Title of proposed new innovative course:

Gaming Concepts: Fundamentals

Applicant information – All Information Is Required

Name of applying school district, charter school, or organization: Generation Esports

Complete mailing address:
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Primary contact person: Dr. Kristy Custer

Primary contact person's title: President Educational Innovation

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Secondary contact person: Heidi Albin

Secondary contact person's title: Learning Design Manager

Secondary contact person's email address: heidi@generationesports.com

Secondary contact person's phone number, area code first: (316) 208-9869

County District Number (if applicant is a Texas public school): N/A

Superintendent (if applicant is a Texas public school): N/A

Date of local board of trustees' approval of this innovative course application (if applicant is a Texas public school): N/A

Proposed Course Information

Subject area (choose only one):   *Other*

Career cluster (CTE only): *N/A*

Number of credits per course: 0.5

Grade level(s) (high school only): 9–12

Brief description of the proposed course (150 words or less, paragraph form)**:**

Gaming Concepts: Fundamentals is tailored for students who are interested in gaming culture and are eager to further develop digital and teamwork skills. The central focus of this course is to introduce gaming knowledge and skills and connect the learned knowledge and skills to academic, social, and technical skill development. Students summarize the history of esports and gaming, practice strategic gaming skills, investigate good gamer health, apply basic technology information and hands-on troubleshooting for the gamer, explore Science, Technology, Engineering, and Math (STEM) -connected college and career options in the gaming industry, and recognize the applications of gaming on well-being.

Brief justification of how/why the proposed course qualifies as "innovative" in terms of student need. (150 words or less, paragraph form)**:**

Gaming Concepts: Fundamentals is different from any other TEKS-based course because it teaches esports-specific content and skills. By leveraging the popularity and relevance of esports and gaming culture, the course seeks to provide students with a multifaceted learning experience that goes beyond traditional academic subjects. Texas has seen a dramatic increase of scholastic esports teams over the past five years and an esports course is now needed to support the growth of a knowledge base in the burgeoning fields of esports and gaming. *Gaming Concepts: Fundamentals* is designed to not only capture student interest but also teach students the transferable skills found in gaming. The course aims to empower students with capabilities that extend beyond pastime or hobby, illuminating the potential for high-skill, high-wage careers in areas such as digital media, information technology, web and digital communications, and programming and software development.

Pilot Information	Provide Answers in This Column
2022-2023 Enrollment	413 Students
Years the Course Was Offered in Its Entirety	1
Name of Texas High School	- Texas High School - Waxahachie High School - La Vega High School - Humble High School - Atascocita High School - Brownsboro High School - Maud High School - Tuloso-Midway High School - Hudson High School
Pilot Information	Provide Answers in This Column

Nine schools and 413 students piloted the *Gaming Concepts: Fundamentals* course during the 2022-2023 school year. The primary method of data collection for the pilot study was a pre- and post-survey. 413 students completed the pre-survey, and 251 students (61%) completed the post-survey. Some of the reasons that not all students completed the survey included being absent, dropping the class, teachers not requiring the surveys, and not having enough time to get through the course to get to the survey at the end.

The following are highlights of the data collected from the 251 students who completed the post-survey during the 2022-2023 pilot.

To leverage the burgeoning interest of students in esports, educators have strategically integrated esports content into their classes as a captivating "hook" to enhance engagement in traditional curriculum. This initial integration has sparked increased student interest, with learners expressing a desire for more lessons centered around esports. In response, instructors found themselves adapting to meet this demand with little or no esports background or knowledge. The *Gaming Concepts: Fundamentals* pilot course provided instructors with an esports-focused curriculum solution that not only imparted knowledge and skills not covered in other courses but also demonstrated a positive impact on students' perceptions of their school attendance. Notably, 29.7% of students self-reported that their enrollment in the *Gaming Concepts: Fundamentals* course made them "More likely to attend" school.

How did taking the Gaming Concepts course affect your attendance at school?

