

VNU-HUS MAT1206E: Introduction to AI

Preliminaries

Week 0

Semester 1, Academic Year 2026–2027

Hoàng Anh Đức

Bộ môn Tin học, Khoa Toán-Cơ-Tin học
Đại học KHTN, ĐHQG Hà Nội
hoanganhduc@hus.edu.vn



Contents



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

About MAT1206E

Course Plan and Preparation

About Exercises and Lab

About In-class Discussion

About Using Generative AI Tools

About Mini-Projects

About Academic Integrity

About MAT1206E



Preliminaries

Hoàng Anh Đức

2

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- **Course ID:** MAT1206E
- **Class IDs:** MAT1206E 1, 2, 3
- **Class:** K69A3
- **Number of Credits:** 3
- **Theory:**
 - Friday, 13:00 – 14:45 (Periods 7–8), Room 102-T4
 - **Lecturer:** Hoàng Anh Đức (VNU University of Science, hoanganhduc@hus.edu.vn, GitHub Username: [hoanganhduc](#))

About MAT1206E (cont.)



Preliminaries

Hoàng Anh Đức

3

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ Exercises, Lab: Monday, Room 508-T5

- **MAT1206E 1:** 07:00 – 08:45 (Periods 1–2), Hoàng Anh Đức
(GitHub: [hoanganhduc](#))
- **MAT1206E 2:** 07:00 – 08:45 (Periods 1–2), Lê Huy Hùng
(GitHub: [HuyHung0](#))
- **MAT1206E 3:** 08:50 – 10:40 (Periods 3–4), Hoàng Anh Đức
(GitHub: [hoanganhduc](#))

About MAT1206E (cont.)



Preliminaries

Hoàng Anh Đức

4

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ **Course Website:** <https://hoanganhduc.github.io/teaching/VNU-HUS/2026/winter/MAT1206E/>

- *Course information, syllabus, and reference materials*
- *Lecture slides*
- *Announcements related to the course*



About MAT1206E (cont.)



Preliminaries

Hoàng Anh Đức

5

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ Course Platforms: *Google Classroom* and *Classroom50*

- Sign in with a *Google account*, preferably an *HUS email account*.
- Sign in with a *GitHub account*.
- **Complete** the **course registration form** to be added to both platforms.
- After registration, **verify that you have access** to both *Google Classroom* and *Classroom50*.



About MAT1206E (cont.)



Preliminaries

Hoàng Anh Đức

6

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

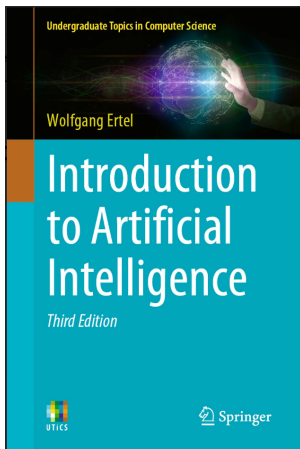
About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ Main Textbook

- Wolfgang Ertel (2025). *Introduction to Artificial Intelligence*. 3rd. Springer. DOI: 10.1007/978-3-658-43102-0



About MAT1206E (cont.)



Preliminaries
Hoàng Anh Đức

7

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ Evaluation:

■ Regular (Bài tập, thường xuyên): 20% (10-point scale)

- **5 points:** Awarded for completing and submitting all lab assignments through [Classroom50](#).
- **Remaining 5 points:** 1 point each time a student *solves an exercise at the board* or *contributes in class* (maximum 5 points).
- **Attendance deduction:** *1 point is deducted for each unexcused absence recorded during an unannounced attendance check.*

■ Midterm (Giữa kỳ): 20% (Written Test)

■ Final (Cuối kỳ): 60% (Mini-Project Report and Presentation)

■ Tuition requirement: *Students must pay all required tuition fees in accordance with university regulations; otherwise, the Final score (60%) will not be counted.*



