7777 Comprehensive Examination

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## CURRICULUM

**Preparatory Courses**

ES 5001 English for Graduate Study
SC 5211 Computer Programming & Data Structure
SC5212 Computing Systems

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**Required Courses**

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

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**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 6409 Selected Topics in Quantum Computing
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 8350 Computer and Data Security
SC 8354 Advanced Computer Communications
SC 8380-599 Advanced Topics in Computer Science

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**Independent study**

SC6900 Master Project
SC7777 Comprehensive Examination

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**Thesis**

SC7000 Thesis

## ESTIMATED FEES

| Installments | Thai Students (THB) | Non Thai Students (THB) | Non Thai Students (US$) |
|---|---|---|---|
| 1st Installments | 133,100 | 150,600 | 5,020 |
| 2nd Installments | 80,100 | 80,100 | 2,670 |
| 3rd Installments | 91,100 | 96,100 | 3,203 |
| 4th Installments | 80,100 | 80,100 | 2,670 |
| **Total** | **384,400** | **406,900** | **13,563** |

Note:
1. The total fee above doesn't cover the followings:
   - Admission fee
   - Text books
   - SC7777 Comprehensive Examination (if apply)
2. The fees are subject to change at the university's discretion without prior notice.
3. Currency exchange rate: US $1 = THB 30

## APPLY AT

### Hua Mak Campus

Admissions Center "P" Building, 1st 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. |

### Suvarnabhumi Campus

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

Office hours:

| | |
|---|---|
| Monday - Friday | 08:30 A.M. to 05:00 P.M. |

**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*



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