



**ATENEO DE MANILA
UNIVERSITY**
Loyola Schools

SYLLABUS

A. COURSE INFORMATION

COURSE NUMBER	CSCI 111			NO. OF UNITS	3
COURSE TITLE	Introduction to Artificial Intelligence				
PREREQUISITE/S	MATH 71.1 Fundamentals of Computing I (for BSM AMDSci) / CSCI 21 Introduction to Programming I (for BS CS, BS CS-DGDD, BSMS CS) / MSYS 21 Introduction to Programming I (for BS MIS, BS MIS-MSCS) / CSCI 25 Introduction to Programming and Databases (for Minor in Data Science and Analytics)				
DEPARTMENT/ PROGRAM	Information Systems and Computer Science			SCHOOL	School of Science and Engineering
SCHOOL YEAR	2022 - 2023			SEMESTER	First Semester
INSTRUCTOR/S	John Paul C. Vergara, Ph.D.				
VENUE	CTC112	SECTION	T (Onsite)	SCHEDULE	W 1200-1500 (T)

B. COURSE DESCRIPTION

An introduction to the basic principles, techniques, and applications of artificial intelligence. The focus of the course is on the design and implementation of intelligent agents - systems that perceive and act on an environment through reasoning, solving problems, and drawing inferences. These topics include foundational AI algorithms such as search and representation, agent-based systems, an overview of artificial intelligence, and the domains of applied artificial intelligence.

WHERE IS THE COURSE SITUATED WITHIN THE FORMATION STAGES IN THE FRAMEWORK OF THE LOYOLA SCHOOLS CURRICULA	
	FOUNDATIONS: Exploring and Equipping the Self

✓	ROOTEDNESS: Investigating and Knowing the World
	DEEPENING: Defining the Self in the World
✓	LEADERSHIP: Engaging and Transforming the World

C. *PROGRAM LEARNING OUTCOMES

**This section does not apply to a student who is not a major of the program under which this course is administered*

Alignment of Program to the Core Curriculum Learning Outcomes

The Ideal Ateneo Graduate: A Person of Conscience Competence Compassion Commitment							
CCLO 1	CCLO 2	CCLO 3	CCLO 4	CCLO 5	CCLO 6	CCLO 7	CCLO 8
✓	✓	✓					

Alignment of the Course to the Program Learning Outcomes

PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
✓		✓			✓	

D. COURSE LEARNING OUTCOMES

By the end of this course, students should be able to:

COURSE LEARNING OUTCOMES
CLO1: Apply algorithms and methods creating different levels of AI agents
CLO2: Build data structures and algorithms of tree generations and traversals in the context of AI
CLO3: Apply logic, knowledge representation, and inference towards the development of AI agents
CLO4: Apply methods of introductory machine learning for data analytics

E. COURSE OUTLINE and LEARNING HOURS

Course Outline	CLO's	Estimated Contact or Learning Hours
Weeks 1 - 2 (August 10 - August 19) <ul style="list-style-type: none">History of AIIntroduction to Agents	1	10
Weeks 3 - 5 (August 22 – September 9) <ul style="list-style-type: none">Review: Graph Theory and Data StructuresProblem Solving Agents	1,2	20
Weeks 6 – 9 (September 12 – October 7) <ul style="list-style-type: none">Logical Agents and InferenceMidterm Exam (October 5*)	2,3	20
Weeks 10 – 13 (October 10 – November 4) <ul style="list-style-type: none">Review: ProbabilityIntroduction to Machine Learning	3,4	20
Weeks 14 – 18 (November 7 – December 9) <ul style="list-style-type: none">Selected TopicsFinal Exam (December 7*)	3,4	20
*Exam dates are tentative		

F. ASSESSMENTS AND RUBRICS

Assessment Tasks	Assessment Weight	CLOs
Assignments, Exercises, Quizzes, Participation	25%	ALL
Projects	25%	ALL
Midterm Exam	25%	ALL
Final Exam	25%	ALL

RUBRICS:

Rubrics will be included in the assessment tasks' specifications.

