Additional Lecture and Extra Credit Assignment on Standards for Testing and Characterization

Lecture and Extra Credit Assignment on Standards for Testing and Characterization *(Copied from Blackboard MEEN 3349 web page)*

The use of Standards and Codes are very useful in Mechanical Engineering. Without them we couldn't specify a standard steel or aluminum, or even know what connectors to use to charge our phones, or fill up our cars with gas.

One of the ABET Student Outcomes that we want students to have/know is ***#8 An ability to recognize the need for relevant codes and standards.***

Also, we have a grant from NIST (National Institute of Standards), called the ***Curricular Integration of Design and Material Standards in Engineering (CID-MaSE).*** The goal of this project is to instill deep understanding and appreciation of established standards and codes, standardization, and standards development processes into students to promote life-long use of standards in their professional careers. It focuses on standards related to engineering design, and material testing and characterization. Here is a presentation using ASTM Standards that I gave for that program.

If you want to get a certificate in ***Undergraduate Certificate on Standards for Material Testing, Characterization and Applications****, then go to this website for details.*

*The extra credit assignment is to create a series of multiple-choice questions that relate either to the ABET Student Outcome 8, or to the **CID-MaSE** program, on promoting the use of standards and codes on engineering design, and material testing and characterization.*

*You can start the Extra Credit Assignment by going to the **HW, Quizzes, & Exams** Section and clicking on the link for the assignment.*

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Sample student Responses

Create a multiple choice question (similar to one of the examples, with designated correct answer) that relates to our ABET Student Outcome ***#8 An ability to recognize the need for relevant codes and standards.*** You can try to evaluate a student's understanding, knowledge, etc with your question.

Given Answer: 1) What is the best example for a need for standardize testing on steel?

a) to make sure steel is brittle

b) to make sure steel bends

c) to have an unbiased testing on steel from different compaines

d) none of the above

Correct ans= C

Create another multiple choice question (similar to one of the examples, with designated correct answer) that relates to our ABET Student Outcome ***#8 An ability to recognize the need for relevant codes and standards.*** You can try to evaluate a student's understanding, knowledge, etc with your question.

Given Answer: Why does the AMSE have codes?

a) to make them look official

b) to have a standard to compare materials to

c) to have more say in testing

d) to make sure all like materials are accounted for

correct ans= B