

Statement of ABET Concerns

ABET EAC Criterion 4 states: "... Students must be prepared for engineering practice through the curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and *incorporating engineering standards and realistic constraints that include most of the following considerations: economic; environmental; sustainability; manufacturability; ethical; health and safety; social; and political.*"

One interpretation of these is that they are constraints that come to bear on the solution that you are developing. One possible way that you might interpret the following items is given below. Each item is viewed as a factor that influences the solution that you are designing by further defining or restricting the possible solution space.

The main question to keep in mind is this: **Does this factor impact the kinds of solutions that are viable for your project (and if so, how)?**

1. *Economic*: are there financial limitations to the solution? For example, are you relying on freeware or shareware, or do you have a budget for actual purchases? Are your funds supplied personally or by a company? Are you restricted to UC or other facilities?
2. *Environmental*: are there limitations about where the project will be used or deployed? Are there concerns about pollution or other potentially harmful side-effects? Will the project improve environmental conditions?
3. *Ethical*: does your project have a direct or indirect moral impact on someone? If so, what concerns or precautions are being considered to insure that this impact is positive (or neutral) and not negative? Are there privacy concerns?
4. *Health and Safety*: are there limitations either for the developers or users of the project? Are there any benefits or potentially harmful conditions that can occur as a result of the project? Are there safety concerns to be considered for the development and/or testing of the project?
5. *Sustainability*: for projects that have a lifetime beyond your senior year, what are the plans for continued usage and maintenance of the project? How are you building this into the design process?
6. *Social*: will your project be used for public service? Will it be used by a non-profit agency? Does it have some benefit for society? Does it enhance people's lives or quality of life in some way?
7. *Political*: will your project be used by government or military users? Are there constraints that arise as a result of this? (it must meet government or military specifications for documentation or robustness, for example.)
8. *Manufacturability*: is your project a prototype or an actual implementation that is intended for manufacture (duplication and distribution?) Even if the project will not be manufactured, is design-for-manufacturability a key goal?

Your Assignment

Each team will write 4 paragraphs (6 sentence minimum) addressing the following:

1. economic constraints on the project, and
2. three additional relevant concerns of your choice. In your paragraph about each concern, you should explain how you are interpreting the item and then how it is relevant to your project.

There should be one paper submitted per project.