Welcome to Video Game Design for Beginners

This course is meticulously designed to align with state standards and targeted learning objectives, ensuring comprehensive coverage of essential knowledge and skills required for student success.

Course Description:
This self-paced, competency-based course introduces students to the exciting world of video game design using **Blocksmith**, a beginner-friendly game engine. Students will explore key concepts of game design, including programming, 3D modeling, animation, and map design. Through hands-on projects and interactive lessons, students will build their own games from the ground up, gaining a solid foundation in game development. The course encourages creativity and critical thinking, providing the tools needed to develop interactive environments and characters. By the end of the course, students will have a strong understanding of the core principles of game design and the skills to continue developing their own games in the future.

Learning Outcomes
By the end of this course, students will be able to:

1. **Understand the Basics of Game Design**: Learn fundamental game design concepts and how they apply to creating interactive experiences.
2. **Create Interactive Games**: Use **Blocksmith** to build their own video games, integrating programming, game mechanics, and interactive elements.
3. **Master Basic Programming Skills**: Gain an understanding of the programming languages and logic used in game development, including event-driven programming.
4. **Develop 3D Models and Animations**: Learn the basics of 3D modeling and animation to create characters, objects, and environments for games.
5. **Design Game Maps**: Understand the principles of map design and how to create immersive, engaging game worlds.
6. **Work with Game Assets**: Learn how to import and modify game assets, including textures, sound effects, and models, to enhance the gaming experience.
7. **Test and Refine Game Design**: Understand the importance of playtesting and debugging, and learn how to improve games based on feedback.
8. **Build a Portfolio**: Develop a game project that demonstrates the skills learned throughout the course, suitable for inclusion in a game design portfolio.

Syllabus

- **Introduction to Game Design and Blocksmith**
  - Overview of game design principles
  - Introduction to the **Blocksmith** game engine
  - Setting up your game development environment
- **Fundamentals of Programming for Games**
  - Introduction to programming concepts (variables, loops, conditionals)
  - Writing basic scripts to control game events and mechanics
  - Learning the basics of game logic and interaction
- **3D Modeling and Animation Basics**
  - Introduction to 3D modeling tools and techniques
  - Creating simple 3D models for characters and environments
  - Basic animation techniques for moving characters and objects
- **Map Design and Environment Creation**
  - Understanding map layout and design principles
  - Designing environments and creating terrains in Blocksmith
  - Adding interactive elements such as obstacles, goals, and NPCs (non-playable characters)

- **Game Mechanics and Interactivity**
    - Designing game mechanics: movement, physics, scoring, etc.
    - Adding interactivity to your game: player controls and in-game events
    - Enhancing player experience through rewards and challenges
- **Game Testing and Refining**
    - Playtesting your game to identify bugs and improvements
    - Debugging and refining game logic and performance
    - Optimizing game flow and player experience
- **Final Game Project**
    - Planning and designing a complete game using concepts from the course
    - Creating assets, maps, and mechanics for your final project
    - Presenting the final game and reflecting on the development process

This course provides students with a comprehensive introduction to video game design, equipping them with the skills to create their own games and pursue further studies in game development. Students will gain practical experience in coding, design, and animation, giving them the foundation they need to continue exploring the world of game design.