G. TEACHING and LEARNING METHODS

TEACHING & LEARNING METHODS & ACTIVITIES	CLOs
Onsite Lectures (hybrid) and Synchronous Classes (fully online)	ALL
Asynchronous classes (fully online)	ALL
Lesson implementation through exercises and project	ALL
Consultations	ALL

• REQUIRED READINGS

- Lecture slides and any reading material posted in our Canvas modules

• SUGGESTED READINGS and CONTENT

- Russell, Stuart J., Norvig, Peter, Artificial Intelligence: A Modern Approach, 4th Ed
- Hastie, Trevor, et. al . An Introduction to Statistical Learning. Springer, 2009. (Snippets to be provided)
- McMillan, Michael. Data Structures and Algorithms Using C#. Cambridge University Press, 2007.
- Murphy, Kevin. Machine Learning: A Probabilistic Perspective. The MIT Press, 2011.
- Deisenroth, A Aldo Faisal, and Cheng Soon Ong. Mathematics of Machine Learning. Cambridge University Press, TBP.

H. GRADING SYSTEM

93-100	A	Excellent
87-92	B+	Very Good
81-86	B	Good
75-80	C+	Satisfactory
69-74	C	Sufficient
60-68	D	Passing
< 60	F	Failure (This grade does not entitle student to any credit for the course)

I. CLASS POLICIES

- Learning Management System (LMS)
 - All course-related information will be made available on **Canvas** (canvas.ateneo.edu).

- It is the responsibility of each student to frequently check Canvas for announcements, assignments, and other updates regarding the course.
 - Only students who are officially enrolled will be able to access the Canvas course page.
 - Only students who are officially enrolled will be allowed to attend onsite or online classes.
 - The Canvas Course Calendar/Module pages will be updated regularly to allow students to anticipate the availability of resources and activities.
 - Students with limited or no internet connections are expected to immediately communicate with the instructor regarding their situation so that adjustments may be made for requirements accomplished online, as necessary.
- Onsite Sessions
 - Unless otherwise indicated, lectures will be conducted onsite. Attendance will be checked by the beadle. You must not exceed the allowable cuts for the semester.
 - Playing games is strictly prohibited during class hours. Web browsing and reading email are also prohibited, unless done in connection with the current lecture or lab topic *and* allowed by the teacher.
- Online Sessions
 - Some sessions will be conducted online via Zoom. Refer to Canvas for the Zoom link and the schedules for each section.
 - **Students are expected to regularly attend and fully participate in synchronous sessions.** In situations where absence is unavoidable due to extenuating circumstances, the student is expected to inform the instructor as soon as possible.
 - Online synchronous sessions will be recorded by the instructor. Recordings will be made available for students to view within 24 hours after the session is concluded, through the Recordings Google Drive folder, linked on Canvas.
 - It is most preferred that, bandwidth permitting, students' cameras are kept on during online synchronous sessions, to facilitate personal experiences and non-verbal feedback. However, keeping cameras on is not required.
 - Students are encouraged to use the Chat function at any time during a synchronous session, not just for asking, but to discuss with each other and the instructor.
 - In general, our assigned physical classroom can be used by students to attend online sessions, even when the instructor is delivering the session off campus.
- Online Communication
 - Students must use official channels when communicating with the instructor or with each other in the context of this course:
 - Email: Ateneo account (OBF)
 - Video Conferencing: Zoom using Ateneo account
 - Instant Messaging: Canvas Inbox, Canvas Course Chat, Google Chat
 - Students are encouraged to communicate courteously, efficiently, and succinctly.
 - The instructor shall only respond to online communication, within 24 hours, between 09:00 and 17:00 on weekdays (Monday to Friday). Communications received outside of this time frame will be responded to during the next weekday.
- Requirements and Submissions
 - Instructions for the submission of specific course requirements will be indicated on the corresponding Canvas course page. **Students are expected to read and follow the instructions provided.**
 - Lab work will generally be conducted on campus in the classroom but will be submitted online via Canvas.

