



Goodheart-Willcox Publisher

18604 West Creek Drive • Tinley Park, IL 60477 • 800.323.0440 • www.g-w.com

Goodheart-Willcox Publisher		
Correlation of VIDEO GAME DESIGN FOUNDATIONS 2E ©2014		
to the Texas Essential Knowledge and Skills (TEKS)		
Course: Video Game Design (MLC 9808)		
STANDARDS		CORRELATING PAGES
Standard (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:		
(A)	identify and demonstrate positive work behaviors and personal qualities needed to be employable;	
	(i) identify positive work behaviors needed to be employable;	<u>Narrative:</u> Textbook: Pg. 19–32 Qualities of a Game Designer and Team <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #14, 15, 16; Pg. 47 Review Your Knowledge #22
	(ii) demonstrate positive work behaviors needed to be employable;	<u>Narrative:</u> Textbook: Pg. 19–32 Qualities of a Game Designer and Team <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #14, 15, 16; Pg. 47 Apply Your STEM Knowledge #1
	(iii) identify personal qualities needed to be employable;	<u>Narrative:</u> Textbook: Pg. 31–32 Soft Skills/Workplace Skills <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #14; Pg. 47 Review Your Knowledge #22 Software Design Guide: Pg. 11–13 Activity 1-1
	(iv) demonstrate personal qualities needed to be employable;	<u>Narrative:</u> Textbook: Pg. 31–32 Soft Skills/Workplace Skills <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #14; Pg. 47 Review Your Knowledge #22 Software Design Guide: Pg. 14–16 Activity 1-2
(B)	demonstrate skills related to seeking and applying for employment;	
	(i) demonstrate skills related to seeking employment;	<u>Narrative:</u> Textbook: Pg. 371 Seeking Employment <u>Activity:</u> Textbook: Pg. 374 Apply Your STEM Knowledge #5; Pg. 375 Apply Your STEM Knowledge #6 Software Design Guide: Pg. 11–13 Activity 1-1
	(ii) demonstrate skills related applying for employment;	<u>Narrative:</u> Textbook: Pg. 371 Seeking Employment <u>Activity:</u> Textbook: Pg. 374 Apply Your STEM Knowledge #4 Software Design Guide: Pg. 14–16 Activity 1-2
(C) (i)	create a career portfolio to document information such as work experiences, licenses, certifications, and work samples; and	<u>Narrative:</u> Textbook: Pg. 371 paragraphs 5–6 <u>Activity:</u> Textbook: Pg. 50 Gamer Portfolio; Pg. 76 Gamer Portfolio; Pg. 114 Gamer Portfolio; Pg. 166 Gamer

		Portfolio; Pg. 202 Gamer Portfolio; Pg. 238 Gamer Portfolio; Pg. 270 Gamer Portfolio; Pg. 298 Gamer Portfolio; Pg. 337 Gamer Portfolio; Pg. 375 Gamer Portfolio
(D)	demonstrate skills in evaluating and comparing employment opportunities.	
	(i)	demonstrate skills in evaluating employment opportunities. Narrative: Textbook: Pg. 371 Seeking Employment Activity: Textbook: Pg. 374 Apply Your STEM Knowledge #5; Pg. 375 Apply Your STEM Knowledge #6
	(ii)	demonstrate skills in comparing employment opportunities. Narrative: Textbook: Pg. 371 Seeking Employment Activity: Textbook: Pg. 374 Apply Your STEM Knowledge #5; Pg. 375 Apply Your STEM Knowledge #6
Standard (2) The student applies academic knowledge and skills in video game design projects. The student is expected to:		
(A)	apply English language arts knowledge by demonstrating skills such as correct use of content, technical concepts, vocabulary, grammar, punctuation, and terminology to write and edit a variety of documents; and	
	(i)	apply English language arts knowledge by demonstrating skills to write a variety of documents; Narrative: Textbook: Pg. 320–327 Design Documents Activity: Textbook: Pg. 335 Review Your Knowledge #32–39; Pg. 336 Apply Your STEM Knowledge #2 Software Design Guide: Pg. 339–344 Activity 9-1
	(ii)	apply English language arts knowledge by demonstrating skills to edit a variety of documents; and Narrative: Textbook: Pg. 320–327 Design Documents Activity: Textbook: Pg. 335 Review Your Knowledge #32–39; Pg. 336 Apply Your STEM Knowledge #2 Software Design Guide: Pg. 339–344 Activity 9-1
(B)	apply mathematics knowledge and skills such as using whole numbers, decimals, fractions, and knowledge of arithmetic operations.	
	(i)	apply mathematics knowledge. Narrative: Textbook: Pg. 184–186 paragraphs 1–5, Variables Activity: Textbook: Pg. 162 Apply Your STEM Knowledge #1; Pg. 201 Apply Your STEM Knowledge #2, 5; Apply Your STEM Knowledge mathematics activities at the end of each chapter Software Design Guide: Pg. 129–135 Activity 5-1
	(ii)	apply mathematics skills. Narrative: Textbook: Pg. 184–186 paragraphs 1–5, Variables Activity: Textbook: Pg. 162 Apply Your STEM Knowledge #1; Pg. 201 Apply Your STEM Knowledge #2, 5; Apply Your STEM Knowledge mathematics activities at the end of each chapter Software Design Guide: Pg. 129–135 Activity 5-1
Standard (3) The student understands professional communications strategies. The student is expected to:		
(A)	adapt language for audience, purpose, situation, and intent;	
	(i)	adapt language for audience; Narrative: Textbook: Pg. 320–327 Design Documents Activity: Textbook: Pg. 335 Review Your Knowledge #32–39 Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2

	(ii)	adapt language for purpose;	<u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #32–39 Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2
	(iii)	adapt language for situation;	<u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #32–39 Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2
	(iv)	adapt language for intent;	<u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #32–39 Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2
(B)	organize oral and written information;		
	(i)	organize oral information;	<u>Narrative:</u> Textbook: Pg. 28 Presentation Skills, Listening Skills <u>Activity:</u> Textbook: Pg. 49 Apply Your STEM Knowledge #4 Software Design Guide: Pg. 14–16 Activity 1-2
	(ii)	organize written information;	<u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #32–39 Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2
(C)	interpret and communicate information;		
	(i)	interpret information;	<u>Narrative:</u> Textbook: Pg. 30 Background Information and Research <u>Activity:</u> Textbook: Pg. 47–48 Apply Your STEM Knowledge #1 Software Design Guide: Pg. 21–22 Activity 1-5
	(ii)	communicate information;	<u>Narrative:</u> Textbook: Pg. 26–29 Communication Competence <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #18, 19, 20; Pg. 48 Apply Your STEM Knowledge #2
(D) (i)	apply active listening skills; and		<u>Narrative:</u> Textbook: Pg. 28–29 Listening Skills <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #20 Software Design Guide: Pg. 21–22 Activity 1-5
(E) (i)	communicate with diverse individuals.		<u>Narrative:</u> Textbook: Pg. 32–34 I Am a Team Player; Pg. 366–369 Globalization <u>Activity:</u> Textbook: Pg. 373 Review Your Knowledge #35, 36 Software Design Guide: Pg. 19–20 Activity 1-4
Standard (4) The student understands and employs problem-solving methods and conflict-management skills. The student is expected to:			
(A)	employ critical-thinking skills independently and in groups; and		
	(i)	employ critical-thinking skills independently;	<u>Narrative:</u>

