Unit 4: Software Fundamentals	Estimate Unit Length: 1-2 weeks
Course Code/Course Title: Robotics 1	Date Created: 7/16/2018

Students will understand	**Essential Questions: How does science and Biology relate to me?**
• Students will know and be able to utilize different programing languages. • Describe data types, variables, and logic as it relates to programming. • Communicate with clarity and precision regarding programming manipulation and interfaces. • Build a design and programming journal for each project.	• What is Software? • How can software be effectively interfaced with Robotics? • How is Software to manipulate / interact with the enviorment?

Sub-Unit Components/Sub-Headings/Objectives

Programming Languages	Data Types	Variables	Logic connected to programming		

Knowledge—Students will know…

- List and describe the different programming languages.
- Describe data types, variables, and logic as it relates to programming.
- Communicate with clarity and precision.
- Build a design and programming journal for each project.

Standards	**Assessments/Evidence**
• ((HS-ETS1-1) Analyze complex real-world problems by specifying criteria and constraints for successful solutions. • (HS-ETS1-4) Use mathematical models and/or computer simulations to predict the effects of a design solution on systems and/or the interactions between systems.	Closed –Ended Selected Response (Optional) • Multiple Choice • True/False • Matching Open-Ended Constructed Response (Required) • Short Answer • Visual Representation (Web, Concept Map, Flow Chart, Graph / Table, Picture) Products (Required) • Log/Journal • Programming Student Self-Assessment (Required) • Teacher-Made Prompts for Reflection • Bell-Ringers • Discussion (Whole-Class or Small Group)

Unit 4: Software Fundamentals	Estimate Unit Length: 1-2 weeks
Course Code/Course Title: Robotics 1	Date Created: 7/16/2018

	• Self Evaluation Peer Evaluation (Optional)

Reading and Writing Standards (except for English/Language Arts courses)

RST.11-12.7 - Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. (HS-ETS1-1), (HS-ETS1-3)
RST.11-12.8 - Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. (HS-ETS1-1), (HS-ETS1-3)
RST.11-12.9 - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. (HS-ETS1-1), (HS-ETS1-3)

Instructional Resources/Materials

- Computer Software
- Complier