

# Engineering fundamentals and problem solving

[Engineering](#)



**ASSIGN  
BUSTER**

The third step is to identify the criteria for implementing the process and the constraints that may hinder the process from being a success. The fourth step involves finding or developing alternative solutions to the constraints found in step three. This step requires creativity, experience, and knowledge. Step five involves selecting the best solution from the alternatives found and implementing it. Communicating results is the last step and requires time and resources outside the design team to enable the design to be structured and presented to the management and customers. The process is open throughout the product life cycle. Therefore, it cannot be said to end at step six (Eide, Jenison, Northup and Mickelson 58).

#### Importance of customer role in the design process

The customer is very important in the design process because his or her needs must be well defined as well as the expectations of the customer about the solution. This means that the customer should be consulted throughout the design process so what the design team and the customer can consult and make modifications where needed. (You can put the Kano model here figure 3. 6) (Eide, Jenison, Northup and Mickelson 60).

#### The nature of engineering design

Engineering design was considered as a creative ad hoc process created without a scientific basis in the first half of the 20th century. However, convincing arguments reveal that engineering design involves a cognitive process that needs logical thinking, knowledge base and intelligent use of information (Eide, Jenison, Northup and Mickelson 60).

#### Importance of the engineering design process in the development of engineering solutions to societal needs

As explained by the chapter engineering design process provides a way

<https://assignbuster.com/engineering-fundamentals-and-problem-solving/>

through which different societal needs and problems can be solved. The engineering design process provides a systematic and well-organized way of solving issues in education, environment, infrastructure and energy among other sectors.

Design opportunities and challenges for the future

Chapter 3 shows the opportunities and challenges that the engineering design process has, which include making solar power economical, managing the nitrogen cycle and advance healthcare informatics among others.

In conclusion, chapter 3 has clearly shown the importance of the engineering design process, its uses and the opportunities and challenges it poses for the future. The chapter is well organized and gives a clear insight into the engineering design process.