		<p>Textbook: Pg. 22–23 Imagination, Technology Competence, Analytical/Logical Competence</p> <p>Activity:</p> <p>Textbook: Pg. 48 Apply Your STEM Knowledge #2</p> <p>Software Design Guide: Pg. 17–18 Activity 1-3</p>
	(ii)	<p>employ critical-thinking skills in groups; and</p> <p>Narrative:</p> <p>Textbook: Pg. 22–23 Imagination, Technology Competence, Analytical/Logical Competence</p> <p>Activity:</p> <p>Textbook: Pg. 49 Apply Your STEM Knowledge #4; Pg. 49 Working in Teams, Pg. 75 Working in Teams; Pg. 114 Working in Teams; Working in Teams activities at the end of each chapter</p>
(B)	(i)	<p>employ interpersonal skills in groups to solve problems.</p> <p>Narrative:</p> <p>Textbook: Pg. 29–30 Compromise</p> <p>Activity:</p> <p>Textbook: Pg. 46 Review Your Knowledge #21</p> <p>Software Design Guide: Pg. 42–52 Activity 2-3</p>
Standard (5) student applies cyber safety procedures. The student is expected to implement personal and professional safety rules and regulations.		
(A)	implement personal and professional safety rules and regulations.	
	(i)	<p>implement personal safety rules and regulations.</p> <p>Narrative:</p> <p>Textbook: Pg. 254–258 Importance of Play, Game Addiction</p> <p>Activity:</p> <p>Textbook: Pg. 267–268 Review Your Knowledge #6, 23, 24, 25, 26; Pg. 269 Apply Your STEM Knowledge #1, 2</p> <p>Software Design Guide: Pg. 259–260 Activity 7-1</p>
	(ii)	<p>implement professional safety rules and regulations.</p> <p>Narrative:</p> <p>Textbook: Pg. 254–258 Importance of Play, Game Addiction</p> <p>Activity:</p> <p>Textbook: Pg. 267 Review Your Knowledge #6; Pg. 268 Review Your Knowledge #23, 24, 25, 26; Pg. 269 Apply Your STEM Knowledge #1, 2</p> <p>Software Design Guide: Pg. 259–260 Activity 7-1</p>
Standard (6) The student applies leadership characteristics to student leadership and professional development activities. The student is expected to:		
(A)	(i)	<p>demonstrate leadership skills; and</p> <p>Narrative:</p> <p>Textbook: Pg. 34–36 Creative Director, Project Manager, Lead Designer</p> <p>Activity:</p> <p>Textbook: Pg. 46 Review Your Knowledge #4</p> <p>Software Design Guide: Pg. 14–16 Activity 1-2</p>
(B)	(i)	<p>participate in a group setting.</p> <p>Narrative:</p> <p>Textbook: Pg. 32–34 I Am a Team Player</p> <p>Activity:</p> <p>Textbook: Pg. 46 Review Your Knowledge #12; Pg. 49 Apply Your STEM Knowledge #4; Pg. 49 Working in Teams; Pg. 75 Working in Teams; Working in Teams activities at the end of each chapter</p>
Standard (7) The student applies ethical decision making and understands and complies with laws regarding use of technology in video game design. The student is expected to:		
(A)	(i)	<p>exhibit ethical conduct related to interacting with others such as maintaining client confidentiality and privacy of sensitive content and providing proper credit for ideas;</p> <p>Narrative:</p> <p>Textbook: Pg. 279 paragraphs 1–6</p> <p>Activity:</p>

		Textbook: Pg. 295 Review Your Knowledge #2; Pg. 296 Review Your Knowledge #18, 21, 22
(B)	discuss and apply copyright laws;	
	(i)	discuss copyright laws;
		<u>Narrative:</u> Textbook: Pg. 279–281 Copyrights <u>Activity:</u> Textbook: Pg. 295 Review Your Knowledge #3, 9; Pg. 296 Review Your Knowledge #14 Software Design Guide: Pg. 391 Activity 10-2
	(ii)	apply copyright laws;
		<u>Narrative:</u> Textbook: Pg. 279–281 Copyrights <u>Activity:</u> Textbook: Pg. 295 Review Your Knowledge #3, 9; Pg. 296 Review Your Knowledge #14 Software Design Guide: Pg. 391 Activity 10-2
(C) (i)	model respect of intellectual property;	
		<u>Narrative:</u> Textbook: Pg. 276–281 Intellectual property, Ownership Rights and Contracts <u>Activity:</u> Textbook: Pg. 295 Review Your Knowledge #3, 9; Pg. 296 Review Your Knowledge #14, 15 Software Design Guide: Pg. 391 Activity 10-2
(D)	demonstrate proper etiquette and knowledge of acceptable use policies; and	
	(i)	demonstrate proper etiquette;
		<u>Narrative:</u> Textbook: Pg. 285–286 Bias <u>Activity:</u> Textbook: Pg. 295 Review Your Knowledge #4, 7; Pg. 296 Review Your Knowledge #30 Software Design Guide: Pg. 332–334 Activity 8-6
	(ii)	demonstrate knowledge of acceptable use policies; and
		<u>Narrative:</u> Textbook: Pg. 263 paragraphs 1–3 <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #32
(E) (i)	analyze the impact of the video game design industry on society.	
		<u>Narrative:</u> Textbook: Pg. 264–266 Online Economy <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #33, 34, 35; Pg. 269–270 Apply Your STEM Knowledge #4, 5
Standard (8) The student applies technical skills for efficiency. The student is expected to employ planning and time management skills to complete work tasks.		
(A)	employ planning and time-management skills to complete work tasks.	
	(i)	employ planning skills to complete work tasks.
		<u>Narrative:</u> Textbook: Pg. 35 Project Manager <u>Activity:</u> Textbook: Pg. 48 Apply Your STEM Knowledge #2 Software Design Guide: Pg. 403–407 Activity 2
	(ii)	employ time-management skills to complete work tasks.
		<u>Narrative:</u> Textbook: Pg. 35 Project Manager; Pg. 302–303 Formal Design Structure <u>Activity:</u> Textbook: Pg. 48 Apply Your STEM Knowledge #2; Pg. 336 Apply Your STEM Knowledge #1
Standard (9) The student develops an understanding of video game design. The student is expected to:		
(A)	demonstrate knowledge and appropriate use of computer operating systems;	
	(i)	demonstrate knowledge of computer operating systems;
		<u>Narrative:</u> Textbook: Pg. 195–198 The Games Factory 2; Pg. 206–

			<p>227 Dedicated Game System Consoles</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 200 Review Your Knowledge #25; Pg. 236 Review Your Knowledge #11–32; Pg. 237 Apply Your STEM Knowledge #1</p> <p>Software Design Guide: Pg. 136–146 Activity 5-2</p>
	(ii)	demonstrate appropriate use of computer operating systems;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 195–198 The Games Factory 2; Pg. 206–227 Dedicated Game System Consoles</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 200 Review Your Knowledge #25; Pg. 236 Review Your Knowledge #11–32; Pg. 237 Apply Your STEM Knowledge #1</p> <p>Software Design Guide: Pg. 136–146 Activity 5-2</p>
(B)	demonstrate appropriate use of hardware components, software programs, and storage devices;		
	(i)	demonstrate appropriate use of hardware components;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 195–198 The Games Factory 2; Pg. 206–227 Dedicated Game System Consoles</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 200 Review Your Knowledge #25; Pg. 236 Review Your Knowledge #11–32; Pg. 237 Apply Your STEM Knowledge #1</p> <p>Software Design Guide: Pg. 201–204 Activity 6-1</p>
	(ii)	demonstrate appropriate use of software programs;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 195–198 The Game Factory 2</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 200 Review Your Knowledge #25</p> <p>Software Design Guide: Pg. 136–146 Activity 5-2</p>
	(iii)	demonstrate appropriate use of storage devices;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 54–55 Audio/Visual Effects</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 72 Review Your Knowledge #13</p> <p>Software Design Guide: Pg. 28 Activity 2-1 #12; Pg. 30 Activity 2-2 #3; Pg. 42 Activity 2-3 #1</p>
(C) (i)	demonstrate knowledge of sound editing;		<p><u>Narrative:</u></p> <p>Textbook: Pg. 43 Audio Engineer</p> <p><u>Activity:</u></p> <p>Software Design Guide: Pg. 205–210 Activity 6-2; Pg. 233–235 Activity 6-4</p>
(D)	demonstrate knowledge of file formats and cross platform compatibility;		
	(i)	demonstrate knowledge of file formats;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 132–134 Images; Pg. 134 Compression, Figure 4-14</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 160 Review Your Knowledge #21</p> <p>Software Design Guide: Pg. 112 Activity 4-5; Pg. 233–235 Activity 6-4</p>
	(ii)	demonstrate knowledge of cross-platform compatibility;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 102 paragraph 2; Pg. 183 Pseudo Code; Pg. 217 paragraphs 1–4; Pg. 359–360 Applications</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 236 Review Your Knowledge #24; Pg. 373 Review Your Knowledge #31</p>
(E)	acquire and exchange information in a variety of electronic file sharing formats; and		
	(i)	acquire information in a variety of electronic file sharing formats;	<p><u>Narrative:</u></p> <p>Software Design Guide: Pg. 19 Activity 1-4 #2; Pg. 21</p>

