



American International University- Bangladesh (AIUB)

Faculty of Engineering (EEE & COE)

Course Name:	Engineering Ethics	Course Code:	EEE 3107
Semester:	Summer 2019	Section:	
Faculty:			

Case No:	1
Case Title:	Ethical Theory

Student Name:		Student ID:	
Student's Department:			

Submission Date:		Due Date:	
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Marking Rubrics (to be filled by Faculty)

Category	Proficient [4]	Good [3]	Acceptable [2]	Unacceptable [1]	Secured Marks
Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated, but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined,	Issue/problem to be considered critically is stated without clarification or description.	
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.	
Student's position (perspective, thesis/ hypothesis)	Specific position (perspective, hypothesis) is imaginative, considering the complexities of an issue. Limits of position (perspective, hypothesis) are acknowledged. Others' points of view and assumptions are synthesized within position (perspective, hypothesis).	Specific position (perspective, thesis/hypothesis) considers the complexities of an issue. Others' points of view and assumptions are acknowledged within position (perspective, hypothesis).	Specific position (perspective, hypothesis) acknowledges different sides of an issue.	Specific position (perspective, hypothesis) is stated, but is simplistic and obvious.	
Innovative Thinking or uniqueness (of idea, claim, question etc.)	Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.	Creates a novel or unique idea, question, format, or product.	Experiments with creating a novel or unique idea, question, format, or product.	Reformulates a collection of available ideas.	
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are not clear.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.	
Comments:				Total Marks (Out of 30):	

Several years ago, a TV station in Houston decided to strengthen its signal by erecting a new, taller (1,000-foot) transmission antenna in Missouri City, Texas. The station contracted with a TV antenna design firm to design the tower. The resulting design employed twenty 50-foot segments that would have to be lifted into place sequentially by a jib crane that moved up with the tower. Each segment required a lifting lug to permit that segment to be hoisted off the flatbed delivery truck and then lifted into place by the crane. The actual construction of the tower was done by a separate rigging firm that specialized in such tasks.

When the rigging company received the 20th and last tower segment, it faced a new problem. Although the lifting lug was satisfactory for lifting the segment horizontally off the delivery truck, it would not enable the segment to be lifted vertically. The jib crane cable interfered with the antenna baskets at the top of the segment. The riggers asked permission from the design company to temporarily remove the antenna baskets and were refused. Officials at the design firm said that the last time they gave permission to make similar changes; they had to pay tens of thousands of dollars to repair the antenna baskets (which had been damaged on removal) and to remount and realign them correctly.

The riggers devised a solution that was seriously flawed. They bolted an extension arm to the tower section and calculated the size of the required bolts based on a mistaken model. A sophomore-level engineering student who had taken a course in statics could have detected the flaw, but the riggers had no engineers on their staff. The riggers, knowing they lacked engineering expertise, asked the antenna design company engineers to review their proposed solution. The engineers again refused, having been ordered by company management not only not to look at the drawings but also not to visit the construction site during the lifting of the last segment. Management of the design firm feared that they would be held liable if there were an accident. The designers also failed to suggest to the riggers that they should hire an engineering consultant to examine their lifting plans.

When the riggers attempted to lift the top section of the tower with the microwave baskets, the tower fell, killing seven men. The TV company was taping the lift of the last segment for future TV promotions, and the videotape shows the riggers falling to their death.

Consider how you would react to watching that tape if you were the design engineer who refused to look at the lifting plans or if you were the company executive who ordered the design engineer not to examine the plans.

To take an analogy, consider a physician who examines a patient and finds something suspicious in an area outside her specialty. When asking advice from a specialist, the physician is rebuffed on the grounds that the specialist might incur a liability. Furthermore, the specialist does not suggest that the patient should see a specialist.

What conceptions of responsibility seemed most prevalent in this case? Can you suggest other conceptions that might have helped avoid this tragedy? Explain the ethical roles of all the concerned stake holders. What professional codes of ethics are not properly followed by the rigging company and design company?