CSTA Standards	Grades 9-10	Virtual Robotics														
		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) Computing Systems -	3A-CS-01 Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects.															
	3A-CS-02 Compare levels of abstraction and interactions between application software, system software, and hardware layers.															
	3A-CS-03 Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.			X	X	X	X	X	X	X	X	X	X	X	X	X
(2) Networks & the Internet -	3A-NI-04 Evaluate the scalability and reliability of networks, by describing the relationship between routers, switches, servers, topology, and addressing.															
	3A-NI-05 Give examples to illustrate how sensitive data can be affected by malware and other attacks.															
	3A-NI-06 Recommend security measures to address various scenarios based on factors such as efficiency, feasibility, and ethical impacts.															
	3A-NI-07 Compare various security measures, considering tradeoffs between the usability and security of a computing system.															
	3A-NI-08 Explain tradeoffs when selecting and implementing cybersecurity recommendations.															
(3) Data & Analysis -	3A-DA-09 Translate between different bit representations of real-world phenomena, such as characters, numbers, and images.															
	3A-DA-10 Evaluate the tradeoffs in how data elements are organized and where data is stored.															
	3A-DA-11 Create interactive data visualizations using software tools to help others better understand real-world phenomena.															
	3A-DA-12 Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.															

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(4) Algorithms & Programming -	3A-AP-13 Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-14 Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-15 Justify the selection of specific control structures when tradeoffs involve implementation, readability, and program performance, and explain the benefits and drawbacks of choices made.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-16 Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-17 Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-18 Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-19 Systematically design and develop programs for broad audiences by incorporating feedback from users.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-20 Evaluate licenses that limit or restrict use of computational artifacts when using resources such as libraries.															
	3A-AP-21 Evaluate and refine computational artifacts to make them more usable and accessible.			X	X	X	X	X	X	X	X	X	X	X	X	X
	3A-AP-22 Design and develop computational artifacts working in team roles using collaborative tools.															
	3A-AP-23 Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.			X	X	X	X	X	X	X	X	X	X	X	X	X

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(5) Impacts of Computing -	3A-IC-24 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.															
	3A-IC-25 Test and refine computational artifacts to reduce bias and equity deficits.															
	3A-IC-26 Demonstrate ways a given algorithm applies to problems across disciplines.															
	3A-IC-27 Use tools and methods for collaboration on a project to increase connectivity of people in different cultures and career fields.															
	3A-IC-28 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.															
	3A-IC-29 Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users.															
	3A-IC-30 Evaluate the social and economic implications of privacy in the context of safety, law, or ethics.															