		Activity 1-5 #3; Pg. 27 Activity 2-1 #7; Pg. 201 Activity 6-1; Pg. 210 Activity 6-2; Pg. 259 Activity 7-1 #3, 7; Pg. 293 Activity 8-1 #1, 5; Pg. 391 Activity 10-2 <u>Activity:</u> Software Design Guide: Pg. 28 Review Questions #1–5; Pg. 210 Review Questions #2, 3; Pg. 394 Review Questions #4
	(ii) exchange information in a variety of electronic file sharing formats; and	<u>Narrative:</u> Software Design Guide: Pg. 19 Activity 1-4 #2; Pg. 21 Activity 1-5 #3; Pg. 27 Activity 2-1 #7; Pg. 201 Activity 6-1; Pg. 210 Activity 6-2; Pg. 259 Activity 7-1 #3, 7; Pg. 293 Activity 8-1 #1, 5; Pg. 391 Activity 10-2 <u>Activity:</u> Software Design Guide: Pg. 28 Review Questions #1–5; Pg. 210 Review Questions #2, 3; Pg. 394 Review Questions #4
(F)	evaluate visual information by recognizing the use of principles and elements of design.	
	(i) evaluate visual information by recognizing the use of principles of design.	<u>Narrative:</u> Textbook: Pg. 123–126 Scenes; Pg. 289 Artistry, Longevity in Design and Structure <u>Activity:</u> Textbook: Pg. 296 Review Your Knowledge #36; Pg. 297 Apply Your STEM Knowledge #1 Software Design Guide: Pg. 111–112 Activity 4-5; Pg. 121–122 Activity 4-7; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3
	(ii) evaluate visual information by recognizing the use of elements of design.	<u>Narrative:</u> Textbook: Pg. 123–126 Scenes; Pg. 289 Artistry, Longevity in Design and Structure <u>Activity:</u> Textbook: Pg. 296 Review Your Knowledge #36; Pg. 297 Apply Your STEM Knowledge #1 Software Design Guide: Pg. 111–112 Activity 4-5; Pg. 121–122 Activity 4-7; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3
Standard (10) The student employs an appropriate design process to create and modify solutions to problems. The student is expected to:		
(A) (i)	combine graphics, images, and sound;	<u>Narrative:</u> Textbook: Pg. 305–316 Construction Stage <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #1, 5, 9, 10, 18, 19; Pg. 335 Review Your Knowledge #20–29 Software Design Guide: Pg. 147–168 Activity 5-3; Pg. 171–180 Activity 5-5; Pg. 183–193 Activity 5-7; Pg. 211–232 Activity 6-3; Pg. 238–252 Activity 6-6; Pg. 261–281 Activity 7-2; Pg. 298–315 Activity 8-4; Pg. 316–331 Activity 8-5; Pg. 345–359 Activity 9-2; Pg. 360–369 Activity 9-3; Pg. 381–395 Activity 10-2
(B) (i)	apply principles of design;	<u>Narrative:</u> Textbook: Pg. 304–319 Concept Stage, Construction Stage, Tuning Stage <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #1, 4, 5, 7, 9, 10, 15–19; Pg. 335 Review Your Knowledge #20–31 Software Design Guide: Pg. 147–168 Activity 5-3; Pg. 171–180 Activity 5-5; Pg. 183–193 Activity 5-7; Pg. 211–

		232 Activity 6-3; Pg. 238–252 Activity 6-6; Pg. 261–281 Activity 7-2; Pg. 298–315 Activity 8-4; Pg. 316–331 Activity 8-5; Pg. 345–359 Activity 9-2; Pg. 360–369 Activity 9-3; Pg. 381–395 Activity 10-2
(C)	develop and reference technical documentation; and	
	(i) develop technical documentation;	<p><u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #2, 6, 8; Pg. 335 Review Your Knowledge #32–39; Pg. 337 Working in Teams Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2; Pg. 408–409 Activity 3</p>
	(ii) reference technical documentation; and	<p><u>Narrative:</u> Textbook: Pg. 320–327 Design Documents <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #2, 6, 8; Pg. 335 Review Your Knowledge #32–39; Pg. 337 Working in Teams Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 400–402 Activity 1; Pg. 403–407 Activity 2; Pg. 408–409 Activity 3</p>
(D) (i)	edit products.	<p><u>Narrative:</u> Textbook: Pg. 316–319 Tuning <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #1, 7, 18, 19; Pg. 335 Review Your Knowledge #29, 30, 31 Software Design Guide: Pg. 147–168 Activity 5-3; Pg. 171–180 Activity 5-5; Pg. 183–193 Activity 5-7; Pg. 211–232 Activity 6-3; Pg. 238–252 Activity 6-6; Pg. 261–281 Activity 7-2; Pg. 298–315 Activity 8-4; Pg. 316–331 Activity 8-5; Pg. 345–359 Activity 9-2; Pg. 360–369 Activity 9-3; Pg. 381–395 Activity 10-2</p>
Standard (11) The student researches the history and evolution of video game design. The student is expected to:		
(A) (i)	explain the history of video game design;	<p><u>Narrative:</u> Textbook: Pg. 93–104 Video Game Beginnings <u>Activity:</u> Textbook: Pg. 110 Review Your Knowledge #2, 4, 6, 8; Pg. 111 Review Your Knowledge #24–30 Software Design Guide: Pg. 60 Activity 3-2</p>
(B) (i)	describe how changing technology is affecting the industry;	<p><u>Narrative:</u> Textbook: Pg. 105–106 How Computers Changed the Game; Pg. 206–227 Dedicated Game System Consoles <u>Activity:</u> Textbook: Pg. 111 Review Your Knowledge #36, 37; Pg. 236 Review Your Knowledge #11, 12, 13, 19–32; Pg. 237 Review Your Knowledge #33, 34, 35</p>
(C) (i)	analyze the use of symbols in video game design of diverse cultures;	<p><u>Narrative:</u> Textbook: Pg. 93–104 Video Game Beginnings <u>Activity:</u> Textbook: Pg. 110 Review Your Knowledge #2, 4, 6, 8; Pg. 111 Review Your Knowledge #24–30 Software Design Guide: Pg. 19–20 Activity 1-4; Pg. 60 Activity 3-2</p>
(D) (i)	compare current video game design technologies with	<u>Narrative:</u>

