

Code of ethics engineering

Profession



**ASSIGN
BUSTER**

Technical Report: Engineering Code of Ethics There are many different factors and aspects in the division of engineering and one of the most important factors to know in this field is the engineering code of ethics. These moral codes that all engineers must work to abide by are a set of rules and standards that express the importance of the decisions that engineers must make. The engineering code of ethics requires the engineer's full concentration of showing and acting on their honesty, integrity, and fairness while keeping in mind of enabling their work to protect the public's health, welfare, and safety. Researching on these rules specifically created for engineers I learned that engineers must keep in mind all these factors listed above on top of their assignments. The basis for the code of ethics for engineers is the fundamental canons. These fundamental canons are provided by the NSPE (National Society of Professional Engineers) and the ASCE (American Society of Civil Engineers), and for the most part both sets of fundamental canons were the same with the exception to the ASCE having an additional 7th rule. The fundamental canon states as follows, 1. Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties. 2. Engineers shall perform services only in areas of their competence. 3. Engineers shall issue public statements only in an objective and truthful manner. 4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest. 5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others. 6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession and

<https://assignbuster.com/code-of-ethics-engineering/>

shall act with zero-tolerance for bribery, fraud, and corruption. 7. Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision. The first canon is to be of great importance as it was the first rule listed and explains the engineer's responsibility to keep their work safe for the public while enabling a sustainable development. This idea is prevalent as being the most important rule in involving engineers as seen in ICE (Institute of Civil Engineers) Professional Code of Conduct, PEO (Professional Engineers of Ontario), and even all the different divisions of engineering in the United States ASME (American Society of Mechanical Engineers), IEEE (Institute of Electrical and Electronics Engineers), and AIChE (American Institute of Chemical Engineers). The rest of the canons provided for engineers explain various integrities that must be followed from examples of funds and money not to be taken as bribes and gifts to the emphasis on being fair and truthful, especially to other fellow engineers. Continuing researching the different rules I came across various canons on the emphasis of engineering, client, and employer privacy. Works provided by client must be exclusive to the client and cannot be duplicated or shared without permission, and assignments completed for the employer becomes property of the employer. Looking at the different case studies involving engineering ethics I was able to come across many interesting incidents. One incident that showed the importance of engineering ethics was the case of the collapsing TV tower in Missouri City, Texas. In 1982, an 1800ft television tower was being constructed which was a tall tower with a 6 ton antennae to be placed on the top of the tower. The plans were for the antenna, which was split into

<https://assignbuster.com/code-of-ethics-engineering/>

sections to be lifted up to the top of the tower and be bolted on. Everything was going according to plan until the last piece of the antenna. This last piece was shaped differently due to certain microwave baskets on the sides of the section and because of this factor, special make-shift lifting lugs had to be created to pull up this last part but they made one mistake. The bolt sizes on this custom lifting lug were too small, and on its way of being hoisted up to the top of the tower, the bolts failed and 5 technicians working on the tower fell to their deaths. They did not calculate the stress on the bolts as it was seven times more than they expected it to be. To find out who was truly at fault it is important to look at the ethical components to this case study as many questions remained to how or whether it was possible to prevent this horrible disaster. 1) Where does the responsibility of the engineers end and riggers begin? Should the engineers have provided adequate hoisting lugs in their original design? 2) Should the riggers have looked at the original design more carefully? 3) Should the engineers have allowed the riggers to remove the microwave baskets? 4) Should riggers have devised their own hoisting solution without consulting an engineer? What is their responsibility for contracting a consulting engineer? 5) Should engineers have recommended another consulting engineer to assist riggers? Should they have notified their professional society? Was it ethical for the to wash their hands of the project without attempting to find a resolution for riggers? What other measures could they have taken to assist the riggers without becoming legally entangled? 6) Should the engineers have refused to review the new hoisting design? 7) If social responsibility comes before legal liability, surely there were other things the engineers could have done. What would you do in a similar situation? Most these factors seem to point

<https://assignbuster.com/code-of-ethics-engineering/>

their fingers towards the engineers of the antenna and tower as many of them explain what the engineers could have done. Some believe that the engineers ignored their responsibility and some believe the riggers are at fault for not designing the lift properly. In conclusion, many believe that the engineers were more at fault but were found legally not responsible. The code of ethics for engineers is vital to their work and the safety of the public. As it continues to express the need for the engineer's morals in being equal, fair, and honest while being meticulous about their work as specifications must be perfect. Without care and meticulous calculations an engineer would be putting lives of not only the public, but even the technicians and individuals working on the assignment in jeopardy. Just look at the case study on the Missouri City, television tower collapse. All was going well and in plan but just one mistake like bolt sizes during the last part of the antenna and it all came falling down not only putting the money and investment at risk but more importantly the lives of human beings being lost. The question of who is at fault can be complex as in situations like in Missouri City because the right code of ethics was not followed correctly.