Preliminaries

Hoàng Anh Đức

8

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ Contents (Expected):

- Preliminaries (Introduction to Course Logistics, Mini-Project Announcements)
- Introduction (Chapter 1)
- Propositional Logic (Chapter 2)
- First-Order Predicate Logic (Chapter 3)
- Limitations of Logic (Chapter 4)
- Logic Programming with PROLOG (Chapter 5)
- Search, Games and Problem Solving (Chapter 6)
- Reasoning with Uncertainty (Chapter 7)
- Mini-Project Presentations and Evaluation

Course Plan and Preparation



Preliminaries

Hoàng Anh Đức

About MAT1206E

9 Course Plan and Preparation

About Exercises and Lab

About In-class Discussion

About Using Generative AI Tools

About Mini-Projects

About Academic Integrity

- **Semester 1, Academic Year 2026–2027:** 15 weeks
- **Tentative Plan:**
 - **Week 0:** Preliminaries; course and computing-environment setup
 - **Weeks 1–7:** Chapters 1–7; discussion, lectures, exercises, and labs
 - **Weeks 8–9:** In-class time for students to work on their mini-projects
 - **Weeks 10–14:** Mini-project presentations and evaluations
- Changes and formal announcements will be posted on the *course website* and *official course platforms*.
- **Optional Skills:** Prior familiarity with these tools will make it easier to follow the course:
 - *L^AT_EX* (writing reports and preparing slides)
 - *GitHub* (version control, collaboration, and mini-project submission)
 - *PROLOG* (logic programming)

About Exercises and Lab



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

10 About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- **Week 0:** Set up course accounts, platforms, and the development environment.
- **Weeks 1–7:** Weekly exercises are mainly based on the corresponding textbook chapters.
- *Students must attend the exercise/lab section for which they are registered.*
- *Course materials and sample code* are available in the repository: <https://github.com/hoanganhduc/VNU-HUS-IntroAI-Exercises/>



About In-class Discussion



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

11 About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- **Preparation:** *Students are expected to review* the assigned readings and recordings before class.
 - *Weekly preparation materials* will be announced at the end of the previous class and on the course website.
- **In-class (Weeks 1–7):** Discussion + review main points in the preparing materials

About Using Generative AI Tools



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

12 About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- **You are allowed to use generative AI tools** (e.g., ChatGPT, Gemini, Grok, Claude, etc.) to support your learning and complete assignments.
 - GitHub offers “*GitHub Education*” to students *free of charge*. It includes access to *GitHub Copilot*, which supports several premium AI models for coding assistance (subject to monthly premium-request limits). Register via <https://github.com/education>
- **However, you must clearly indicate in your code/report which parts were generated with these tools.**
 - For example, if you used ChatGPT to generate code snippets, explanations, or any other content, you must specify this in your report.
 - You can include as comments the *prompts* you used and the *outputs* generated by the tools.

About Using Generative AI Tools (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

13 About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- **You are responsible for verifying the accuracy and reliability of any content generated with these tools.**
 - This includes checking for factual accuracy, coherence, and relevance to your specific context.
 - You should also be aware of the *limitations and potential biases* of these tools and their underlying models.
- **For in-class discussion**, you are encouraged to use these tools to help formulate your thoughts and arguments, but **we would love to hear your own insights and perspectives.**

About Mini-Projects



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

14 About Mini-Projects

About Academic
Integrity

■ Groups and Evaluators:

- Group formation and registration instructions will be announced through [Google Classroom](#) and [Classroom50](#).
- **Lecturers involved in evaluation:** Hoàng Anh Đức (GitHub: [hoanganhduc](#)) and Lê Huy Hùng (GitHub: [HuyHung0](#)).