	historical technologies;	<p>Textbook: Pg. 54–66 Audio/Visual Effects, Video Games, Digital Toy</p> <p>Activity:</p> <p>Textbook: Pg. 71 Review Your Knowledge #1; Pg. 72 Review Your Knowledge #7, 9, 11–15</p>
(E) (i)	compare various styles of video game design; and	<p>Narrative:</p> <p>Textbook: Pg. 64 Types of Games (Genre and Themes); Pg. 65 Figure 2-10</p> <p>Activity:</p> <p>Textbook: Pg. 72 Review Your Knowledge #20</p> <p>Software Design Guide: Pg. 28 Activity 2-1 Review Questions #1, 2, 3</p>
(F)	explore emerging and innovative video game design technologies and software.	
	(i) explore emerging video game design technologies.	<p>Narrative:</p> <p>Textbook: Pg. 206–227 Dedicated Game System Consoles</p> <p>Activity:</p> <p>Textbook: Pg. 236 Review Your Knowledge #11, 12, 13, 19–32; Pg. 237 Review Your Knowledge #33, 34, 35</p>
	(ii) explore innovative video game design technologies.	<p>Narrative:</p> <p>Textbook: Pg. 206–227 Dedicated Game System Consoles</p> <p>Activity:</p> <p>Textbook: Pg. 236 Review Your Knowledge #11, 12, 13, 19–32; Pg. 237 Review Your Knowledge #33, 34, 35</p>
	(iii) explore emerging video game design software.	<p>Narrative:</p> <p>Textbook: Pg. 327–332 Game-Development Tools</p> <p>Activity:</p> <p>Textbook: Pg. 335 Review Your Knowledge #40–45</p>
	(iv) explore innovative video game design software.	<p>Narrative:</p> <p>Textbook: Pg. 327–332 Game-Development Tools</p> <p>Activity:</p> <p>Textbook: Pg. 335 Review Your Knowledge #40–45</p>
Standard (12) The student understands and applies video game design principles, elements, and techniques. The student is expected to:		
(A)	employ audience identification, script writing, character design, storyboarding, and audio and delivery formats;	
	(i) employ audience identification;	<p>Narrative:</p> <p>Textbook: Pg. 242–244 Driving Design; Pg. 262 Player Types</p> <p>Activity:</p> <p>Textbook: Pg. 267 Review Your Knowledge #3, 4; Pg. 268 Review Your Knowledge #7, 8, 13, 14, 15</p>
	(ii) employ script writing;	<p>Narrative:</p> <p>Textbook: Pg. 27–28 Narrative Writing; Pg. 41 Game Writer; Pg. 126 Storyboards; Pg. 307–308 Protagonist and Character Development</p> <p>Activity:</p> <p>Textbook: Pg. 46 Review Your Knowledge #2, 18, 19; Pg. 335 Review Your Knowledge #22, 23, 24</p> <p>Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 403–407 Activity 2</p>
	(iii) employ character design;	<p>Narrative:</p> <p>Textbook: Pg. 307–308 Protagonist and Character Development</p> <p>Activity:</p> <p>Textbook: Pg. 335 Review Your Knowledge #22, 23, 24</p> <p>Software Design Guide: Pg. 339–344 Activity 9-1; Pg. 345–359 Activity 9-2; Pg. 403–407 Activity 2</p>

	(iv)	employ storyboarding;	<u>Narrative:</u> Textbook: Pg. 27–28 Narrative Writing; Pg. 126 Storyboards <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #19; Pg. 160 Review Your Knowledge #16 Software Design Guide: Pg. 403–407 Activity 2
	(v)	employ audio formats;	<u>Narrative:</u> Software Design Guide: Pg. 205–210 Activity 6-2; Pg. 233–235 Activity 6-4 <u>Activity:</u> Software Design Guide: Pg. 205–210 Activity 6-2 Review Questions #1–5
	(vi)	employ delivery formats;	<u>Narrative:</u> Textbook: Pg. 358–360 Direct Marketing, Applications <u>Activity:</u> Textbook: Pg. 373 Review Your Knowledge #30, 31 Software Design Guide: Pg. 69 Activity 3-4 #49–52; Pg. 167 Activity 5-3 #140, 141, 142, 143; Pg. 251 Activity 6-6 #118; Pg. 280 Activity 7-2; Pg. 329–330 Activity 8-5 #139–144; Pg. 393 Activity 10-2 #137
(B)	describe and use motion paths, scripting, programming, and interactivity;		
	(i)	describe motion paths;	<u>Narrative:</u> Software Design Guide: Pg. 48 Activity 2-3; Pg. 93–95 Activity 4-1 #57–61; Pg. 354 Activity 9-2 #76–81 <u>Activity:</u> Software Design Guide: Pg. 52 Review Questions #4; Pg. 359 Review Questions #3
	(ii)	use motion paths;	<u>Narrative:</u> Software Design Guide: Pg. 48 Activity 2-3; Pg. 93–95 Activity 4-1 #57–61; Pg. 354 Activity 9-2 #76–81 <u>Activity:</u> Software Design Guide: Pg. 52 Review Questions #4; Pg. 359 Review Questions #3
	(iii)	describe scripting;	<u>Narrative:</u> Textbook: Pg. 192–193 Algorithm <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #6
	(iv)	use scripting;	<u>Narrative:</u> Textbook: Pg. 192–193 Algorithm <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #6
	(v)	describe programming;	<u>Narrative:</u> Textbook: Pg. 180–193 Programming with Collision Theory, Writing a Logic Statement <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #4, 5, 6, 7, 10; Pg. 200 Review Your Knowledge #11-24
	(vi)	use programming;	<u>Narrative:</u> Textbook: Pg. 180–193 Programming with Collision Theory, Writing a Logic Statement <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #4, 5, 6, 7, 10; Pg. 200 Review Your Knowledge #11-24 Software Design Guide: Pg. 147–168 Activity 5-3; Pg. 171–180 Activity 5-5; Pg. 183–193 Activity 5-7; Pg. 211–

		232 Activity 6-3; Pg. 238–252 Activity 6-6; Pg. 261–281 Activity 7-2; Pg. 316–331 Activity 8-5; Pg. 345–359 Activity 9-2; Pg. 360–369 Activity 9-3; Pg. 381–395 Activity 10-2
	(vii)	describe interactivity; <u>Narrative:</u> Textbook: Pg. 177–178 Collision Theory <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21 Software Design Guide: Pg. 147–168 Activity 5-3
	(viii)	use interactivity; <u>Narrative:</u> Textbook: Pg. 177–178 Collision Theory <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21 Software Design Guide: Pg. 147–168 Activity 5-3
(C)	describe lighting and perspective; and	
	(i)	describe lighting; <u>Narrative:</u> Textbook: Pg. 146 Pixel Shading Software Design Guide: Pg. 109–112 Activity 4-5 <u>Activity:</u> Textbook: Pg. 161 Review Your Knowledge #34 Software Design Guide: Pg. 113 Review Questions #1–5
	(ii)	describe perspective; and <u>Narrative:</u> Textbook: Pg. 144–145 Three-Dimensional Games <u>Activity:</u> Textbook: Pg. 161 Review Your Knowledge #32, 33 Software Design Guide: Pg. 102–105 Activity 4-3
(D)	describe and use production processes such as titles, credits, and special effects.	
	(i)	describe production processes. <u>Narrative:</u> Software Design Guide: Pg. 147–149 Activity 5-3; Pg. 165 Activity 5-3 <u>Activity:</u> Software Design Guide: Pg. 168 Review Questions #3, 10
	(ii)	use production processes. <u>Narrative:</u> Software Design Guide: Pg. 147–149 Activity 5-3; Pg. 165 Activity 5-3 <u>Activity:</u> Software Design Guide: Pg. 168 Review Questions #3, 10
Standard (13) The student evaluates a product using critical-thinking skills. The student is expected to evaluate products and product quality against established criteria and rubrics.		
(A)	evaluate products and product quality against established criteria and rubrics.	
	(i)	evaluate products against established criteria. <u>Narrative:</u> Textbook: Pg. 286–293 Key Game Elements for Evaluation <u>Activity:</u> Textbook: Pg. 297 Apply Your STEM Knowledge #1
	(ii)	evaluate products against rubrics. <u>Narrative:</u> Textbook: Pg. 293–294 Summarizing the Evaluation <u>Activity:</u> Software Design Guide: Pg. 293 Activity 8-1; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3
	(iii)	evaluate product quality against established criteria. <u>Narrative:</u> Textbook: Pg. 286–293 Key Game Elements for Evaluation <u>Activity:</u> Textbook: Pg. 297 Apply Your STEM Knowledge #1
	(iv)	evaluate product quality against rubrics. <u>Narrative:</u>

