Lesson Plan: Exploring Artificial Intelligence and Its Societal Influences

Course Title: AP Computer Science Principles

Unit Title: Artificial Intelligence and Society

Duration: 4 weeks

Texas Standards:

• TEKS: §126.36. Computer Science Principles (b)(5)(A)
• Texas Essential Knowledge and Skills (TEKS): This course is designed to introduce students to the foundational concepts of computer science and computational thinking through the exploration of real-world problems and societal impacts.

Week 1: Introduction to Artificial Intelligence

• Objective: Introduce students to the concepts of artificial intelligence (AI) and its various applications.
• Activities:
  1. Lecture and discussion on the definition and types of AI.
  2. Research and presentation activity: Divide students into groups to research and present on different AI applications in education and careers.
• Articles for Research:
  • “How Artificial Intelligence is Transforming Education”
  • “The Impact of AI on Future Careers”

Week 2: Societal Impacts of AI on Education

• Objective: Explore the influence of AI on education and career opportunities.
• Activities:
  1. Group discussion on the advantages and challenges of using AI in education.
  2. Debate activity: Divide students into groups to debate the ethical implications of AI in education.
• Articles for Research:
  • “The Role of AI in Personalized Learning”
  • “Ethical Considerations in AI Education Technologies”
Week 3: Societal Impacts of AI on Careers

• Objective: Examine how AI is shaping various career fields and job opportunities.
• Activities:
  1. Guest speaker or virtual session with professionals in AI-related fields.
  2. Career research project: Students select a career field influenced by AI and research its current and future implications.
• Articles for Research:
  • “How AI is Reshaping the Job Market”
  • “AI and the Future of Work: Skills and Jobs”

Week 4: AI Project Development

• Objective: Apply knowledge of AI concepts to develop a software project.
• Activities:
  1. Programming project: Students work individually or in pairs to design and implement an AI software prototype focused on education or career guidance.
  2. Peer review and feedback session: Students provide constructive feedback on each other’s projects.
• Resources for Project Development:
  • Python or JavaScript for programming language
  • TensorFlow or PyTorch for machine learning libraries

Assessment:

• Participation in discussions and activities throughout the unit.
• Research presentations on AI applications in education and careers.
• Debate performance on the ethical implications of AI in education.
• Career research project report.
• Completion and presentation of the AI software project.

*End goal: Work towards AP CSP Digital Portfolio Submission Project (Ongoing)*