



Educator Alignment Sheet

How the challenge maps to educational standards — and why the class time is defensible



How to read this sheet. The challenge is designed to align with and support the frameworks below. It does not by itself satisfy a graduation, course or credit requirement. Whether it counts toward a specific course, CTE pathway or credit is determined solely by your school's CTE coordinator, department chair or district. Standards vary by state and district; the codes below are illustrative and should be confirmed locally.

Why a teacher can justify the class time

The challenge is a complete engineering-design cycle in miniature: students define a problem under stated constraints, design a solution, defend their reasoning in writing, test it against measured criteria, and revise on the evidence. That loop is what most science and CTE frameworks are built to develop, which is why one activity maps onto several at once. Unusually for a student competition, the students run the measurement themselves.

The strongest and most defensible single alignment is NGSS Engineering Design. Lead with that when approaching a school.

Alignment map

Framework	Specific alignment (illustrative)	Which part of the challenge addresses it
NGSS — Engineering Design (HS)	HS-ETS1-1 define a problem with criteria and constraints; HS-ETS1-2 break into sub-problems; HS-ETS1-3 evaluate solutions against criteria.	The full design–test–revise loop. The Self-Test Log is a student-run experiment with recorded data. The scorecard is the criteria evaluation.
CA CTE — Engineering & Architecture	Design and prototyping, constraints, iterative testing, technical communication.	Signal-system design under a defined work envelope, a glove constraint and a time limit, with a written design rationale.
CA CTE — Information & Communication Technologies	Camera framing, recorded transmission, verification, data capture.	The camera-only verification round, the single-take recording standard, and recognition-accuracy data capture.
CA CTE — Health Science & public-safety logic	Emergency signalling, alerting reliability, safety-critical communication.	The three Core Safety Signals and the Safety Gate's asymmetric treatment of life-safety errors.
ABET (college entrants)	Outcome 1 identify, formulate and solve; Outcome 2 apply design within constraints; Outcome 3 communicate effectively.	Problem definition, constrained design, a documented and judged process, and a written rationale assessed against a published rubric.
AP course enrichment	AP Physics (motion, human factors); AP Computer Science Principles (data); AP Seminar (evidence-based argument).	Human-factors reasoning, confusion-pair analysis of real recognition data, and an evidence-based design argument.
21st-Century Skills	Critical thinking, communication, creativity, iteration.	The design–test–revise loop, and revising a design because strangers misread it rather than because a teacher said so.
Universal Design for Learning	Multiple means of representation and expression; low-cost, non-verbal, visual participation.	A visual, non-verbal challenge needing only a camera and a pair of gloves. Adjustments for physical requirements are provided for in the Rules.

What a teacher receives to grade

Every entry produces a set of artefacts you can grade directly. They map onto standard rubric categories, so the challenge drops into an existing gradebook rather than requiring a new one.

Reference card	One page communicating five meanings to someone who has sixty seconds to learn them. Design and communication.
Design rationale	500 words including a comparison against at least two existing signal systems. Research and technical writing.
Self-Test Log	A recognition experiment the students run themselves: protocol, raw results, confusion pairs, a rotation check, and what they changed as a result. Evidence and iteration.
Recording	A single unbroken take under a published framing and glove standard. Planning and execution under constraint.
AI statement	What generative AI was used for, what it recommended, and what the team accepted, rejected or changed. Ethics and disclosure.
Returned results	After verification, every entry receives its own recognition rate and confusion pairs — real data about the students' own design, from strangers. Analysis.

A finalist also delivers a two-minute design defence live at the online final in March 2027. That applies to approximately eight to ten finalists, not to every entrant, so do not build it into a course requirement.

Final determination of any course, CTE pathway, credit or graduation-requirement applicability rests with each school's CTE coordinator, department chair or district. These are experimental visual redundancies for education and human-factors testing, and do not replace certified operational signals or procedures.

Questions: info@SpaceGamesFederation.com

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