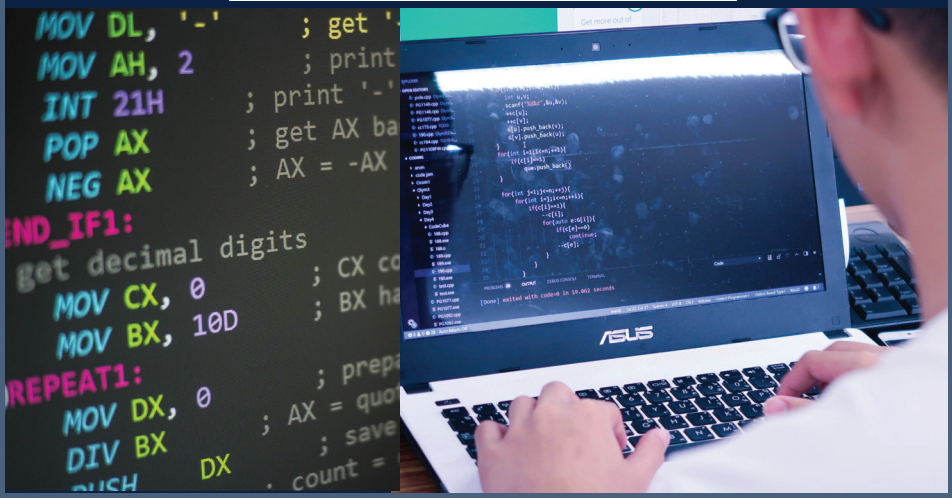
Master & Doctor of Philosophy Programs in Computer Science

Research Fields

Pattern Recognition
Data Analysis
Internet of Things and Network Communication
Machine Learning
Web Semantic and Ontology

For more information,
please visit the following website.
www.cs.science.cmu.ac.th



Master of Science Program in Computer Science

Type 1 (Plan A Type A1)

Degree Requirements **36 credits**

A. Thesis

204797 Master's Thesis 36 credits

B. Academic Activities

1. A student has to attend seminar and present paper on the topic related to his/her thesis for 1 time(s) in every semester for at least 4 semesters and students have to attend seminar every semester that the course is offered.
2. At least 1 master's thesis work or a part of master's thesis work must be published or at least accepted to publish in a national journal listed in TCI Tier 1 database with the student as the first author and at least a part of master's thesis work must be published as full paper with the student as the first author in a proceedings of international conferences acceptable by the field of study's standard.
3. A student is required to report his/her thesis progression, approved by the Graduate Study Committee, to the Graduate School every semester.

C. Non-credit courses

1. Graduate School's requirement

   a foreign language

2. Program's requirement

   Enroll in

   204792 Research Methodology in Computer Science 2 credits

   which student has obtaind a "B" or higher grade.

Type 2 (Plan A Type A2)

Degree Requirements	**a minimum of**	**39**	**credits**
A. Course work	a minimum of	27	credits
1. Graduate courses	a minimum of	27	credits
1.1Field of Specialization	a minimum of	27	credits
1.1.1 Required courses		15	credits
204712 Computer Systems and Networks		3	credits
204721 Data Engineering		3	credits
204732 Software Engineering : Theory and Application		3	credits
204735 Computation and Algorithms		3	credits
204791 M.S. Seminar in Computer Science		1	credit
204792 Research Methodology in Computer Science		2	credits
1.1.2 Elective courses	a minimum of	12	credits
1.1.2.1 Prescribed elective courses		6	credits

A student may select a group of subjects according to his/her field of interest at least one group from the groups specified in (1) or (2) or (3).

(1) Computer System and Security

204713 Cloud Computing and Big Data	3	credits
204715 Intelligent Embedded System	3	credits

or (2) Data Science

204725 Data Analytics and Machine Learning	3	credits
204728 Data Manipulation	3	credits

or (3) Software Engineering

204736 Software Process Improvement	3	credits
204737 Software Quality Engineering	3	credits

1.1.2.2 Elective courses	a minimum of	6	credits

A student can enroll in any courses in other groups of subjects, which are unselected as prescribed elective courses

mentioned in 1.1.2.1 or the following courses or other courses with approval of Graduate Program Administrative Commmittee.

- Computer System and Security

204711	Computer Architecture	3 credits
204714	Advanced Concepts in Operating Systems	3 credits
204716	Parallel Processing	3 credits
204717	Concurrent Programming	3 credits
204754	Cryptography and Computer Security	3 credits
204761	Data Communications and Computer Networks	3 credits
204763	Distributed System	3 credits

- Data Science

204722	Information Retrieval	3 credits
204755	Neural Networks and Fuzzy Logic	3 credits
204764	Artificial Intelligence	3 credits
204765	Expert System	3 credits
204767	Image Processing	3 credits
204774	Data Mining	3 credits

- Software Engineering

204723	Analysis and Design of Information System	3 credits
204726	Design and Management of Database System	3 credits
204733	Software Project Management	3 credits
204734	Object-Oriented Technology and Development	3 credits

- Theory

204731	Data Structure and Algorithms	3 credits
204741	Principles of Programming Languages	3 credits
204742	Compiler Design and Construction	3 credits

204752 Theory and Languages of Simulation 3 credits

204753 Computational Theory 3 credits

- Information Systems

204724 Decision Support System 3 credits

204727 Information Technology in Business 3 credits

204766 Computer Graphics 3 credits

204771 Internet Technology 3 credits

- Selected Topics

204779 Selected Topics in Computer Science 2 credits

204789 Selected Topics in Computer Science 3 credits

1.2 Other courses (if any)

1.2.1 Required courses - none -

1.2.2 Elective courses

With approval of the Graduate Program Administrative Committee.