■ **Template Repository:** <https://github.com/hoanganhduc/VNU-HUS-IntroAI-MiniProject> (*Read the markdown files carefully and follow the instructions*)

- **Rubrics.md** (Indicating how the mini-projects will be evaluated)
- **Proposed Topic Template.md** (Template for proposing project topics)
- **Mini-Project Ideas.md** (A list of suggested, beginner-friendly AI project ideas)



About Mini-Projects (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

15 About Mini-Projects

About Academic
Integrity

- **GitHub Repository:** Each mini-project *must have its own GitHub repository* for storing all relevant materials (report, slides, code, data, etc.). If the size exceeds GitHub's limit, consider using GitHub Large File Storage (LFS) or uploading large files to another platform and documenting the links. **The final report must include the project repository URL.**

- Use the template repository to get started.
- The submitted GitHub repository can be private, but *both lecturers must have access to it.*
 - *Add hoanganhduc and HuyHung0 as collaborators with read permissions.*
 - *Failure to provide access may result in an inability to evaluate the submission.*
- *All code must be well-documented.*
- *Mini-project titles and repository URLs* will be listed on the course website.

About Mini-Projects (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

16 About Mini-Projects

About Academic
Integrity

■ Topics:

- *There are no fixed topics.* Suggested beginner-friendly AI project ideas are available in the template repository.
- You may *choose a suggested topic or propose your own.*
- *One representative must complete “Proposed Topic Template.md” and submit it* according to the instructions announced through *Google Classroom* and *Classroom50*.
- The *submission deadline and topic-confirmation procedure* will be announced on the official course platforms.

About Mini-Projects (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

17 About Mini-Projects

About Academic
Integrity

- **Report:** All reports *must be typed and clearly formatted* (in either English or Vietnamese) and *exported as a PDF*.
 - A *LaTeX template* is provided in the template repository.
 - *Follow the submission instructions* in the template repository and on the official course platforms.
 - *Properly cite external resources*, including datasets, libraries, code, figures, and generated content.
 - *State the contributions of each member* in the report.
- **Presentation:**
 - The *presentation schedule, time allocation, and submission details* will be announced on the official course platforms.
 - **All students in the group must participate in the presentation.**

About Mini-Projects (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

18 About Mini-Projects

About Academic
Integrity

■ Final Remarks:

- A mini-project is intended to give you experience *applying AI models and algorithms in practice*.
- *We do not require you to create entirely new ideas or solutions.*
 - You may select an *existing idea, project, or published paper*, then understand, reproduce, and explain it.
 - You may *combine multiple existing ideas* to address a problem you propose.
- You are also welcome to *develop a new idea or solution* based on your understanding of existing work.

About Academic Integrity



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

■ All submitted works must be your own and reflect each group's contributions.

- *Every submission must include* a clear list of group members and a short statement of each member's contributions.
- *Use a single GitHub repository per group* (or a single shared submission). *Include a README* that documents roles, contribution timeline, and the repository link in the report. (See the template repository.) *Ensure the lecturers have access* (add as collaborators or make the repo accessible).
- You may discuss with classmates, use online resources, or use *AI tools* (e.g., ChatGPT, Grok, Claude, Copilot) to aid understanding. *Any content (text, code, figures, data, or generated text) not authored by the group must be explicitly cited. If AI tools are used, include the prompts and model outputs as an appendix or comment block.*

19

20

About Academic Integrity (cont.)



Preliminaries

Hoàng Anh Đức

About MAT1206E

Course Plan and
Preparation

About Exercises and
Lab

About In-class
Discussion

About Using
Generative AI Tools

About Mini-Projects

About Academic
Integrity

- *Copying another group's work, published solutions, or online code without proper attribution is plagiarism and will be penalized.*
- If contributions are unequal or disputed, *individual grades may be adjusted* based on documented contributions and instructor assessment.

■ Responsibility and consequences:

- You are responsible for understanding and following the *university's academic integrity policies*. *Violations can lead to failing the assignment or course and other disciplinary actions.*
- *All group members are accountable for the final submission.* Misconduct discovered in a group's work will trigger an investigation and may result in *penalties for some or all members.*

20

20