Less likely to attend
11.2%

More likely to attend
29.7%

11.2%

29.7%

59.0%

Attendance not affected
59.0%
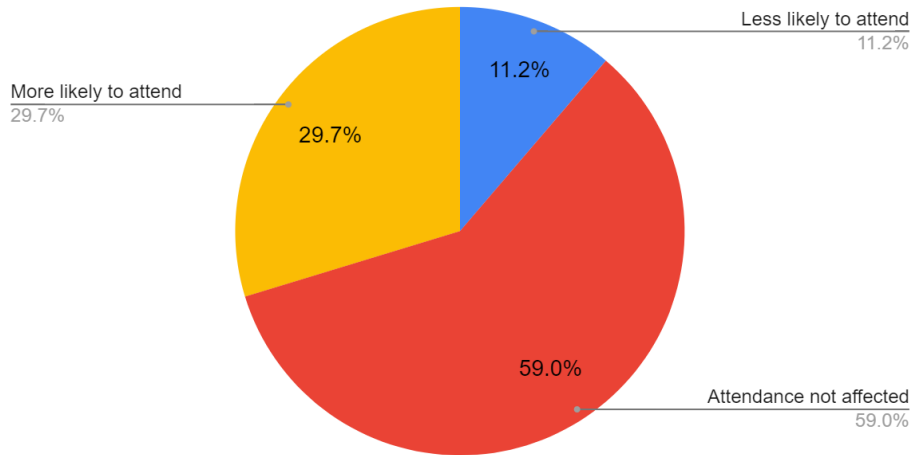
Despite prevailing sentiments reflected in both Texas data showing curriculum content does not prepare students for life after high school and national data showing a significant majority of students express negative feelings about school, a noteworthy 62.5% of students who participated in the pilot course concurred, either agreeing or strongly agreeing, that they perceived the content presented in the *Gaming Concepts: Fundamentals* course was both engaging and relevant.

The content in the Gaming Concepts course was engaging and relevant.

Disagree
4.4%

Neutral
32.3%

32.3%

Strongly agree
22.2%

22.2%

40.3%

Agree
40.3%
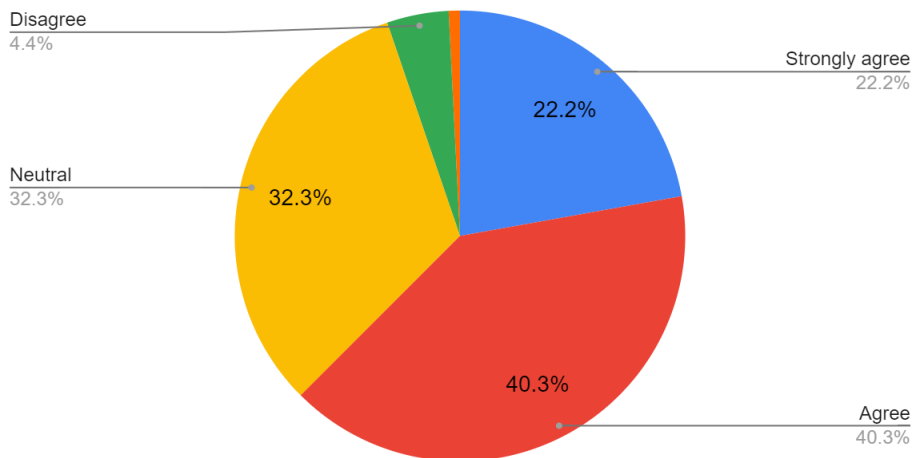
The impact of the *Gaming Concepts: Fundamentals* course extends beyond immediate satisfaction, as evidenced by students' perceptions of their future career considerations. The career exploration focus

of the course not only seeks to enhance students' knowledge about careers in gaming but also expands student perceptions of interest in highly-employable careers in STEM fields. This change is evidenced by 17.1% of students answering, "I am more interested in careers in STEM" in response to the survey question, "After taking the Gaming Concepts course, I am more or less interested in a career in Science, Technology, Engineering or Math (STEM)."