- In general, quizzes will be administered in the classroom, although some quizzes will be carried out and submitted online.
- Midterm and Final Exams will be administered in the classroom. Makeup exams will be given only for excusable, documented cases (letter from physician or ADAA).
- All online submissions must be virus-free. Infected or corrupted files will not be checked and will automatically receive a grade of zero for that requirement.
- Online requirements (labs and some quizzes) will be available on indicated release dates and are expected to be submitted and completed by the indicated deadlines. Failure to complete an exam within the window of availability corresponds to a grade of zero for that requirement, unless justified by a valid reason cleared with the instructor.
- Failure to submit an activity by the end of the semester, corresponds to a grade of zero for that activity.
- Students may expect to receive feedback on hands-on activities within 10 working days of each submission schedule.
- ~~Students who do not fulfill at least 33.33% of the course requirements by the end of the semester, will receive a grade of W (Withdrawal without Permission).~~
Academic policies released by the ADAA regarding W, WP, INC, NE, F and other academically related matters will be followed (i.e. Memo released to the community July 28, 2022)

- Academic Integrity

- Cheating, in any form or circumstance, will not be tolerated. Cheating in any requirement will result in any requirement will result in a minimum penalty of a grade of zero for that requirement, and will be reported to the appropriate authorities, as specified in the LS Student Handbook.
- With each online submission, students must include a certification (Certificate of Authorship) that their work is substantially their own and not copied from others. In addition, students must clearly acknowledge and specify any help from outside sources such as other classmates, the Web, books, etc., that they received while doing their academic work. Failure to acknowledge such may be interpreted as intellectual dishonesty.

- Participants (students and instructor) are expected to conduct themselves and treat others with respect, ensuring an inclusive and safe learning environment. Participants of this class are expected to abide by the LS Gender Policy and the Code of Decorum and Administrative Rules on Sexual Harassment, Other Forms of Sexual Misconduct, and Inappropriate Behavior. Any form of discrimination (based on sex, gender, marital status, parental status, sexual orientation, gender identity and expression) has **no place** in this class. See the following links for more information:
 - <https://2012.ateneo.edu/ls/ls-gender-policy>
 - <https://2012.ateneo.edu/ugdo/policies/20200829-code-decorum-investigation-sexual-harassment>

All policies issued by the Loyola Schools (i.e. through the Associate Dean for Academic Affairs, etc) will be followed by both teachers and students. It is the responsibility of the students to know the latest and updated policies, rules, and regulations.

J. CONSULTATION HOURS

NAME OF FACULTY	EMAIL	DAY/S	TIME
John Paul C. Vergara	jpvergara@ateneo.edu	MTh	3pm-5pm

Consultations may be scheduled by contacting the teacher and setting a proper appointment.

Reference:

Core Curriculum Learning Outcomes (CCLOs)

LEGEND:	
CCLO 1	Demonstrate effective communication skills (listening and speaking, reading and writing) in English and Filipino.
CCLO 2	Evaluate information and issues in various spheres of life using mathematical reasoning and statistical tools to process and manage data.
CCLO 3	Propose ways to address pressing social and ecological problems using appropriate critical approaches and scientific thinking
CCLO 4	Develop a creative and moral imagination that is responsive to contemporary global realities and challenges, but also deeply rooted in local histories, conditions, norms, and institutions.
CCLO 5	Internalize the significance and value of her/ his unique existence and purpose in life in light of Christian faith.
CCLO 6	Discern life choices with a keen awareness of ethical dilemmas and considerations.
CCLO 7	Exemplify a commitment to enhancing human life and dignity, especially those who are excluded and in greatest need.
CCLO 8	Practice a vision of leadership and committed citizenship rooted in Christian humanism.