			<p>Textbook: Pg. 293–294 Summarizing the Evaluation Activity: Software Design Guide: Pg. 293 Activity 8-1; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3</p>
Standard (14) The student presents oral or written evaluations of video game design projects. The student is expected to:			
(A) (i)	identify the intended audience;		<p><u>Narrative:</u> Textbook: Pg. 242–244 Driving Design; Pg. 262 Player Types Activity: Textbook: Pg. 267 Review Your Knowledge #3, 4; Pg. 268 Review Your Knowledge #7, 8, 13, 14, 15</p>
(B) (i)	describe aesthetics;		<p><u>Narrative:</u> Textbook: Pg. 24–25 Aesthetic Competence Activity: Textbook: Pg. 46 Review Your Knowledge #17 Software Design Guide: Pg. 169–170 Activity 5-4; Pg. 181–182 Activity 5-6; Pg. 236–237 Activity 6-5; Pg. 253–254 Activity 6-7; Pg. 282–283 Activity 7-3; Pg. 286–287 Activity 7-5</p>
(C) (i)	explain the storyline;		<p><u>Narrative:</u> Textbook: Pg. 307–308 Protagonist and Character Development; Pg. 312 Story Elaboration Activity: Textbook: Pg. 335 Review Your Knowledge #22, 23, 27</p>
(D) (i)	summarize subject matter; and		<p><u>Narrative:</u> Textbook: Pg. 64–65 Types of Games (Genre and Themes) Software Design Guide: Pg. 27–28 Activity 2-1 Activity: Textbook: Pg. 72 Review Your Knowledge #20 Software Design Guide: Pg. 28 Review Questions #1–3</p>
(E) (i)	discuss the use of sound.		<p><u>Narrative:</u> Textbook: Pg. 43 Audio Engineer Software Design Guide: Pg. 205–210 Activity 6-2 Activity: Software Design Guide: Pg. 169–170 Activity 5-4; Pg. 181–182 Activity 5-6; Pg. 236–237 Activity 6-5; Pg. 253–254 Activity 6-7; Pg. 282–283 Activity 7-3; Pg. 286–287 Activity 7-5</p>
Standard (15) The student creates video game design projects. The student is expected to use a variety of techniques and software programs.			
(A)	use a variety of techniques and software programs.		
	(i)	use a variety of techniques.	<p><u>Narrative:</u> Textbook: Pg. 140–152 Two-Dimensional Games, Two and One-Half-Dimensional Games, Three-Dimensional Games Software Design Guide: Pg. 106–107 Activity 4-4 Activity: Textbook: Pg. 161 Review Your Knowledge #30–35 Software Design Guide: Pg. 108 Review Questions #1–4</p>
	(ii)	use a variety of software programs.	<p><u>Narrative:</u> Textbook: Pg. 327–332 Game-Development Tools Software Design Guide: Pg. 345–358 Activity 9-2 Activity: Textbook: Pg. 335 Review Your Knowledge #40–45 Software Design Guide: Pg. 359 Review Questions #1–5</p>

Standard (16) The student differentiates current programming languages. The student is expected to:		
(A) (i)	discuss the use of computer programming languages in other fields of study; and	<u>Narrative:</u> Textbook: Pg. 190 Choice of Language <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #11–24; Pg. 200 Apply Your STEM Knowledge #1
(B)	demonstrate knowledge of specific programming terminology and concepts.	
(i)	demonstrate knowledge of specific programming terminology.	<u>Narrative:</u> Textbook: Pg. 170–194 Logic <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #1–10; Pg. 200 Review Your Knowledge #11–24
(ii)	demonstrate knowledge of specific programming concepts.	<u>Narrative:</u> Textbook: Pg. 170–194 Logic <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #1–10; Pg. 200 Review Your Knowledge #11–24
Standard (17) The student applies problem-solving strategies. The student is expected to apply design specifications, stepwise refinement, or algorithm development.		
(A) (i)	apply design specifications, step-wise refinement, or algorithm development.	<u>Narrative:</u> Textbook: Pg. 190–193 Flowchart, Algorithm <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #6 Software Design Guide: Pg. 408–410 Activity 3
Standard (18) The student develops coding with correct and efficient use of expressions. The student is expected to use user-defined functions; proper operator precedence; and sequential, conditional, and repetitive control structures.		
(A)	use user-defined functions; proper operator precedence; and sequential, conditional, and repetitive control structures.	
(i)	use user-defined functions.	<u>Narrative:</u> Textbook: Pg. 189 paragraphs 1–5 <u>Activity:</u> Software Design Guide: Pg. 187–188 Activity 5-7 #53–57
(ii)	use proper operator precedence.	<u>Narrative:</u> Textbook: Pg. 173–176 Advanced Logic Statements <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #19, 20
(iii)	use sequential control structures.	<u>Narrative:</u> Software Design Guide: Pg. 49–50 Activity 2-3 #62; Pg. 51 Activity 2-3 #68; Pg. 95 Activity 4-1 #64 <u>Activity:</u> Software Design Guide: Pg. 52 Review Questions #3
(iv)	use conditional control structures.	<u>Narrative:</u> Textbook: Pg. 171–176 Basic Logic Statement, Conditions and Events, Advanced Logic Statements <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #11, 12, 15, 16, 17
(v)	use repetitive control structures.	<u>Narrative:</u> Textbook: Pg. 187–188 Loops <u>Activity:</u> Software Design Guide: Pg. 189 Activity 5-7
Standard (19) The student applies constructive criticism to products. The student is expected to seek and respond to advice from peers and professionals in delineating technological tasks.		
(A)	seek and respond to advice from peers and professionals in delineating technological tasks.	
(i)	seek advice from peers in delineating technological tasks.	<u>Narrative:</u> Textbook: Pg. 19 Qualities of a Game Designer and Team; Pg. 29–30 Compromise

