Precision Drone Piloting Program

FPV INITIATOR

STANDARDS ALIGNMENT

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FPV Initiator Curriculum Alignment

The FPV Initiator curriculum leads students and their coach through a series of exciting and dynamic modules. Each module is designed to be connected with and aligned to a series of high quality standards. The standards used for this program relate to career readiness, science, technology, and social-emotional learning.

The following chart provides an overview of each set of standards that have been integrated into the modules.

FPV INITIATOR MODULE	CRP	SEL	ISTE	NGSS	CCTC
1	✓	✓	✓		✓
2	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓
4	✓	✓	✓		✓
5	✓	✓	✓	✓	✓
6		✓	✓	✓	✓
7	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓
10	✓	✓	✓	✓	✓
11	✓	✓	✓	✓	✓
12	✓	✓	✓	✓	✓

Career Ready Practices (CRP)

The Career Ready Practices (CRP) standards serve as important guidelines for students to develop essential skills and attitudes necessary for success in the workforce. These standards emphasize a range of competencies, including effective communication, problem-solving, teamwork, and professional ethics.

Alignment to CRP standards prepare students for a successful transition from education to employment. These standards also promote self-awareness, encouraging students to explore their interests and strengths, aligning their skills with potential career paths. Ultimately, Career Ready Practices standards play a pivotal role in equipping students with the practical skills and professional mindset needed to excel in a variety of careers and contribute meaningfully to the workplace.

1. **Act as a responsible and contributing citizen and employee.**
2. **Apply appropriate academic and technical skills.**
3. **Attend to personal health and financial well-being.**
4. **Communicate clearly and effectively and with reason.**
5. **Consider the environmental, social and economic impacts of decisions.**
6. **Demonstrate creativity and innovation.**
7. **Employ valid and reliable research strategies.**
8. **Utilize critical thinking to make sense of problems and persevere in solving them.**
9. **Model integrity, ethical leadership and effective management.**
10. **Plan education and career paths aligned to personal goals.**
11. **Use technology to enhance productivity.**
12. **Work productively in teams while demonstrating cultural global competence.**

Social-Emotional Learning (SEL)

Social-emotional learning (SEL) standards are essential guidelines in education, fostering students' emotional intelligence, interpersonal skills, and overall well-being. They help educators nurture students' abilities to manage emotions, build positive relationships, make responsible decisions, and handle challenges effectively. By integrating SEL standards, FPV Initiator creates a supportive learning environment, enhancing academic achievement and equipping students with vital life skills for success in school, career, and life.

1. Self-Awareness
2. Self-Management
3. Social Awareness
4. Relational Skills
5. Responsible Decision-Making

Common Career Technical Core (CCTC)

Common Career Technical Core standards prepare students for success in the rapidly evolving workforce by providing a clear and consistent framework for career and technical education (CTE) programs. These standards ensure that students acquire essential skills and knowledge in various industries, aligning their education with the demands of real-world careers. By adhering to CCTC standards, schools can offer high-quality CTE programs that equip students with practical, job-ready skills, enhancing their employability and readiness for a wide range of professional pathways.

1. **Apply engineering skills in a project that requires project management, process control and quality assurance.**
2. **Use technology to acquire, manipulate, analyze and report data.**
3. **Describe and follow safety, health and environmental standards related to science, technology, engineering and mathematics (STEM) workplaces.**
4. **Understand the nature and scope of the Science, Technology, Engineering and Mathematics Career ClusterTM and the role of STEM in society and the economy.**
5. **Demonstrate an understanding of the breadth of career opportunities and means to those opportunities in each of the Science, Technology, Engineering and Mathematics Career Pathways.**
6. **Demonstrate technical skills needed in a chosen STEM field.**

International Society for Technology in Education (ISTE)

The International Society for Technology in Education (ISTE) standards are a set of guidelines that empower educators and students to thrive in the digital age. These standards provide a roadmap for leveraging technology effectively in education, promoting innovative teaching methods and enhancing learning outcomes.

By integrating ISTE standards, FPV Initiator creates interactive and collaborative learning environments, equipping students with essential digital skills, critical thinking abilities, and global awareness. These standards also emphasize digital citizenship, encouraging responsible and ethical use of technology. ISTE standards play a vital role in preparing students to navigate the complexities of the modern world, fostering their creativity, communication skills, and adaptability for success in the 21st century.

- **Empowered Learner:** Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.
- **Digital Citizen:** Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.
- **Knowledge Constructor:** Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
- **Innovative Designer:** Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
- **Computational Thinker:** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
- **Creative Communicator:** Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
- **Global Collaborator:** Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Next Generation Science Standards (NGSS)

The Next Generation Science Standards (NGSS) are a set of K-12 science education standards designed to transform science education in the United States. They emphasize a deep understanding of scientific concepts, as well as the integration of scientific practices, engineering principles, and cross-cutting concepts.

NGSS provides a coherent and rigorous science education framework, encouraging students to engage in hands-on learning, critical thinking, and problem-solving. By focusing on the application of science in real-world contexts, NGSS prepares students to become scientifically literate individuals capable of addressing complex global challenges and making informed decisions in an increasingly scientific and technological world. These standards provide educators with a foundation to cultivate students' curiosity, inspire a passion for scientific discovery, and nurture the next generation of scientists and innovators.

- **MS-ETS1-1 Engineering Design**
  - Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- **MS-ETS1-2 Engineering Design**
  - Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem
- **MS-ETS1-3 Engineering Design**
  - Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- **MS-ETS1-4 Engineering Design**
  - Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
- **HS-ETS1-1 Engineering Design**
  - Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
- **HS-ETS1-2 Engineering Design**
  - Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
- **HS-ETS1-3 Engineering Design**
  - Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.
- **HS-ETS1-4 Engineering Design**
  - Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.