

MEDICAL ROBOTICS

GRADES 8–12

This document lists the Vermont learning standards addressed by Medical Robotics, True Robotics' grades 8-12 robotics curriculum. Standards are grouped by subject and grade level, with codes and wording as published by ISTE and the NGSS Lead States, as adopted by Vermont.

9

SCIENCE

2

CS

11

TOTAL STANDARDS

SCIENCE

9 STANDARDS

Based on the Vermont state standards

GRADE	CODE	STANDARD
8	MS-LS1-3	Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.
8	MS-PS2-2	Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
8	MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
8	MS-ETS1-4	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.
9–12	HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
9–12	HS-LS1-3	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
9–12	HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
9–12	HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
9–12	HS-ETS1-3	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.

DIGITAL LEARNING (COMPUTER SCIENCE)

2 STANDARDS

Based on the Vermont state standards

GRADE	CODE	STANDARD
8	5.d	Students: understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.
9–12	5.c	Students: break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

SOURCES & NOTES

- The official science and computer science standards for Vermont, as published by ISTE and the NGSS Lead States, as adopted by Vermont.
- Codes and standard wording are reproduced from the official standards documents. Clarification statements, examples and assessment boundaries are omitted.
- Grade shows the grade level at which True Robotics lessons address each standard. A range (for example K-2) marks a standard written for a grade band.
- Standards text remains the property of its publisher and is reproduced here for alignment reference only.
- A lesson-level crosswalk is available on request at info@truerobotics.org.