			<u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #13, 21 Software Design Guide: Pg. 14–16 Activity 1-2; Pg. 169–170 Activity 5-4
	(ii)	respond to advice from peers in delineating technological tasks.	<u>Narrative:</u> Textbook: Pg. 19 Qualities of a Game Designer and Team; Pg. 29–30 Compromise <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #13, 21 Software Design Guide: Pg. 14–16 Activity 1-2; Pg. 169–170 Activity 5-4
	(iii)	seek advice from professionals in delineating technological tasks.	<u>Narrative:</u> Textbook: Pg. 19 Qualities of a Game Designer and Team; Pg. 29–30 Compromise; Pg. 286–294 Key Game Elements for Evaluation <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #13, 21 Software Design Guide: Pg. 293 Activity 8-1; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3
	(iv)	respond to advice from professionals in delineating technological tasks.	<u>Narrative:</u> Textbook: Pg. 19 Qualities of a Game Designer and Team; Pg. 29–30 Compromise; Pg. 286–294 Key Game Elements for Evaluation <u>Activity:</u> Textbook: Pg. 46 Review Your Knowledge #13, 21 Software Design Guide: Pg. 293 Activity 8-1; Pg. 294–295 Activity 8-2; Pg. 296–297 Activity 8-3
Standard (20) The student uses research skills and electronic communication, with appropriate supervision, to create new knowledge. The student is expected to:			
(A)	participate with electronic communities as a learner, initiator, contributor, and teacher or mentor;		
	(i)	participate with electronic communities as a learner;	<u>Narrative:</u> Textbook: Pg. 262–266 Online Community, Online Economy <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 259–260 Activity 7-1
	(ii)	participate with electronic communities as a[n] initiator;	<u>Narrative:</u> Textbook: Pg. 262–266 Online Community, Online Economy <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 259–260 Activity 7-1
	(iii)	participate with electronic communities as a contributor;	<u>Narrative:</u> Textbook: Pg. 262–266 Online Community, Online Economy <u>Activity:</u> Textbook: Pg.268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 259–260 Activity 7-1
	(iv)	participate with electronic communities as a teacher or mentor;	<u>Narrative:</u> Textbook: Pg. 262–266 Online Community, Online Economy <u>Activity:</u> Textbook: Pg.268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 259–260 Activity 7-1
(B)	extend the learning environment beyond the school walls with digital products created to increase teaching and learning in the foundation and enrichment curricula; and		
	(i)	extend the learning environment beyond the school	<u>Narrative:</u>

	walls with digital products created to increase teaching in the foundation curricula;	Textbook: Pg. 30 Background Information and Research Software Design Guide: Pg. 19–20 Activity 1-4; Pg. 21–22 Activity 1-5; Pg. 27–28 Activity 2-1; Pg. 57 Activity 3-1 <u>Activity:</u> Software Design Guide: Pg. 15 Activity 1-2 #10; Pg. 28 Review Questions #1–3; Pg. 57–59 Activity 3-1 #1–30
(ii)	extend the learning environment beyond the school walls with digital products created to increase learning in the foundation curricula;	<u>Narrative:</u> Textbook: Pg. 30 Background Information and Research Software Design Guide: Pg. 19–20 Activity 1-4; Pg. 21–22 Activity 1-5; Pg. 27–28 Activity 2-1; Pg. 57 Activity 3-1 <u>Activity:</u> Software Design Guide: Pg. 15 Activity 1-2 #10; Pg. 28 Review Questions #1–3; Pg. 57–59 Activity 3-1 #1–30
(iii)	extend the learning environment beyond the school walls with digital products created to increase teaching in the enrichment curricula;	<u>Narrative:</u> Textbook: Pg. 30 Background Information and Research Software Design Guide: Pg. 19–20 Activity 1-4; Pg. 21–22 Activity 1-5; Pg. 27–28 Activity 2-1; Pg. 57 Activity 3-1 <u>Activity:</u> Software Design Guide: Pg. 15 Activity 1-2 #10; Pg. 27 Review Questions #1–3; Pg. 57–59 Activity 3-1 #1–30
(iv)	extend the learning environment beyond the school walls with digital products created to increase learning in the enrichment curricula; and	<u>Narrative:</u> Textbook: Pg. 30 Background Information and Research Software Design Guide: Pg. 19–20 Activity 1-4; Pg. 21–22 Activity 1-5; Pg. 27–28 Activity 2-1; Pg. 57 Activity 3-1 <u>Activity:</u> Software Design Guide: Pg. 15 Activity 1-2 #10; Pg. 27 Review Questions #1–3; Pg. 57–59 Activity 3-1 #1–30
(C)	participate in relevant, meaningful activities in the larger community and society to create electronic projects.	
(i)	participate in relevant, meaningful activities in the larger community to create electronic projects.	<u>Narrative:</u> Textbook: Pg. 262–263 Online Community <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 284–285 Activity 7-4
(ii)	participate in relevant, meaningful activities in society to create electronic projects.	<u>Narrative:</u> Textbook: Pg. 262–263 Online Community <u>Activity:</u> Textbook: Pg. 268 Review Your Knowledge #9, 31–35 Software Design Guide: Pg. 284–285 Activity 7-4
Standard (21) The student uses technology applications to facilitate evaluation of communication processes and products. The student is expected to:		
(A)	write technology specifications for planning/evaluation rubrics documenting variables, prompts, and programming code internally and externally; and	
(i)	write technology specifications for planning/evaluation rubrics documenting variables internally;	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(ii)	write technology specifications for planning/evaluation rubrics documenting variables externally;	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(iii)	write technology specifications for planning/evaluation rubrics documenting prompts	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical

	internally;	Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(iv)	write technology specifications for planning/evaluation rubrics documenting prompts externally;	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(v)	write technology specifications for planning/evaluation rubrics documenting programming code internally;	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(vi)	write technology specifications for planning/evaluation rubrics documenting programming code externally; and	<u>Narrative:</u> Textbook: Pg. 327 Game-Script Document, Technical Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #38, 39 Software Design Guide: Pg. 339–344 Activity 9-1
(B)	debug and solve problems using reference materials and effective strategies.	
(i)	debug using reference materials.	<u>Narrative:</u> Textbook: Pg. 315–318 Testing and Debugging, Tuning Software Design Guide: Pg. 367–368 Level B Bug, Tuning <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #7; Pg. 335 Review Your Knowledge #30, 31 Software Design Guide: Pg. 369 Review Questions #4
(ii)	solve problems using reference materials.	<u>Narrative:</u> Textbook: Pg. 315–318 Testing and Debugging, Tuning Software Design Guide: Pg. 367–368 Level B Bug, Tuning <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #7; Pg. 335 Review Your Knowledge #30, 31 Software Design Guide: Pg. 368–369, Review Questions #1–6
(iii)	debug using effective strategies.	<u>Narrative:</u> Textbook: Pg. 315–318 Testing and Debugging, Tuning Software Design Guide: Pg. 367–368 Level B Bug, Tuning <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #7; Pg. 335 Review Your Knowledge #30, 31 Software Design Guide: Pg. 368–369, Review Questions #1–6
(iv)	solve problems using effective strategies.	<u>Narrative:</u> Textbook: Pg. 315–318 Testing and Debugging, Tuning Software Design Guide: Pg. 367–368 Level B Bug, Tuning <u>Activity:</u> Textbook: Pg. 334 Review Your Knowledge #7; Pg. 335 Review Your Knowledge #30, 31 Software Design Guide: Pg. 368–369, Review Questions #1–6
Standard (22) The student understands technology concepts, systems, and operations as they apply to game programming. The student is expected to:		

(A)	identify basic game components, including the game engine, game play subsystems, data structures, models, and interfaces;	
(i)	identify basic game components, including the game engine;	<u>Narrative:</u> Textbook: Pg. 22–23 Analytical/Logical Competence; Pg. 195–198 The Games Factory 2; Pg. 331–332 Other Tools <u>Activity:</u> Textbook: Pg. 47 Review Your Knowledge #27; Pg. 200 Review Your Knowledge #25; Pg. 335 Review Your Knowledge #43, 44, 45 Software Design Guide: Pg. 136–146 Activity 5-2
(ii)	identify basic game components, including game play subsystems;	<u>Narrative:</u> Textbook: Pg. 61 Gameplay; Pg. 306–307 Gameplay Modes <u>Activity:</u> Textbook: Pg. 72 Review Your Knowledge #6; Pg. 335 Review Your Knowledge #20, 21
(iii)	identify basic game components, including data structures;	<u>Narrative:</u> Software Design Guide: Pg. 187–192 #42–104 <u>Activity:</u> Software Design Guide: Pg. 193 Review Questions #4–6
(iv)	identify basic game components, including models;	<u>Narrative:</u> Textbook: Pg. 41–43 Art Designer/Lead Artist; Pg. 324–325 Character-Design Document <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #37
(v)	identify basic game components, including interfaces;	<u>Narrative:</u> Textbook: Pg. 206–227 Dedicated Game System Consoles; Pg. 287 User Interface <u>Activity:</u> Textbook: Pg. 235 Review Your Knowledge #4; Pg. 236 Review Your Knowledge #5, 7, 8, 9, 11, 12, 17–26, 28–31; Pg. 237 Review Your Knowledge #34; Pg. 296 Review Your Knowledge #32, 33
(B) (i)	generate random numbers in a program;	
(C) (i)	create a program implementing conditional statements;	
(D) (i)	develop an appropriate data model;	

