

# DATA SCIENCE

@Science CMU

Drive through the future

## Bachelor of Science Program in Data Science

Joint Program under Department of Mathematics, Department of Statistics, and Department of Computer Science  
Faculty of Science, Chiang Mai University

Data structure and database systems

Big Data

Data manipulation

Machine learning

$$T(n) = O(n^2)$$

Artificial intelligence

Studying @SCI

Expanding your mind

Research in Data Science

Probability and Statistical Learning

$$\frac{2}{n} \sum_{i=1}^n (a_0 + a_1 \cdot x_i - y_i) \cdot x_i$$

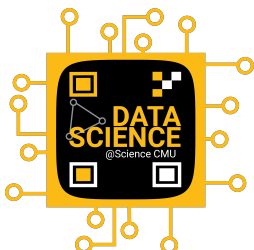
Mathematical Modeling

Programming

$$t(G) = 2^{2^n - n - 1} \prod_{k=1}^n$$

Computer Sciences

$$T(n) = O(n^2)$$



[www.ds.science.cmu.ac.th](http://www.ds.science.cmu.ac.th)



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# DATA SCIENCE

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Today, we are living in the digital world in which technological advances allow us to generate large amount of data in various forms, such as sensors, digital images, streaming videos, satellite and medical imagery, and many more. To fully understand and utilize them, extractions of meaningful information from big data are needed, causing a sudden rise in demand for data scientists in every sector: industry, health care, government, etc.

In 2019, the Faculty of Science offers an undergraduate program in Data Science, organized jointly by the departments of Mathematics, Statistics, and Computer Science.

## Study Program

Our data science program is not only designed to provide the basic knowledge of Mathematics, Statistics, and Computer Science but also prepares students to integrate mathematics, statistics and computer science and apply these areas of expertise in real world problems through internships in data science-related fields in several sectors. The course structure balances theory and practical application throughout the courses including:

- ◆ Mathematics
- ◆ Computer science and programming
- ◆ Probability and Statistical learning
- ◆ Machine learning
- ◆ Artificial intelligence
- ◆ Data manipulation
- ◆ Data structures and database systems
- ◆ Seminar in data science
- ◆ Research projects in data science
- ◆ Internship in data science
- ◆ Ethical issues around the use and processing of data
- ◆ Many others...

## Study Plan

### First Year

#### Semester 1

Fundamental English 1  
Calculus 1  
Probability and Statistics  
Fundamental Concept of Data Science  
Science and Mathematics Courses  
Humanities and Social Sciences Courses

#### Semester 2

Fundamental English 2  
Calculus 2  
Programming for Data Science  
Science and Mathematics Courses  
Humanities and Social Sciences Courses

### Second Year

#### Semester 1

Critical Reading and Effective Writing  
Discrete Mathematics  
Statistical Methods for Data Science  
Data Manipulation for Data Science  
Minor (if any)  
Free Electives

#### Semester 2

English in Science and Technology Context  
Data Structures  
Applied Linear Algebra  
Statistical learning for Data Science 1  
Major Electives  
Learning Through Activities

### Third Year

#### Semester 1

Data Engineering  
Statistical Learning for Data Science 2  
Major Electives  
Minor (if any)

#### Semester 2

Learning Through Activities  
Ethics for Computer Professionals  
Machine Learning  
Seminar in Data Science  
Major Electives  
Minor (if any)

### Fourth Year

#### Semester 1

Cooperative Education (Internship)

#### Semester 2

Research in Data Sciences  
Major Electives  
Minor (if any)  
Free Electives

## Career Path



A data scientist  
A data analyst  
A data engineer  
A business analyst  
A data officer  
An analytics consultant  
A strategic planner  
More...

## Information

### Tuition & Fees

16,000 THB/Semester  
(128,000 THB Total)

### Application Requirement

The students must receive Matthayom 6 certificate in science-mathematics program.

### Admission

The students can apply through TCAS system (round 1 - 4).

### More Information

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