ISTE Standards

Virtual Robotics

		CodeX Missions														
		Mission 1: Welcome	Mission 2: Introducing CodeBot	Mission 3: Light the Way	Mission 4: Get Moving	Mission 5: DanceBot	Mission 6: Robot Metronome	Mission 7: Line Sensors	Mission 8: Boundary Patrol	Mission 9: Line Following	Mission 10: Fido Fetch	Mission 11: Airfield Ops	Mission 12: King of the Hill	Mission 13: Going the Distance	Mission 14: Music Box	Mission 15: Cyber Storm
1.1 Empowered Learner	a. articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Students leverage technology to take an active role in choosing, achieving and deomnstrating competency in their learning goals, informed by the learning sciences. **Students:**	b. build networks and customize their learning environments in ways that support the learning process.			X	X	X	X	X	X	X	X	X	X	X	X	X
	c. use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.			X	X	X	X	X	X	X	X	X	X	X	X	X
	d. understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.			X	X	X	X	X	X	X	X	X	X	X	X	X
1.2 Digital Citizen	a. cultivate and manage their digital identity and reputation and are aware of the permancence of their actions in the digital world.															
Students recognize the rights, responsibilities and opportunities of living, learning and working in an inerconnected digital world, and they act and model in ways that are safe, legal and ethical. **Students:**	b. engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	c. demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.															
	d. manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.															
1.3 Knowledge Constructor	a. plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learing experiences for themselves and others. **Students:**	b. evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.															
	c. curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.			X	X	X	X	X	X	X	X	X	X	X	X	X

themselves and others. **Students:**	d. build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.			X	X	X	X	X	X	X	X	X	X	X	X	X
1.4 Innovative Designer	a. know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.			X	X	X	X	X	X	X	X	X	X	X	X	X
Students use a variety of technologies within a desin process to identify and solve problems by creating new, useful or imaginitive solutions. **Students:**	b. select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.															
	c. develop, test and refine prototypes as part of a cyclical design process.			X	X	X	X	X	X	X	X	X	X	X	X	X
	d. exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.			X	X	X	X	X	X	X	X	X	X	X	X	X
1.5 Computational Thinker	a. formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.			X	X	X	X	X	X	X	X	X	X	X	X	X
Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. **Students:**	b. collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.															
	c. break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.			X	X	X	X	X	X	X	X	X	X	X	X	X
	d. understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.															
1.6 Creative Communicator	a. choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.			X	X	X	X	X	X	X	X	X	X	X	X	X
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. **Students:**	b. create original works or responsibly repurpose or remix digital resources into new creations.															
	c. communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.			X	X	X	X	X	X	X	X	X	X	X	X	X
	d. publish or present content that customizes the message and medium for their intended audiences.															
1.7 Global Collaborator	a. use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.															
Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. **Students:**	b. use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.															
	c. contribute constructively to project teams, assuming various roles and responsibilties to work effectively toward a common goal.															

	d. explore local and global issues and use collaborative technologies to work with others to investigate solutions.															