



Standards

ASSIGNMENT

Identify at least one relevant standard, one code/law, and one regulation that influences and constrains one of the following products, designs, systems:

- A sensor system designed to detect Carbon Monoxide (CO) at harmful levels inside an automobile, near incoming air vents where CO is most likely to enter the vehicle. The system is designed with both (a) a visual and audible warning when the CO level is 20% or less below accepted exposure limits and (b) a visual and audible warning when the CO level has exceeded the accepted exposure limit.
- A device designed to monitor whether or not safety goggles are being worn (on the face) in hazardous working conditions. The device provides both an audible warning to the user when the safety goggles are not worn properly and transmits a signal to a central computer indicating when these same non-compliance events.
- Diving suits that are designed to change color depending on depth and air level in scuba tanks so that nearby divers can readily read both of these indicators of potential risk to an individual diver.
- A network of multiple temperature sensors designed to track the temperature in the cargo/rear compartment of an SUV or similar vehicle and set off an audible and visual alarm to those nearby the vehicle when temperatures begin to pose a health risk to pets or other occupants inside the vehicle.
- A device that reads a force of an impact to the head in order to determine if someone has is at risk of having received a concussion (as applicable to football players, bicyclists etc...). The device should issue both a warning signal and an alarm signal for force levels approaching concussion risk and those exceeding concussion risk, in a way that can be detected by the user but does not distract the individual from the task at hand.

Applicable standards should be referenced from reputable, established U.S. (ANSI, ASME, IEEE, etc.) or International organizations (ISO, ITU, etc.) wherever possible. Codes or Laws should refer to local, state, or federal laws within the United States. Regulations should also be referenced from reputable, established U.S. organizations (EPA, OSHA, etc.) whenever possible. Each response should cite the standards, codes/laws, and regulations that are relevant to the design and clearly and concisely state how the standard, code, or regulation should be applied to the design during the engineering design process.

Responses should be single spaced, at least one, page long with 1" margins and font no larger than 12 pt (exclusive of bibliography, title, graphs, figures, extra white space, etc). Sources should be cited in APA format and a formal APA bibliography should be included at the end of the document.