



62FIT3AIN

Artificial Intelligence

Fall 2025

Module Description

Contact Details

Instructor:	Dr. Nguyen Xuan Thang
Office:	Room 210, Building C, Hanoi University
Email:	nxthang@hanu.edu.vn
Teaching Assistant:	Mr. Nguyen Thanh Vinh
Email:	ngtv117@gmail.com
Teaching Assistant:	Mr. Tran Mai Huong
Email:	maihuong372003@gmail.com

Module Overview

- **Module Details**

Faculty	Information Technology
Module code	62FIT3AIN
Module name	Artificial Intelligence
Level	Undergraduate
Units of credit	Three (3)
Prerequisite	DMP, CAL, ALG, DSA, PRO1, PRO2.
Suggested study	Ten (10) hours per week
Year	2025

- **Nature of the module**

The goal of this module is to introduce the essential concepts and issues in artificial intelligence. Topics include intelligent problem solving with search, knowledge representation and inference, intelligent agents, intelligent planning, machine learning, and reinforcement learning. The module aims to gear these ideas towards specific significant applications using Python programming language. Some additional knowledge of discrete mathematics, object-oriented programming, and data structure and algorithms will be introduced if necessary.

- **Learning objectives**

On the completion of this module students should be able to:

- (1) Understand fundamental knowledge of artificial intelligence.

- (2) Gain general knowledge about AI problem solving.
- (3) Understand, develop basic AI algorithms using Python as the programming language.
- (4) Have teamwork, self-study and programming skills using Python.
- (5) Develop strict discipline.
- (6) Develop self-motivation and time management skills.

Learning Resources

We recommend you to read the following books:

Books	Notes	Use
<ul style="list-style-type: none"> • S. Russell and P. Norvig, <i>Artificial Intelligence: A Modern Approach</i>, Pearson, 3rd Ed., 2016. 	Main book	LEC, TUT
<ul style="list-style-type: none"> • D. Graupe, <i>Principles of Artificial Neural Networks</i>, Advance Series on Circuits and Systems Vol 7 ser. World Scientific, 3rd Ed., 2013. 	Artificial Neural Networks	REF
<ul style="list-style-type: none"> • J. Grus, <i>Data Science from Scratch: First principles with Python</i>, O'Reilly, 2015. 	Data Science with Python	REF

Course website:

<https://lms.fit.hanu.vn/course/view.php?id=425>

Assessments

Assessment Name	Weight	Brief Description	Linked learning objectives
Attendance	0%	Students are expected to attend all classes. Students must participate in at least 80% of classes. Students who are requesting an excused absence are expected to show certified evidences.	(5) (6)
Discussion	10%	Students need to be active, and answer all questions during lectures/tutorials.	(1)(2)(3)
Assignment	30%	Students are organized into groups. Each group prepares one topic and results must be presented in tutorial session.	(1)(3)(4)
Final Exam	60%	Project-based	(1)(2)(3)(4)

- **Determination of final grade**

Your internal mark, final exam and final grade are rounded to integers out of 10. The calculation uses the weightings in the assessment table above. You are not qualified to take the final exam (both first and second) if you participate less than 80% of classes.

Your grade is determined from your mark according to Hanoi University scale

- Less than 5: Fail
- 5: Pass
- 6 to 7: Good
- 8 to 10: Excellent

- **Pass Criteria**

To obtain a grade of pass or higher in this module student must score 5 or more at Final Exam.

Proposed Weekly Lecture & Tutorial Schedule

Week	Lecture	Tutorial
1	Search Algorithms	Python Lab 01
2	Knowledge Representation	Python Lab 02
3	Uncertainty in AI	Python Lab 03
4	Optimization	Python Lab 04
5	Midterm	No tutorial
6	Machine Learning 1	Assignment 01
7	Machine Learning 2	Assignment 02
8	Neural networks 1	Assignment 03
9	Neural networks 2	Assignment 04
10	Natural Language Processing 1	Assignment 05
11	Natural Language Processing 2	Assignment 06
12	Revision	Assignment 07
13	Final Exam	

Academic Honesty and Misconduct

Hanoi University expects all students and staff to act with honesty and integrity with all matters.