



Environmental Constraints

ASSIGNMENT

Select the environmental constraints of one of the product designs below:

1. A next generation trimmer for yard maintenance in residential homes.
2. An air bag sensor designed to protect pets in the cargo area of an SUV used in the U.S.
3. A temperature sensor designed for monitoring ambient temperature outdoors in the U.S.
4. A touchscreen for a next generation smartphone.
5. A streetlamp to be placed in an urban park.

For the chosen product design (citing applicable standards or other reliable sources that support your statements), provide at least one of the following:

- One range of parameters (e.g. vibration, temperature, humidity, sound, etc.) in the operating environment that constrains the performance of your design or the design alternatives available to you.
- One environmental constraint (e.g. a regulation or code) that limits your design and its impact on the natural environment. Specify whether the impact is on humans, animals, plants, a combination thereof, or something else.

Refer to the lecture notes on Environmental Constraints for some ideas as to where to look for these two types of environmental constraints, but be sure to move beyond the lecture notes in considering the most important constraints associated with the design you choose.

Be sure to discuss specifically the effect on performance that these environmental constraints may have on your product/design -- how does honoring the constraint reduce the performance or quality of the product/design?

Be as specific as you can, avoiding generalities. An exemplary response will provide the engineer reading the document with sufficient detail to not only identify the environmental constraints but also to design according to those constraints.

For this assignment, submit a response that is a minimum of one page long, single spaced, with 1" margins and font no larger than 11 pt. The length requirement does not include title, graphs, figures, extra white space, or other additions that are not text. Engaging photos or other figures are appreciated, but should be cited appropriately to give credit to the author/creator of these visual aids.