Kentucky CTE

Computer Science: Game Design and Development Principles

Explain the history of computing technologies that impact the game development industry GD1.1	**1 Explain the history of computing technologies that impact the game development industry** GD1.1
Explore non-digital games GD1.2	**2 Explore non-digital games** GD1.2
Research the evolution of video games GD1.3.	**3 Research the evolution of video games** GD1.3.
Describe the different game genres GD1.4	**4 Describe the different game genres** GD1.4
Evaluate contributions of individual game designers and developers GD1.5	**5 Evaluate contributions of individual game designers and developers** GD1.5
Explore careers as a game artist and sound designer GD1.6	**6 Explore careers as a game artist and sound designer** GD1.6
Describe the role of game designer GD1.7	**7 Describe the role of game designer** GD1.7
Explore careers as a game developer GD1.8	**8 Explore careers as a game developer** GD1.8
Describe career pa as	**9 Describe career pathways in quality assurance/testing** GD1.9

Skip to main content

Explain the role of the producer GD1.10	**10 Explain the role of the producer** GD1.10
Explain the career path of an independent developer GD1.11	**11 Explain the career path of an independent developer** GD1.11
Research salary structures in the industry GD1.12	**12 Research salary structures in the industry** GD1.12
Define common terminology and its acronyms GD1.13	**13 Define common terminology and its acronyms** GD1.13
Identify the tools to develop a game (engine, application program interface [API], digital content creation tools, editors) GD1.14	**14 Identify the tools to develop a game (engine, application program interface [API], digital content creation tools, editors)** GD1.14
Communicate both in writing and verbally using appropriate industry terminology GD1.15	**15 Communicate both in writing and verbally using appropriate industry terminology** GD1.15
Compare and contrast the entertainment software rating boards (ESRB) ratings for games GD1.16	**16 Compare and contrast the entertainment software rating boards (ESRB) ratings for games** GD1.16
Explain the principles of visual design GD1.17	**17 Explain the principles of visual design** GD1.17
Explain the elements of design GD1.18	**18 Explain the elements of design** GD1.18
Analyze artwork/designs for specific design theories GD1.19	**19 Analyze artwork/designs for specific design theories** GD1.19
Ex of Skip to main content	**Explore the components of game structure** GD1.20

structure GD1.20	
Analyze the essentials of storytelling GD1.21	**21 Analyze the essentials of storytelling** GD1.21
Write an outline of a nonlinear story GD1.22	**22 Write an outline of a nonlinear story** GD1.22
Create rules for a game GD1.23	**23 Create rules for a game** GD1.23
Compare conflict and outcomes GD1.24	**24 Compare conflict and outcomes** GD1.24
Develop objectives and outcomes for a game GD1.25	**25 Develop objectives and outcomes for a game** GD1.25
Explain the importance of usability and how it impacts user experience GD1.26	**26 Explain the importance of usability and how it impacts user experience** GD1.26
Explain in-game economies, motivators, and reward systems GD1.27	**27 Explain in-game economies, motivators, and reward systems** GD1.27
Research various styles of game documentation GD1.28	**28 Research various styles of game documentation** GD1.28
Develop a technical design document (TDD) GD1.29	**29 Develop a technical design document (TDD)** GD1.29
Describe components of a game design document (GDD) GD1.30	**30 Describe components of a game design document (GDD)** GD1.30
Produce a game design document GD1.31	**31 Produce a game design document** GD1.31
Pr do Skip to main content	**Produce a game pitch document** GD1.32

Present game documentation GD1.33	**33 Present game documentation** GD1.33
Compare and contrast categories of game mechanics GD1.34	**34 Compare and contrast categories of game mechanics** GD1.34
Research victory condition mechanics of a game GD1.35	**35 Research victory condition mechanics of a game** GD1.35
Discuss the relationship between game mechanics and game complexity and interactions GD1.36	**36 Discuss the relationship between game mechanics and game complexity and interactions** GD1.36
Incorporate game mechanics into a game GD1.37	**37 Incorporate game mechanics into a game** GD1.37
Explain basic logic statements such as if/then and cause/effect GD1.38	**38 Explain basic logic statements such as if/then and cause/effect** GD1.38
Describe uses of Boolean operators and symbols associated with them GD1.39	**39 Describe uses of Boolean operators and symbols associated with them** GD1.39
Generate truth tables for game events GD1.40	**40 Generate truth tables for game events** GD1.40
Examine different number systems including binary, decimal, and hexadecimal GD1.41	**41 Examine different number systems including binary, decimal, and hexadecimal** GD1.41
Demonstrate proper use of the order of operations GD1.42	**42 Demonstrate proper use of the order of operations** GD1.42
Co for Skip to main content	**Convert mathematical formulas into code** GD1.43

code GD1.43

Explain when to apply mathematical concepts common to game coding GD1.44	44 Explain when to apply mathematical concepts common to game coding GD1.44
Use logical thinking to create a diagram of code execution GD1.45	45 Use logical thinking to create a diagram of code execution GD1.45
Research laws that govern intellectual property in diverse forms GD1.46	46 Research laws that govern intellectual property in diverse forms GD1.46
Evaluate Creative Commons and open source licensure GD1.47	47 Evaluate Creative Commons and open source licensure GD1.47
Cite the boundaries of third-party work GD1.48	48 Cite the boundaries of third-party work GD1.48
Explain copyright, trademarks, and other intellectual property protection GD1.49	49 Explain copyright, trademarks, and other intellectual property protection GD1.49
Explain invasion of privacy in the use of technology GD1.50	50 Explain invasion of privacy in the use of technology GD1.50
Model acceptable security practices GD1.51	51 Model acceptable security practices GD1.51
Explore the issues of piracy and digital rights management (DRM) GD1.52	52 Explore the issues of piracy and digital rights management (DRM) GD1.52
Analyze your personal digital footprint GD1.53	53 Analyze your personal digital footprint GD1.53
Dis res	Skip to main content Discuss social responsibility and issues concerning gaming GD1.54

concerning gaming GD1.54

Model legal and ethical use of information GD1.55	55 Model legal and ethical use of information GD1.55
Identify key elements of non-disclosure agreements (NDA) and contracts GD1.56	56 Identify key elements of non-disclosure agreements (NDA) and contracts GD1.56
Summarize the behavior of an algorithm GD1.57	57 Summarize the behavior of an algorithm GD1.57
Determine if a given algorithm successfully solves a stated problem GD1.58	58 Determine if a given algorithm successfully solves a stated problem GD1.58