

Scope and Sequence

Chapter 1: Introduction to Game Programming

Lesson	Overview
1	What You Already Know
2	Types of Computer Games
3	What You Will Learn in this Course
4	Introduction to XNA
Activity:	<i>Install XNA Game Studio</i>

Chapter 2: Game Design

Lesson	Overview
1	The Game Proposal
2	Game Engine
3	Creating a New XNA Game Project
4	The Game Loop
Activity:	<i>Looping Colors</i>

Chapter 3: Graphics Concepts

Lesson	Overview
1	Screen Coordinates
2	Full-Screen vs. Windows Mode
3	Colored Pixels
Activity:	<i>Screen Toggle</i>

Chapter 4: Working With Images

Lesson	Overview
1	Surfing the Content Pipeline
2	Drawing Images
3	Image Transformations
4	Drawing Text
Activity:	<i>Starry Night</i>

Chapter 5: User Input	
Lesson	Overview
1	Keyboard Input
2	Mouse Input
3	Xbox 360 Gamepad
Activity:	<i>Cat and Mouse Chase</i>

Chapter 6: Sprites	
Lesson	Overview
1	Introducing Sprites
2	The Swarm Game
3	Initializing Your Swarm
Activity:	<i>Raising the Swarm</i>
4	Sprite Movement
Activity:	<i>Buzzing Bees</i>

Chapter 7: Completing Swarm	
Lesson	Overview
1	Adding Player Control
Activity:	<i>Sliding Smoke Gun</i>
2	Shooting Stingers and Smoke
Activity:	<i>Shooting the Swarm</i>
3	Collision Detection
Activity:	<i>Feeling the Sting</i>
4	Ending and Restarting the Game
Activity:	<i>Finishing Swarm</i>

Chapter 8: Animation	
Lesson	Overview
1	Animation Concepts
2	Animation Textures
3	Animation in the Sprite Class
Activity:	<i>Animated Swarm</i>

Chapter 9: Music and Sound Effects	
Lesson	Overview
1	Sound Files
2	Playing Sound Effects
3	Playing Music
4	The XACT Tool
Activity:	<i>Audible Swarm</i>

Chapter 10: Game Physics	
Lesson	Overview
1	Velocity and Acceleration
2	Gravity and Wind
3	Reflection
Activity:	<i>Snowball Fight</i>

Chapter 11: Maze Generation	
Lesson	Overview
1	Maze Types
2	Generating a Perfect Maze
3	Solving a Perfect Maze
Activity:	<i>A-Maze-ing Backtracker</i>

Chapter 12: Menus, Overlays and Deployment	
Lesson	Overview
1	Title Screens and Option Menus
2	Handling Different Screens
3	Displaying Scores and Overlays
4	Distributing Your Games
Activity:	<i>Tic-Tac-Toe</i>

Chapter 13: Multiplayer Games	
Lesson	Overview
1	Handling Multiple Inputs
2	Scrolling Games
3	Viewports and Cameras
Activity:	<i>Star Racer</i>

Chapter 14: Artificial Intelligence	
Lesson	Overview
1	Understanding AI
2	Developing an AI Algorithm
3	Simple Movement Algorithms
4	AI for Star Racer
Activity:	<i>Star Racer AI</i>

Chapter 15: Final Project	
Lesson	Overview
1	Bumper Cars Overview
Activity:	<i>Project Kick-Off</i>
2	Menus and Controls
Activity:	<i>What's on the Menu?</i>
3	Adding Cars
Activity:	<i>Start Your Engines</i>
4	Oil Slicks and Coins
Activity:	<i>Hazards and Rewards</i>
5	Bumper Cars Sound Effects
Activity:	<i>Make Some Noise</i>
6	Add Artificial Intelligence
Activity:	<i>Racing Buddy</i>