

MEDICAL ROBOTICS

GRADES 8–12

This document lists the North Dakota 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 the North Dakota Department of Public Instruction.

9

SCIENCE

4

CS

13

TOTAL STANDARDS

SCIENCE

9 STANDARDS

Based on the North Dakota state standards

GRADE	CODE	STANDARD
8	MS-LS1-3	Use evidence to model how the body is a system of interacting subsystems composed of groups of cells.
8	MS-PS2-2	Plan an investigation using Newton's First and Second Laws 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-ET1-2	Evaluate competing design solutions using systematic process to determine how well they meet the criteria and constraints of the problem.
8	MS-ET1-4	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-ET1-1	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-ET1-2	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-ET1-3	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.

COMPUTER SCIENCE AND CYBERSECURITY

4 STANDARDS

Based on the North Dakota state standards

GRADE	CODE	STANDARD
8	8.DD.2	Create an algorithm to solve a problem using multiple coding patterns (e.g., loops, conditionals, functions, or variables).
9–10	9-10.DD.1	Solve problems by deconstructing them into their components.
9–10	9-10.S.1	Make predictions on how current and emerging technology (e.g., driverless cars, large language AI models, remote work, digital personal assistants) may impact the workplace and personal lives.
11–12	11-12.S.1	Explain how current and emerging technology (e.g., driverless cars, large language AI models, remote work, digital personal assistants) may change cultural and environmental aspects of society.

SOURCES & NOTES

- The official science and computer science standards for North Dakota, as published by the North Dakota Department of Public Instruction.
- 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.