Texas CTE

Advanced Video Game Programing

Knowledge and Skills. VIDEOGD3

1 The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to: VIDEOGD3.1

- A identify and demonstrate positive work behaviors and personal qualities needed to be employable; VIDEOGD3.1A
- B demonstrate skills related to seeking and applying for employment such as building a resume and identifying potential job opportunities; VIDEOGD3.1B
- C create a career portfolio to document information such as work experiences, licenses, certifications, and work samples; and VIDEOGD3.1C
- D compare and evaluate employment opportunities in the game programming industry. VIDEOGD3.1D

2 The student applies technical skills related to software development, computer programming, and graphic design. The student is expected to: VIDEOGD3.2

- A develop an application development for mobile application technology; VIDEOGD3.2A
- B create a program using any code; VIDEOGD3.2B
- C interpret technical and increasingly complex programming instructions in order and in detail; VIDEOGD3.2C
- D design and program real working education-based mobile application projects; VIDEOGD3.2D
- E apply digital design resources and color theory to draw and animate sprites, objects, platforms, backgrounds, and loops; VIDEOGD3.2E
- F examine common mobile application technologies and platforms; VIDEOGD3.2F
- G create and program original material; VIDEOGD3.2G
- H integrate separate files into a mobile application project; VIDEOGD3.2H
- I create and edit audio sound effects and music; and VIDEOGD3.2I
- J create user instructions, application rules, and document development processes using technical writing as part of a development team. VIDEOGD3.2J

3 The student applies creativity, innovation, and critical-thinking skills to video game programming methodology. The student is expected to: VIDEOGD3.3

- A identify and discuss the steps of the engineering design cycle; VIDEOGD3.3A

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B explain how to solve practical problems using the engineering design cycle; VIDEOGD3.3B

C apply technical skills to improve mobile application projects; VIDEOGD3.3C

D apply technical skills to create, design, and program original applications; VIDEOGD3.3D

E evaluate applications and discuss viable solutions for improving performance quality; VIDEOGD3.3E

F review and critique applications for performance quality; VIDEOGD3.3F

G explain the findings of reviewed applications to peers; VIDEOGD3.3IVIDEOGD3.3G

H evaluate the projects of self and of peers using established criteria; and VIDEOGD3.3H

I display an understanding of marketing as a part of the video game design industry. VIDEOGD3.3I

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4 The student applies communication and collaboration skills as an individual and as part of a team. The student is expected to: VIDEOGD3.4

A assemble and collaborate in mobile application development groups; VIDEOGD3.4A

B develop and adhere to project timelines; VIDEOGD3.4B

C use the engineering design cycle as a guide for product development; VIDEOGD3.4C

D manage a project, lead a development team, assign tasks, evaluate progress, facilitate communication among team members and ensure that project is completed within time deadline; and VIDEOGD3.4D

E conduct in-class presentations including demonstration of application. VIDEOGD3.4E

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5 The student applies the use of appropriate and available digital tools for research and learning. The student is expected to: VIDEOGD3.5

A research and document information related to current topics such as mobile application development, marketing statistics, and color and design theory; and VIDEOGD3.5A

B develop appropriate ways to use wikis and blogs to engage users of mobile applications. VIDEOGD3.5B

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6 The student applies engineering, physics, and mathematical concepts to mobile application development. The student is expected to: VIDEOGD3.6

A discuss the process used in designing and developing software and how it can be applied to other design and development projects such as bridges, buildings, and machines; VIDEOGD3.6A

B explain how basic physics concepts such as gravity, acceleration, velocity, speed, trajectory, Newton's Laws of Motion, force, and elasticity are used in mobile application development; VIDEOGD3.6B

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C compare the interconnections between mathematical techniques and physics calculations used in mobile application development and the real world; VIDEOGD3.6C

D compare the use of mathematics and physics to evaluate behavior within applications in the “virtual world” and in the “real world.” VIDEOGD3.6D

7 **The student applies post-secondary and career options and resources related to mobile application development and STEM. The student is expected to:** VIDEOGD3.7

A research how technical and communication skills used in mobile application design translates to other technology industries and businesses; VIDEOGD3.7A

B research postsecondary requirements such as, diplomas, certificates, and degrees needed to gain employment in game development and other technology-based industries; and VIDEOGD3.7B

C research career trends such as wage data, experience required, job demand, job descriptions, and potential employers related to employment opportunities in mobile application development and technology based industries VIDEOGD3.7C