



# TEACHING NOTE for an in-person or hybrid class

Course Title: Data Science

## Teaching Objectives:

1. **Foundational Understanding:** Ensure participants grasp the core principles and techniques underlying AI.
2. **Practical Application:** Equip participants with the skills to understand and apply AI techniques such as machine learning, neural networks, NLP, and computer vision in real-world scenarios.
3. **Ethical Consideration:** Foster an awareness of the ethical implications and challenges associated with AI and its applications.
4. **Future Readiness:** Prepare participants to anticipate future trends in AI and understand its role in algorithmic governance.

## Teaching Strategy:

1. **Interactive Lectures:** Use multimedia presentations, incorporating videos, animations, and infographics to explain AI concepts. Real-world examples and case studies will enhance understanding.
2. **Hands-on Labs:** Provide participants with access to AI tools and platforms, allowing them to experiment and apply learned techniques in a controlled environment.
3. **Guest Lectures:** Invite AI experts, researchers, and industry professionals to share their experiences, insights, and future predictions.
4. **Discussion Forums:** Facilitate online discussions where participants can debate AI's ethical implications, share insights, and clarify doubts.
5. **Group Projects:** Encourage collaborative learning by assigning group projects where participants design and implement simple AI models or solutions.
6. **Case Study Analysis:** Introduce real-world scenarios where AI has been transformative or controversial, prompting participants to analyze and discuss.
7. **Ethical Debates:** Organize sessions where participants debate the ethical considerations of AI applications, fostering critical thinking.

## Proposed Assessment:

1. **Module Quizzes (40% of final grade)**
  - **Objective:** Test participants' understanding and retention of each module's content.
  - **Format:** Multiple-choice, true/false, and short-answer questions.
  - **Frequency:** At the end of each module.
2. **Group Project (30% of final grade)**
  - **Objective:** Encourage collaborative learning and practical application of AI concepts.



- **Format:** Participants will work in groups to design an AI solution for a real-world problem, followed by a presentation.
  - **Assessment:** Projects will be graded on the feasibility of the solution, depth of understanding demonstrated, and presentation skills.
3. **Final Exam (30% of final grade)**
- **Objective:** Assess participants' overall understanding of the course content.
  - **Format:** A combination of multiple-choice, short answer, and essay questions covering all modules.
  - **Frequency:** At the end of the course.