After taking the Gaming Concepts course, I am more or less interested in a career in Science, Technology, Engineering or Math (STEM).

- I have about the same interest in a career in STEM as before I took the class.
- I was not interested in a career in STEM, and I am still not interested in a career in STEM.
- I am more interested in a career in STEM.
- I am less interested in a career in STEM.
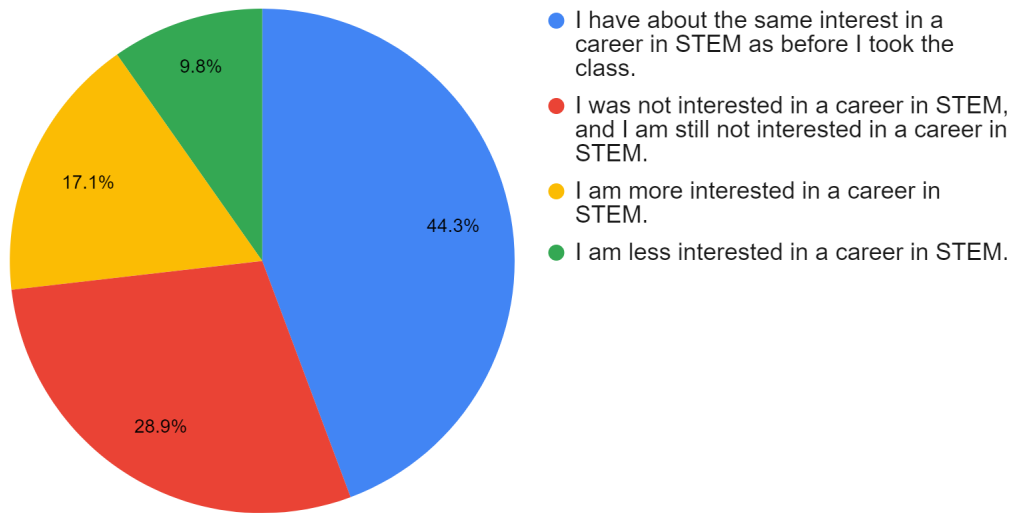
Notably, 31.7% of students reported enhanced clarity about their career plans, signifying a valuable outcome of the course. These findings suggest that the course plays a role in not only providing engaging content for students but also increasing interest toward STEM fields as potential career paths.

After taking the Gaming Concepts course, I am more or less sure of the future career I would like to pursue.

Curriculum Standards and Student Support Division
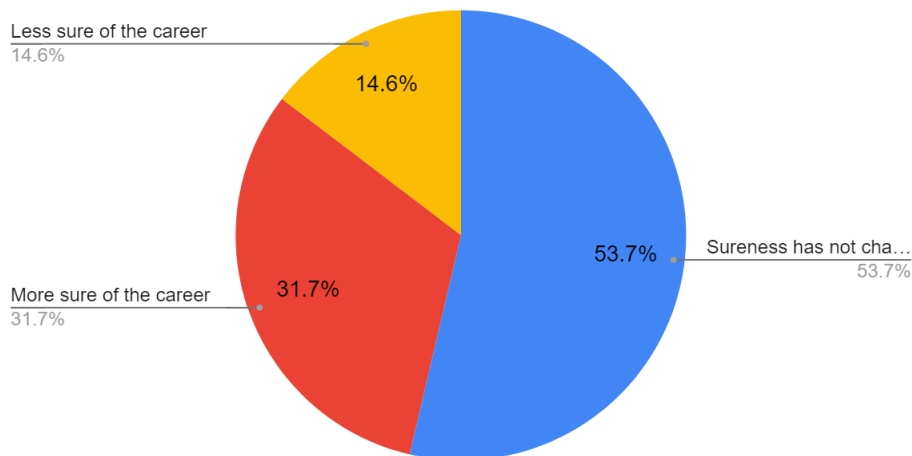
An additional aspect of significance within the data, particularly distinctive to the *Gaming Concepts: Fundamentals* course as a proposed innovative course, pertains to its influence on student video gaming habits. The course's distinct emphasis on video gamers and gamer health yielded noteworthy outcomes. 32.5% of students affirmed that their gaming habits, which encompass aspects such as sleep, nutrition, and exercise, experienced improvement as a direct result of their participation in the course. This not only underscores the course's positive impact on academic engagement but also on fostering healthier gaming practices among students.