2. Advanced undergraduate courses - none -

B. Thesis

204799 Master's Thesis 12 credits

C. Non-credit courses

1. Graduate School requirement

- a foreign language

2. Program's requirement

It necessary enroll in additional courses as required by the Graduate Program Administrative Committee: Those who did not complete any course in computer must take the course

204700 Data Structure and Programming Languages 2 credits

and / or 204701 Networking and Operating System 2 credits

D. Academic Activities

1. A student has to attend seminar and present paper on the topic related to his/her thesis for 1 time(s) in every semester for at least 3 semesters and students have to attend seminar every semester that the course is offered.
2. At least 1 master's thesis work or a part of master's thesis work must be published or at least accepted to publish in a national journal listed in TCI Tier 1 database with the student as the first author or at least a part of master's thesis work must be published as full paper with the student as the first author in a proceedings of international conferences acceptable by the field of study's standard.

Type 3 (Plan B)

Degree Requirements	**a minimum of**	**39**	**credits**
A. Course work	a minimum of	33	credits
1. Graduate courses	a minimum of	33	credits
1.1Field of Specialization	a minimum of	33	credits
1.1.1 Required courses		15	credits
204712 Computer Systems and Networks		3	credits
204721 Data Engineering		3	credits
204732 Software Engineering : Theory and Application		3	credits
204735 Computation and Algorithms		3	credits
204791 M.S. Seminar in Computer Science		1	credit
204792 Research Methodology in Computer Science		2	credits
1.1.2 Elective courses	a minimum of	18	credits
1.1.2.1 Prescribed elective courses		6	credits

A student may select a group of subjects according to his/her field of interest at least one group from the groups specified in (1) or (2) or (3).

(1) Computer System and Security

Student can enroll the followings courses

204713 Cloud Computing and Big Data 3 credits

204715 Intelligent Embedded System 3 credits

or (2) Data Science

Student can enroll the followings courses

204725 Data Analytics and Machine Learning 3 credits

204728 Data Manipulation 3 credits

or (3) Software Engineering

Student can enroll the followings courses

204736 Software Process Improvement 3 credits

204737 Software Quality Engineering 3 credits

1.1.2.2 Elective courses a minimum of 12 credits

A student can enroll in any courses in other groups of subjects, which are unselected as prescribed elective courses mentioned in 1.1.2.1 or the following courses or other courses with approval of Graduate Program Administrative Commmittee.

- Computer System and Security

204711 Computer Architecture 3 credits

204714 Advanced Concepts in Operating Systems 3 credits

204716 Parallel Processing 3 credits

204717 Concurrent Programming 3 credits

204754 Cryptography and Computer Security 3 credits

204761 Data Communications and Computer Networks 3 credits

204763 Distributed System 3 credits

- Data Science

204722 Information Retrieval 3 credits

204755 Neural Networks and Fuzzy Logic 3 credits

204764 Artificial Intelligence 3 credits

204765 Expert System 3 credits

204767 Image Processing 3 credits

204774 Data Mining 3 credits

- Software Engineering

204723 Analysis and Design of Information System 3 credits

204726 Design and Management of Database System 3 credits

204733 Software Project Management 3 credits

204734 Object-Oriented Technology and Development 3 credits

- Theory

204731 Data Structure and Algorithms 3 credits

204741 Principles of Programming Languages 3 credits

204742 Compiler Design and Construction 3 credits

204752 Theory and Languages of Simulation 3 credits

204753 Computational Theory 3 credits

- Information Systems

204724 Decision Support System 3 credits

204727 Information Technology in Business 3 credits

204766 Computer Graphics 3 credits

204771 Internet Technology 3 credits

- Selected Topics

204779 Selected Topics in Computer Science 2 credits

204789 Selected Topics in Computer Science 3 credits

1.2 Other courses (if any)

1.2.1 Required courses - none -

1.2.2 Elective courses

With approval of the Graduate Program Administrative Committee.

2. Advanced undergraduate courses - none -

B. Thesis

204798 Independent Study 6 credits

C. Non-credit courses

1. Graduate School's requirement

- a foreign language

2. Program's requirement

It necessary enroll in additional courses as required by the Graduate Program Administrative Committee: Those who did not complete any course in computer must take the course

204700 Data Structure and Programming Languages 2 credits

and / or 204701 Networking and Operating System 2 credits

D. Academic Activities

1. A student has to attend seminar and present paper on the topic related to his/her Independent study for 1 time(s) in every semester for at least 3 semesters and students have to attend seminar every semester that the course is offered.
2. At least 1 independent study work or part of independent study work must be published in CMU Graduate Journal or in other academic publication approved by the field of study and the graduate school with the student as the first author.

E. Comprehensive Examination

Having submitted a request form to the Graduate School, approved by general advisor or major thesis advisor, a student must then complete a comprehensive examination.