		<p>Activity:</p> <p>Textbook: Pg. 199 Review Your Knowledge #3, 6, 7, 10; Pg. 200 Review Your Knowledge #24</p> <p>Software Design Guide: Pg. 168 Review Questions #1–10; Pg. 180 Review Questions #1–5; Pg. 193 Review Questions #1–11</p>	
(E)	demonstrate an understanding of and apply object oriented game programming;		
	(i)	demonstrate an understanding of object-oriented game programming;	<p>Narrative:</p> <p>Textbook: Pg. 170 Logic; Pg. 180–182 Programming with Collision Theory</p> <p>Activity:</p> <p>Textbook: Pg. 199–200 Review Your Knowledge #1–25</p> <p>Software Design Guide: Pg. 168 Review Questions #1–10; Pg. 180 Review Questions #1–5; Pg. 193 Review Questions #1–11</p>
	(ii)	apply object-oriented game programming;	<p>Narrative:</p> <p>Textbook: Pg. 170 Logic; Pg. 180–182 Programming with Collision Theory</p> <p>Activity:</p> <p>Software Design Guide: Pg. 136–146 Activity 5-2; Pg. 147–167 Activity 5-3; Pg. 171–180 Activity 5-5; Pg. 183–192 Activity 5-7</p>
(F)	demonstrate an understanding of game programming essentials, including event-driven programming, communicating with messages, and device management;		
	(i)	demonstrate an understanding of game programming essentials, including event-driven programming;	<p>Narrative:</p> <p>Textbook: Pg. 171–173 Conditions and Events</p> <p>Software Design Guide: Pg. 151–152 Activity 5-3 #28–32; Pg. 176–177 Activity 5-5 #47–54; Pg. 187–188 Activity 5-7 #47–57</p> <p>Activity:</p> <p>Textbook: Pg. 200 Review Your Knowledge #18</p> <p>Software Design Guide: Pg. 168 Review Questions #2, 9; Pg. 180 Review Questions #3; Pg. 193 Review Questions #2–7</p>
	(ii)	demonstrate an understanding of game programming essentials, including communicating with messages;	<p>Narrative:</p> <p>Textbook: Pg. 26–28 Communication Competence; Pg. 176 Figure 5-8; Pg. 177 Collision Theory, Figure 5-9</p> <p>Activity:</p> <p>Textbook: Pg. 46 Review Your Knowledge #18</p> <p>Software Design Guide: Pg. 63 Activity 3-4 #11; Pg. 180 Activity 5-5 ; Pg. 191 Activity 5-7 #87</p>
	(iii)	demonstrate an understanding of game programming essentials, including device management;	<p>Narrative:</p> <p>Software Design Guide: Pg. 329 first full paragraph</p> <p>Activity:</p> <p>Software Design Guide: Pg. 331 Review Question #15, 16</p>
(G)	demonstrate an understanding of the role of game events, the animation loop, and game timing;		
	(i)	demonstrate an understanding of the role of game events;	<p>Narrative:</p> <p>Textbook: Pg. 171–173 Conditions and Events</p> <p>Software Design Guide: Pg. 151–152 Activity 5-3 #28–32; Pg. 176–177 Activity 5-5 #47–54; Pg. 187–188 Activity 5-7 #47–57</p> <p>Activity:</p> <p>Textbook: Pg. 200 Review Your Knowledge #18</p> <p>Software Design Guide: Pg. 168 Review Questions #2, 9; Pg. 180 Review Questions #3; Pg. 193 Review Questions #2–7</p>

	(ii)	demonstrate an understanding of the role of the animation loop;	<u>Narrative:</u> Software Design Guide: Pg. 145 Activity 5-2 #103; Pg. 154–155 Activity 5-3 #49–54; Pg. 360–361 Activity 9-3 #5–16 <u>Activity:</u> Software Design Guide: Pg. 368–369 Review Questions #1–6
	(iii)	demonstrate an understanding of the role of game timing;	<u>Narrative:</u> Software Design Guide: Pg. 244–246 Activity 6-6 #57–75; Pg. 365–366 Activity 9-3 #38–49; Pg. 381–382 Activity 10-2 #6–22 <u>Activity:</u> Software Design Guide: Pg. 252 Review Questions #3; Pg. 369 Review Questions #3; Pg. 394 Review Questions #1–2
(H)	(i)	demonstrate an understanding of the role of game engines;	<u>Narrative:</u> Textbook: Pg. 22–23 Analytical/Logical Competence; Pg. 195–198 The Game Factory 2; Pg. 331–332 Other Tools <u>Activity:</u> Textbook: Pg. 47 Review Your Knowledge #27; Pg. 200 Review Your Knowledge #25; Pg. 335 Review Your Knowledge #43–45 Software Design Guide: Pg. 136–146 Activity 5-2
(I)	apply basic game screen design and layout, including visual controls, user interfaces, menus, and options;		
	(i)	apply basic game screen design and layout, including visual controls;	<u>Narrative:</u> Software Design Guide: Pg. 150–152 Activity 5-3 #23–32; Pg. 187 Activity 5-7 #47–52; Pg. 213–214 Activity 6-3 #18–22; Pg. 316 Activity 8-5 #8–10 <u>Activity:</u> Software Design Guide: Pg. 193 Review Questions #1; Pg. 168 Review Questions #8; Pg. 232 Review Questions #1; Pg. 331 Review Questions #17
	(ii)	apply basic game screen design and layout, including user interfaces;	<u>Narrative:</u> Textbook: Pg. 63–64 User Interface; Pg. 287 User Interface Software Design Guide: Pg. 30 Activity 2-2; Pg. 32–33 Activity 2-2 16–20; Pg. 141 Activity 5-2 #55–60; Pg. 147–167 Activity 5-3; Pg. 187 Activity 5-7 #47–52; Pg. 329 Activity 8-5 #135–138 <u>Activity:</u> Textbook: Pg. 72 Review Your Knowledge #19; Pg. 296 Review Your Knowledge #32, 33 Software Design Guide: Pg. 41 Review Questions #1–5; Pg. 168 Review Questions #8; Pg. 331 Review Questions #15, 16
	(iii)	apply basic game screen design and layout, including menus;	<u>Narrative:</u> Textbook: Pg. 310–311 Mode Elaboration Software Design Guide: Pg. 201–204 Activity 6-1; Pg. 392 Activity 10-2 #118–123 <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #26
	(iv)	apply basic game screen design and layout, including options;	<u>Narrative:</u> Software Design Guide: Pg. 191–192 Activity 5-7 <u>Activity:</u> Software Design Guide: Pg. 193 Review Questions #11
(J)	use game control design to understand, access, and control input devices;		
	(i)	use game control design to understand input	<u>Narrative:</u>