How did the Gaming Concepts course affect your video gaming habits (ex. sleep, nutrition, exercise, etc.)?
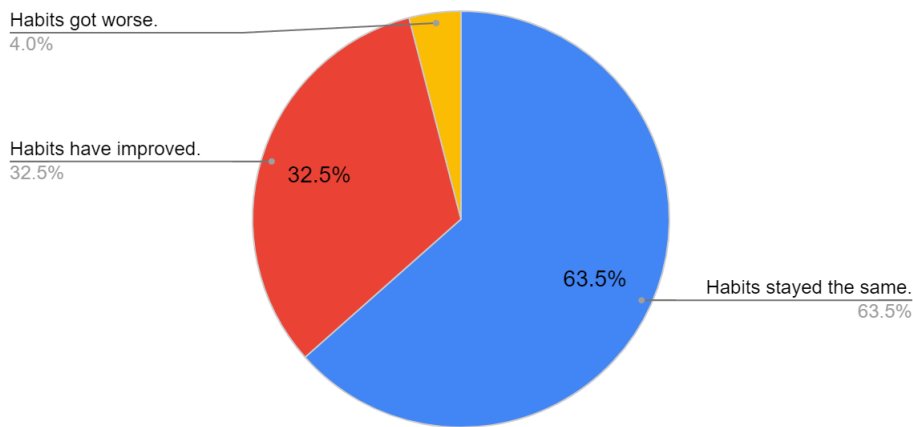
A final point of interest, which is not Texas specific, includes a national study, in which Hudson High School was involved, on preventative mental health instruction included in the *Gaming Concepts: Fundamentals* course. Although individual data for Hudson High School is not available, national data indicate that *Gaming Concepts: Fundamentals* has been shown to produce "a clinically relevant migration of participants from abnormal low self-esteem baselines to a normal range" [(Jenson, Wolff, & Milkovich, 2023)](). In addition, conclusions of the study state, "Scholarly gaming with +Mental Health Moments, a tech-based course that seems to capture the interest of many students, might serve as a successful conduit for embedded preventive mental health curriculum, improving the self-esteem of participants. This is particularly relevant, as scholarly gaming curricula often reach some of the most vulnerable youth through school-based interventions used" [(Jenson, Wolff, & Milkovich, 2023)]().

Jenson C, Wolff S, Milkovich L. *Effects of a Preventive Mental Health Curriculum Embedded Into a Scholarly Gaming Course on Adolescent Self-Esteem: Prospective Matched Pairs Experiment.* JMIR Serious Games 2023;11:e48401.

Essential Knowledge and Skills for the Proposed Course:

a) General Requirements. This course is recommended for students in Grades 9–12. Students shall be awarded one-half credit for successful completion of this course.

b) Introduction.

(1) *Gaming Concepts: Fundamentals* is tailored for students who are interested in gaming culture and are eager to further develop digital and teamwork skills. The central focus of this course is to introduce gaming knowledge and skills and connect the learned knowledge and skills to academic, social, and technical skill development. Students summarize the history of esports and gaming, practice strategic gaming skills, investigate good gamer health, apply basic technology information and hands-on troubleshooting for the gamer, explore STEM-connected college and career options in the gaming industry, and recognize the applications of gaming on well-being.

(2) Statements containing the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

c) Knowledge and skills.

