Priority Standards

Introduction to BioMedical Engineering – Grade 9

BioMedical Engineering Academy

Below is a table of the priority standards.

Priority Standards	Description
1.1	Define Criteria and Constraints and delay decision making until critical elements of design challenge are framed with the end user in mind.
1.2	Investigate and research to learn about a problem, how the system works, relevant cases, and prior solutions.
1.3	Generate a range of possible design solutions to avoid idea fixation and utilize strategies to practice divergent thinking to ensure thorough exploration of the design space.
1.4	Consider both benefits and tradeoffs of all ideas before making design decisions.
1.5	Prototype and conduct valid experiments to learn about materials, key design variables, and how systems work.
1.6	Manage project resources and time in order to iterate and improve ideas based upon feedback and results of testing.
2.1	Propose a testable hypothesis in a way that can provide evidence to support or refute it.
2.2	Design experiments that manipulate appropriate variables and maintain others constant.
2.3	Define appropriate control conditions within a clinical trial.
2.4	Abide by the basic tenets of ethical research.
3.1	Identify the diverse roles of bioengineering careers and their impact on society in the past, present and future.
3.2	Prepare, describe, and defend their own personal definition of what makes for an ethical bioengineer.
3.3	Discuss the historical context of the bioengineering field.
3.4	Engage in professional dialogue (oral and written formats).
4.1	Demonstrate understanding the problems and solutions in the human environment may have causes and effects in the larger environment.
4.2	Describe cultural differences that impact the efficacy of solutions to be implemented globally.
4.3	Evaluate economic costs to determine viability of solutions across socioeconomic lines.

Priority Standards	Description
4.4	Identify political forces that impact a proposed or implemented solution.
5.1	Collect digital data and transfer the raw data to a place fit for analysis.
5.2	Implement digital sensors within the context of an investigation.
5.3.	Analyze data from testing and draw conclusions which inform design decisions.
5.4	Perform inquiry investigations to generate data relevant to design decisions.
5.5	Effectively communicate findings using various technological tools (ppt., pdf., electronic portfolios, etc.).
6.1	Integrate an understanding of scale between molecules, cells and macroscopic phenomena.
6.2	Describe the most important characteristics of important molecules (Ex: structure & behavior of insulin, hemoglobin).
6.3	Distinguish active sites and drug targets.