

**Course Detail**  
**Master of Science Program in Data Science and Artificial Intelligence)**

<b>Course Title:</b>	Master of Science Program in Data Science and Artificial Intelligence
<b>Master's Degree:</b>	Master of Science (Data Science and Artificial Intelligence) M.Sc. (Data Science and Artificial Intelligence)
<b>Academic Institution:</b>	Walailak University
<b>Duration:</b>	1 Year 6 Months (June 2024 - May 2026)

**Background and Rationale:**

Master Program in Data Science and Artificial Intelligence is a unique combination program of data analysis and AI methods and techniques to understand, use and improve intelligent systems for different kinds of complex data and decision-making. Within 2 years of program, you will have solid skills in data science, machine learning and AI which highly demanded everywhere nowadays.

Our program provides various fields, so you are free to choose your own interest of research.

**Objectives:** Program Learning Outcomes (PLO)

PLO1 Understand proficiently in theory of data science and artificial intelligence.

PLO2 Ability to apply theory in data science and artificial intelligence to manage the big data that exists in the 4.0 era skillfully and cause the most benefit for the development of the country.

PLO3 Ability to create a thesis and publish the research that is internationally recognized.

PLO4 Understand moral and ethical according to the philosophy of "Sufficiency Economy"

**Course Synopsis and Methodology:**

**Type A2: Research and Coursework (Total 39 credits)**

**Course Description**

- Data Science and Artificial Intelligence and their Applications
- Data Modeling and Management
- Business Intelligence and Analytics
- Computer Programming for Data Science and Artificial Intelligence
- Machine Learning
- Artificial Intelligence: Natural Language Understanding
- Research Internship
- Seminar in Data Science and Artificial Intelligence
- Multivariate Analysis and its Applications in Data Science
- Multicriteria Optimization and Decision Analysis
- Statistical Data Analysis
- Modern Statistical Computing
- Stochastic Processes and their Applications
- Artificial Intelligence: Knowledge Representation and Reasoning
- Human Computer Interfacing
- Artificial Neuron Networks and Deep Learning
- Internet of Things
- Big Data and Cloud Computing

- Applications of Machine Learning in Banking and Finance
- Applications of Deep Learning in the Natural Sciences
- Real-World Applications of Machine Learning in Healthcare
- Artificial Intelligence and Machine Learning in E-Learning
- Data Visualization on Super Resolution Wall Display
- Thesis 1
- Thesis 2
- Independent Study

**Study plan:** Plan A2 Research-based with coursework

**Graduation Conditions:**

1. The student must satisfy all the graduation requirements specified in the Regulation of Walailak University on Graduate Study B.E. 2563.
2. One paper at international standard should be published.

**Applicant Qualifications**

1. Holding a bachelor's degree in science or equivalent in related programs
2. Having GPA of at least 3.25 from the maximum of 4.00 (or lower plus adequate research experience)
3. Good reading, writing and communication skills in English.
4. To obtain the M.Sc. in Science Degree, TOEFL 450 or equivalent must be passed during the study period.

**Document Required**

- TIPP application form (Download at: <https://tica-thaigov.mfa.go.th/en/page/75500-tipp-application-form?menu=605b13dbb6f1b76ed31778b3>)
- Medical Report (If candidates had submitted other health certificates without the TICA medical report form, their application will not be accepted for consideration)
- Transcript of Bachelor's degree (to show the courses that you have learnt throughout Bachelor's degree)
- Certificate of Bachelor's degree
- English test score (IELTS 6 , or TOEFL (IBT 6.5) , (PBT 400), International program within 2 years)
- Recommendation Letter (At least 3 people)

**Contact:**

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\*\*\*The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/territories.