Unit 1: Introductions, Course Overview, Safety	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?**
Circumscribe what a robots design capabilities and list examples in everyday life. Communicate with clarity and precision regarding robot utilization in both home and industry. Build a design and programming journal for each project one (Lego NXT).	• What defines the term robot? • How are robots used in an industrial / home setting? How has the evolution of robotics impacted human development? **Constructed Response Rubric** **4 Points: A response at this level provides evidence of thorough knowledge and understanding of the subject matter.** • The content of the response is correct and thorough, with no significant errors. • The response contains elaboration and/or detail that demonstrates insight into scientific concepts and principles, and contains no misconceptions. • The explanation in the response is clear and is enhanced by correct use of appropriate scientific terminology to communicate understanding. **3 Points: A response at this level provides evidence of competent knowledge and understanding of the subject matter.** • The content of the response is generally correct and complete. • The response contains some elaboration and/or detail that demonstrate sufficient understanding of scientific concepts and principles, and it may contain a few minor misconceptions. • The explanation in the response is mostly clear and is supported by some correct use of appropriate scientific terminology to communicate understanding. **2 Points: A response at this level provides evidence of basic knowledge and understanding of the subject matter.**

	• The content of the response is partially correct, and it may be incomplete. • The response contains a little elaboration and/or detail to demonstrate some understanding of scientific concepts and principles, but it may contain some significant misconceptions. • The explanation in the response is sometimes clear and sometimes demonstrates correct use of appropriate scientific terminology to communicate understanding. **1 Point: A response at this level provides evidence of minimal knowledge and understanding of the subject matter.** • The content of the response is mostly incorrect, and it is incomplete. • The response contains little or no elaboration or detail to demonstrate understanding of scientific concepts and principles, and it contains evidence of significant misconceptions. • The explanation in the response is mostly unclear and demonstrates little or no correct use of appropriate scientific terminology to communicate understanding. **0 Points: A response at this level cannot be scored.** The response is off-topic or blank. •

Sub-Unit Components/Sub-Headings/Objectives

Define a Robot / design examples.	Robotic use in everyday in home and industry.	Importance of precision related to robot build and use.	Design Programming Journal	Research Project 1	Introduction to Robotics

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Knowledge—Students will know…

Define what a robot is and list examples in everyday life.
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.	Closed –Ended Selected Response (Optional) • Multiple Choice • True/False • Matching Open-Ended Constructed Response (Essential) • Short Answer • Visual Representation (Web, Concept Map, Flow Chart, Graph / Table, Picture) Products (Optional) • Log/Journal Student Self-Assessment (Required) • Teacher-Made Prompts for Reflection • Bell-Ringers • Discussion (Whole-Class or Small Group) • Self Evaluation Peer Evaluation (Required)

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

- Log-NXT Kit
- Research Computers

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