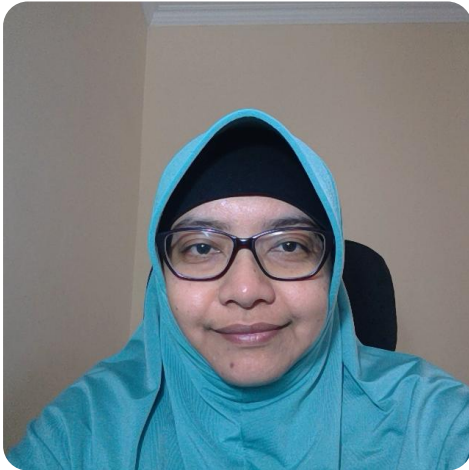# Introduction to Artificial Intelligence

Informatics Engineering Study Program
School of Electrical Engineering and Informatics

Institute of Technology Bandung

Lecturers

K1

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K2

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K3

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Program Educational Objectives (PEO) - IF

1. Our graduates will have successful careers in their profession in informatics or related fields.
2. Our graduates will successfully pursue graduate study or engage in professional development.
3. Our graduates will demonstrate leadership and play active roles in the improvement of their community, especially in the development of new tools, technologies and methodologies.

Student Outcome - IF

Graduates of the program will have an ability to:

1. An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

2. An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

3. An ability to communicate effectively in a variety of professional contexts.

4. An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

5. An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

6. An ability to apply computer science theory and software development fundamentals to produce computing-based solutions.

Objectives For Students – IF3170

1. Students are able to distinguish an AI based application/ system versus non-AI based application/ systems, from four approaches of AI definition.
2. Students are able to apply different techniques and define appropriate technique in solving simple problem (in searching over states).
3. Students are able to analyze techniques in the fields of intelligent system and apply a selected technique on a given problem.

Courses

- **Credits:** 4 credit points
- **Prerequisites:**
  - Computational Logic
  - Algorithmic Strategy
  - Automaton and Formal Language Theory
  - Probability & Statistics
- **Courses:**
  - Attending classes 4 hours/week:
    - Monday 09.00-10.40; Wednesday 07.00-08.40
    - attendance is obligatory
  - Project Assignments (*Tugas Besar*): 29 Sept (Tubes 1) & 10 Nov (Tubes 2)
  - Practicum: 29 Oct (week 9) & 24 Nov (week 13)
  - Quizzes: 22 Sept (week 4) & 10 Nov (week 11)
  - Midterm Exam (week 8); Final Exam (week 16)
  - Guest Lecture: 19 Sept (Friday, at ITB Ganesha), 8 Dec

Courses contents

1. Introduction
2. What is AI and Intelligent Agent
3. Problem Solving Agent
4. Knowledge Based Agent
5. Introduction to Learning Agent & CRISP-DM
6. Philosophy, Ethics, and Safety of AI

Grading

- Components:
  - Exam: Midterm, Final
  - Quizzes
  - Project Assignments
  - Exercises
  - Lab Work

- General rules:
  - Midterm Test & Final Test:
    - **obligatory, if not attending → grade E**
    - **Additional test only for students who stay in hospital (doctor recommendation) / have "force majeure" → proof is required (from doctor, guardian)**

  - Any act of *cheating* will result grade "E" *(for all components)*
    - Include helping to *cheat*
    - Include cheating for assignment: "E" for all members (for all groups involved)
      - Maintain integrity between group members
    - Rules for using Generative AI → explicitly written in every assignment. The default: Generative AI is prohibited

- To pass this course, a student must have "no zero" in every component

References

- Stuart J Russell & Peter Norvig, Artificial Intelligence: A Modern Approach, 4th Edition, Prentice-Hall International, Inc, 2022, Textbook
  Site: http://aima.cs.berkeley.edu/ (4th Edition)
- Course Website: https://edunex.itb.ac.id/courses
  Modules : IF3170 Parent Class
  Discussion for each class: IF3170-0x (x = class number)

What is Artificial Intelligence (AI)

Video "What is AI from Edureka"

Source: https://www.youtube.com/watch?v=4jmsHaJ7xEA

THANK YOU