(1) Goal-Setting and decision-making skills. The student creates goals related to career acquisition, educational paths, and health promotion and preventative care for gamers and predicts the immediate and long-term impact of decisions on the individual, esports team, and the broader gaming community. The student is expected to:

(A) discuss multiple strategies for making decisions related to gaming scenarios in the virtual world and discuss multiple strategies for making decisions related to gaming scenarios in personal experiences;

(B) use complex decision-making skills to formulate an action plan aimed at achieving academic, career, and personal goals;

(C) predict the short- and long-term consequences of personal decisions on gamers, esports teams, and the gaming community as a whole; and

(D) develop both immediate and future objectives concerning career advancement in gaming, educational decisions unique to gamers, and the promotion of health and preventative measures among gamers.

(2) Interpersonal communication. The student understands and exhibits interpersonal communication skills that respect self and others in online gaming settings. The student is expected to:

(A) describe and give examples of types of constructive and detrimental engagement within a team or collaborative learning group in online gaming environments;

(B) describe the value of participating in a gaming environment with players and team members of different skill levels;

(C) identify and practice refusal, negotiation, collaboration, mediation, and conflict-resolution skills to avoid potentially incendiary situations with other gamers and within teams;

(D) respond to both success and disappointment experienced by others in esports practice and competition through verbal affirmations, supportive gestures, and empathetic reactions;

(E) demonstrate successful team communication through virtual channels in practice and competing in virtual environments within the course;

(F) analyze how teamwork enhances personal and professional growth; and

(G) analyze the importance of exhibiting appropriate etiquette in all online gaming settings and its impact on the potential for success.

(3) Gaming skills. The student applies fine motor skills specific to gaming controls, during gaming activities. The student is expected to:

(A) explain appropriate tactical decisions in gaming situations such as positioning and movement, team coordination, counterplay, and timing and execution of abilities, attacks, and movements;

(B) demonstrate appropriate motor skills for a self-selected game;

(C) demonstrate effective offensive and defensive skills in a variety of gaming activities;

(D) make appropriate technical skill changes to adapt to environmental conditions such as game updates, patches, meta shifts, and evolving strategies in a variety of gaming pursuits;

(E) exhibit quick decision making to perform immediate actions and hand-eye coordination in a virtual environment within modified, individual, or team situations; and

(F) compare movement concepts, principles, strategies, and tactics as they apply to specific games.

(4) Technical skills. The student uses key functions of software and hardware pertinent to the esports industry. The student is expected to:

(A) use recording and streaming software to capture gameplay footage for analysis and content creation purposes, while taking into consideration ethics and laws of intellectual property;

(B) enhance game visuals and performance by applying advanced settings within game engines or editing software;

(C) configure gaming peripherals and software settings for selected games; and

(D) troubleshoot common technical issues encountered during competitive gaming sessions.

(5) Health promotion and preventative care for gamers. The student identifies common risks in gaming and risk-reducing strategies for gamers. The student is expected to:

(A) describe the importance of the interrelationships of mental, emotional, social, and physical health through gaming;

(B) investigate strategies for maintaining mental well-being, including managing stress levels, setting boundaries on gaming time, and seeking social support from friends, family, or online communities;

(C) implement classroom habits and routines according to best practices related to gaming health and wellness to promote long-term physical and mental resilience;

(D) articulate the physical and mental health risks associated with prolonged gaming sessions, such as eye strain and sedentary behavior;

(E) explain the importance of taking regular breaks, meeting nutritional needs, and practicing physical exercises specifically tailored to counteract the sedentary nature of gaming; and

(F) model ergonomic principles to optimize gaming setups to reduce the risk of musculoskeletal issues and promote comfortable gameplay.

(6) Esports industry. The student evaluates the state of the esports industry. The student is expected to:

(A) explore and describe esports-related career paths within STEM fields, including the transferable skills gained through esports engagement;

(B) outline strategies for pursuing educational pathways in esports-related STEM fields, informed by insights gained from the course;

(C) discuss unique aspects of esports marketing and branding;

(D) summarize the key laws, regulations, and ethics influencing the esports industry; and

(E) summarize the various levels and formats of esports competition.

