(** Tentative Curriculum - Can be subject to minor changes)

Introduction to AI & AI Ethics

Topics:

What is AI? Understanding the Basics

- Defining AI: Current AI Landscape & Beyond
- Brief History of AI (early concepts, key milestones)
- Types of AI: Narrow AI, General AI, Superintelligence (conceptual)
- Everyday examples of AI (Siri, Netflix recommendations, self-driving cars)
- How AI "learns" (very basic concept of data and patterns)

- **Activity (10 min):**
  - Brainstorming: Students list 5 AI technologies they interact with daily.
  - Discussion: Compare lists and identify common themes.

How AI Works

- Data: The Fuel for AI (importance of data, types of data)
- AI Algorithms: The "Recipes" for AI (simplified explanation)
- Machine Learning: Supervised vs. Unsupervised Learning

Activity

- Mini Case Study: Students are given a simple dataset (e.g., house prices vs. size) and asked to think about how AI might "learn" to predict prices.

The Power of AI: Opportunities and Applications

- Introduction to Neural Networks & Deep Learning
- Transforming Industries: Healthcare (diagnostics), Transportation (self-driving), Finance (fraud detection), Education (personalized learning)
- AI for Social Good: Environmental monitoring, disaster relief, accessibility tools
- Enhancing Human Capabilities: AI as a tool for creativity and problem-solving

- **Activity**
  - Group Discussion: "How could AI improve our school/community?" Students brainstorm ideas and present one.
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AI Ethics: Fair, Accountable, and Transparent

- Introduction to AI Ethics: Why do we need AI and What is AI Ethics?
- Key Ethical Principles: Fairness, Accountability & Transparency (FAT)
- Bias in AI: What it is, how is bias created(biased data, biased algorithms), and its impact with example applications (facial recognition, loan applications)

- **Activity**
  - Scenario Analysis: Present a simple scenario where AI might exhibit bias (e.g., job application screening) and ask students to identify potential issues.

Algorithmic Bias and Discrimination

- Deep Dive into Algorithmic Bias: How it perpetuates societal inequalities.
- Examples of Real-World Bias: COMPAS criminal justice algorithm, gender bias in voice assistants.
- Mitigating Bias: Data auditing, ethical AI design, diverse datasets.

- **Activity**
  - Case Study Discussion: Students read a short article or watch a video about an AI bias incident and discuss its implication in a Group & share learnings.

The Future of Work and Society with AI

- Automation and Job Displacement: Real concerns vs. new opportunities.
- AI and Education: Personalized learning, new skill requirements.
- Human-AI Collaboration: The augmented human.
- The importance of lifelong learning and adaptability.
- Autonomous Weapons Systems: The ethics of "killer drones."
- AI in Healthcare: Moral decisions (e.g., resource allocation).
- The "Trolley Problem" with self-driving cars.

- **Activity :**
  - Debate Prompt: "Will AI create more jobs than it destroys?" Students take sides and present arguments.