		devices;	<p>Textbook: Pg. 63–64 User Interface; Pg. 287 User Interface</p> <p>Software Design Guide: Pg. 140–141 Activity 5-2 #55–60; Pg. 156 Activity 5-3 #66–68; Pg. 329 Activity 8-5 #135–138</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 72 Review Your Knowledge #19; Pg. 296 Review Your Knowledge #32, 33</p> <p>Software Design Guide: Pg. 168 Review Questions #8; Pg. 331 Review Questions #15, 16</p>
	(ii)	use game control design to access input devices;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 63–64 User Interface; Pg. 287 User Interface</p> <p>Software Design Guide: Pg. 140–141 Activity 5-2 #55–60; Pg. 156 Activity 5-3 #66–68; Pg. 329 Activity 8-5 #135–138</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 72 Review Your Knowledge #19; Pg. 296 Review Your Knowledge #32, 33</p> <p>Software Design Guide: Pg. 168 Review Questions #8; Pg. 331 Review Questions #15, 16</p>
	(iii)	use game control design to control input devices;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 63–64 User Interface; Pg. 287 User Interface</p> <p>Software Design Guide: Pg. 140–141 Activity 5-2 #55–60; Pg. 156 Activity 5-3 #66–68; Pg. 329 Activity 8-5 #135–138</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 72 Review Your Knowledge #19; Pg. 296 Review Your Knowledge #32, 33</p> <p>Software Design Guide: Pg. 168 Review Questions #8; Pg. 331 Review Questions #15, 16</p>
(K)	demonstrate an understanding of and apply game animation, including the principles of animation and frame-based animation;		
	(i)	demonstrate an understanding of game animation, including the principles of animation;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 155–158 Animation; Pg. 140 Two-Dimensional Games</p> <p>Software Design Guide: Pg. 93–95 Activity 4-1 #57–68; Pg. 96–100 Activity 4-2; Pg. 102–105 Activity 4-3; Pg. 106–107 Activity 4-4; Pg. 267–269 Activity 7-2 #57–74</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 160–161 Review Questions, #3, 7, 29, 40</p> <p>Software Design Guide: Pg. 101, Review Questions #1–3; Pg. 108, Review Questions #1–4; Pg. 281 Review Questions #3–4</p>
	(ii)	apply game animation, including the principles of animation;	<p><u>Narrative:</u></p> <p>Textbook: Pg. 155–158 Animation; Pg. 140 Two-Dimensional Games</p> <p>Software Design Guide: Pg. 93–95 Activity 4-1 #57–68; Pg. 96–100 Activity 4-2; Pg. 102–105 Activity 4-3; Pg. 106–107 Activity 4-4; Pg. 267–269 Activity 7-2 #57–74</p> <p><u>Activity:</u></p> <p>Textbook: Pg. 160–161 Review Questions, #3, 7, 29, 40</p> <p>Software Design Guide: Pg. 101 Review Questions #1–3; Pg. 108 Review Questions #1–4; Pg. 281 Review Questions #3–4</p>

	(iii)	demonstrate an understanding of game animation, including frame-based animation;	<u>Narrative:</u> Textbook: Pg. 140 Two-Dimensional Games; Pg. 155–156 Animation Software Design Guide: Pg. 184–185 Activity 5-7 #27–31; Pg. 298–315 Activity 8-4; Pg. 360–361 Activity 9-3 <u>Activity:</u> Textbook: Pg. 160–161 Review Questions #3, 7, 29, 40 Software Design Guide: Pg. 193 Review Questions #8, 9; Pg. 369 Review Questions #5
	(iv)	apply game animation, including frame-based animation;	<u>Narrative:</u> Textbook: Pg. 140 Two-Dimensional Games; Pg. 155–156 Animation Software Design Guide: Pg. 184–185 Activity 5-7 #27–31; Pg. 298–315 Activity 8-4; Pg. 360–361 Activity 9-3 <u>Activity:</u> Textbook: Pg. 160–161 Review Questions, #3, 7, 29, 40 Software Design Guide: Pg. 193 Review Questions #8, 9; Pg. 369 Review Questions #5
(L)	demonstrate an understanding of game events, including listeners, triggers, and timed events;		
	(i)	demonstrate an understanding of game events, including listeners;	<u>Narrative:</u> Textbook: Pg. 172 paragraph 4 Software Design Guide: Pg. 187 Activity 5-7 #52 <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #13 Software Design Guide: Pg. 193 Review Questions #2
	(ii)	demonstrate an understanding of game events, including triggers;	<u>Narrative:</u> Textbook: Pg. 173 paragraph 1 Software Design Guide: Pg. 72–73 Activity 3-4 #74–83; Pg. 364–365 #30–37 <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #14 Software Design Guide: Pg. 369 Review Questions #6
	(iii)	demonstrate an understanding of game events, including timed events;	<u>Narrative:</u> Software Design Guide: Pg. 161–162 Activity 5-4 #98–104; Pg. 243–246 Activity 6-6 #48–75; Pg. 278–280 Activity 7-2 #144–162; Pg. 365–366 Activity 9-3 #38–47 <u>Activity:</u> Software Design Guide: Pg. 252 Review Questions #3; Pg. 281 Review Questions #7, 9; Pg. 369 Review Questions #3
(M)	demonstrate an understanding of and implement collision detection, including models and sprite collisions;		
	(i)	demonstrate an understanding of collision detection, including models;	<u>Narrative:</u> Textbook: Pg. 177–182 Collision Theory, Programming with Collision Theory Software Design Guide: Pg. 177–178 Setting the Course <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21, 22 Software Design Guide: Pg. 180 Review Questions #4
	(ii)	implement collision detection, including models;	<u>Narrative:</u> Textbook: Pg. 177–182 Collision Theory, Programming with Collision Theory Software Design Guide: Pg. 177–178 Setting the Course <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21, 22 Software Design Guide: Pg. 180 Review Questions #4
	(iii)	demonstrate an understanding of collision detection, including sprite collisions;	<u>Narrative:</u> Textbook: Pg. 177–182 Collision Theory, Programming

			with Collision Theory Software Design Guide: Pg. 158–160 Activity 5-3 #75–89 <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21, 22 Software Design Guide: Pg. 168 Review Questions #7
	(iv)	implement collision detection, including sprite collisions;	<u>Narrative:</u> Textbook: Pg. 177–182 Collision Theory, Programming with Collision Theory Software Design Guide: Pg. 158–160 Activity 5-3 #75–89 <u>Activity:</u> Textbook: Pg. 200 Review Your Knowledge #21, 22 Software Design Guide: Pg. 168 Review Questions #7
(N)	demonstrate an understanding of player progression, including leveling, linear progression, and maintaining high score data;		
	(i)	demonstrate an understanding of player progression, including leveling;	<u>Narrative:</u> Textbook: Pg. 287 Navigation; Pg. 292–293 Reward; Pg. 314–315 Level Design Software Design Guide: Pg. 70–72 Activity 3-4 #57–83; Pg. 210 Activity 6-2; Pg. 231–232 Activity 6-3 #173–183; Pg. 251 Activity 6-6 #116 <u>Activity:</u> Textbook: Pg. 335 Review Your Knowledge #28, 29 Software Design Guide: Pg. 232 Review Questions #4, 5, 6
	(ii)	demonstrate an understanding of player progression, including linear progression;	<u>Narrative:</u> Textbook: Pg. 290 Player Interactions; Pg. 312 Story Elaboration <u>Activity:</u> Textbook: Pg. 296 Review Your Knowledge #40; Pg. 335 Review Your Knowledge #27
	(iii)	demonstrate an understanding of player progression, including maintaining high score data; and	<u>Narrative:</u> Textbook: Pg. 60–61 Game Definition Software Design Guide: Pg. 165 Activity 5-3 #125–139; Pg. 226–227 Activity 6-3 #122–134; Pg. 230 Activity 6-3 #160–172 <u>Activity:</u> Software Design Guide: Pg. 168 Review Questions #10
(O) (i)	demonstrate an understanding of algorithmic decision making.		<u>Narrative:</u> Textbook: Pg. 190–193 Flowchart, Algorithm <u>Activity:</u> Textbook: Pg. 199 Review Your Knowledge #6