(7) Influence of culture, media, and technology. The student evaluates the reciprocal influence of esports, culture, media, and technology, currently and historically. The student is expected to:

(A) compare responses to gaming in the United States with those from cultures around the world;

(B) describe the relationship between esports and the media;

(C) summarize key historical events in the esports timeline;

(D) summarize key influencers and stakeholders shaping the esports culture; and

(E) evaluate how gaming has influenced culture.

(8) Gaming Appreciation. The student identifies lifetime gaming options that provide for health, enjoyment, challenge, self-expression, and social interaction. The student is expected to:

(A) discuss strategies to incorporate gaming into daily routines in a purposeful and meaningful manner that enhances wellbeing;

(B) demonstrate perseverance in acquiring proficiency with new games by consistently engaging with unfamiliar titles, actively seeking resources for improvement, and completing challenges;

(C) explain reasons for choosing to participate in selected games; and

(D) differentiate between intrinsic and extrinsic reasons for participating in gaming activities.

Recommendations for new proposed innovative course

Recommended resources, technology, and instructional materials to be used:

It is required that instructors have a print or digital copy of *Gaming Concepts: Fundamentals* and *Gaming Concepts: Fundamentals Student Companion.*

Textbooks:

- Custer, Kristy, Michael Russell, Chris Jenson, Heidi Albin, and Alex Hirbe. *Gaming Concepts: Fundamentals*. Kansas City, MO: High School Esports League, 2021. (Teacher Edition)
  - Print copy cost: $125 each
  - Digital copy cost: $99 each
- Custer, Kristy, Michael Russell, Chris Jenson, Heidi Albin, and Alex Hirbe. *Gaming Concepts: Fundamentals Student Companion*. Kansas City, MO: High School Esports League, 2021. Cost: $25 each.

Technology:

- Students should have access to a computing device with internet access that is capable of basic word processing and graphics content creation.
- Students should be able to access free and/or paid for video games of their choice (or as directed by the instructor) for Purposeful Play activities. Depending on the technology available to them, these games can be on PC, console, cell phone, or other computing device with internet connection.

Optional Resources:

Generation Esports. Digital Learning Platform. Accessed April 25, 2024. https://www.blueprint.study/.

Recommended activities:

- Demonstrate healthy gaming habits through reflective journaling.
- Perform preventive and corrective technological tasks.
- Explain the various roles and responsibilities within a team, detailing how each member contributes to the collective effort.
- Formulate educational and career plans.
- Analyze data and articulate reflections based on the data.

Recommended assessment methods for evaluating student outcomes:

- Formative and summative assessments are used throughout the course. Formative assessments take the form of classroom discussions, quizzes, concept mapping, gallery walks, and peer assessment. These instruments enable the evaluation of students' comprehension of essential concepts and allow for real-time adjustments as necessary.

- Summative assessments include a career research paper, hands-on technical performance task, and research analysis. Students also complete a summative portfolio which includes daily journal entries, gaming articles, additional research that students conduct, and screenshots depicting exciting events that happen in-game or demonstrate rank promotions. Students are also given a pre- and post- assessment to gauge their understanding and perceptions of gaming and careers in STEM fields.

Recommended educator certifications:

An assignment for *Gaming Concepts: Fundamentals* is allowed with one of the following certificates.
- Computer Science: Grades 8-12.
- Grades 6-12 or Grades 9-12--Computer Information Systems.
- Junior High School (Grades 9-10 only) or High School--Computer Information Systems.
- Secondary Computer Information Systems (Grades 6-12).
- Secondary Industrial Arts (Grades 6-12).
- Secondary Industrial Technology (Grades 6-12).
- Technology Applications: Early Childhood-Grade 12.
- Technology Applications: Grades 8-12.
- Technology Education: Grades 6-12.
- Mathematics/Physical Science/Engineering: Grades 6-12.
- Mathematics/Physical Science/Engineering: Grades 8-12.

Required trainings, including associated costs, if applicable:

N/A