



American International University- Bangladesh (AIUB)

Faculty of Engineering (EEE)

Course Name:	Engineering Ethics	Course Code:	EEE 3107	Semester:	Summer	Section:	
Faculty:							
Assignment:	Final Presentation	Group:					

Presentation Title:

Sl	Name	ID	Dept	Sl	Name	ID	Dept
1.				3.			
2.				4.			

Marking Rubrics (to be filled by Faculty)

Category	Proficient [5-6]	Good [4]	Acceptable [2-3]	Unacceptable [0]	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.	
Communication Skill	Effectively uses eye contact; Speaks clearly, effectively, and confidently using suitable volume and pace. Fully engages the audience by using a variety of accepted techniques. Responds effectively to audience questions and feedback. Delivers presentation within stated time limits.	Maintains good eye contact. Speaks clearly and uses suitable volume and pace; Engages the audience using at least 1 accepted. Delivers presentation within stated time limits and Responds effectively to audience questions and feedback.	Uses eye contact ineffectively and Fails to speak clearly and audibly and uses unsuitable pace. Does not engage the audience; Presentation is not within stated time limits. Responds ineffectively to audience questions and feedback.	Very poor or no communication skill demonstrated.	
Reflection	Clearly defines the core question and the learning stretch and Supports the core question with an analysis of relevant and accurate evidence. Elaborates on significance of new knowledge acquired or makes insightful connections to thesis/topic.	Attempts to define the core question and learning stretch and Attempts to support the core question with limited evidence from research. Clearly states significance of new knowledge (learning stretch) acquired to support thesis/topic.	Does not clearly define the core question or learning stretch and Does not support the core question with evidence. Presents some evidence of research, but sources are limited and/or validity of some sources is questionable.	No apparent reflection was presented	
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.	
Comments:				Total Marks (Out of 30):	

Overview

This final examination is a chance for you to research an ethical topic that is interesting to your team. Your team will choose a case from a given list of engineering ethics cases, conduct research on the case, analyze the situations presented in the case, and then present your analysis to the class in an oral presentation.

Assignment Detail:

The following is a detailed layout of the process leading up to the oral presentation on ethics:

1. Selection of Possible Ethics Cases

Teams are required to choose ONE ethics case from the 15 that are provided at the end of this document. The chosen cases should be those that are of most interest to your group; consider the related engineering field(s). The cases provided are a mix of hypothetical and real-world situations.

2. Ethics Case Analysis and Oral Presentation

After you have selected the case, your group is required to complete an analysis of your ethics case. The information in the completed analysis should provide the base of the content for your presentation. Make sure to include as much detail as possible, including assumptions you may have made. You will be evaluated based on your ability to:

- Address each of the issues and points of ethical conflict presented in the case or problem. Include any assumptions made about this case.
- Identify what engineering field(s) this ethics case is related to.
- Identify the protagonist. Describe the general duties or obligations of the protagonist, which are grounded in moral considerations.
- Consider each interested party's legitimate expectations of the protagonist.
- Identify all possible actions and recognize the positive and negative consequences of each action.
- Provide a selected action and rationale.
- Provide at least a total of two references, not including Wikipedia.

Your presentation must be completed within 10-12 minutes and you will be allotted an additional 2-3 minutes for questions. When giving your presentation, you should dress professional for a business casual environment. You are welcome to use notecards when presenting, but keep in mind that you should not read directly from the cards (or the screen!). Each team member should participate equally in giving the presentation. Presentation will be evaluated as per above mentioned rubric matrix.

Your presentation should reflect your analysis of the case. Because you have already completed the analysis, creating the presentation should just require documenting your existing work and focus on layout of material. Be sure to include background information on the case so your audience (the class) can understand your analysis. When building your presentation, make sure your slides clearly convey your information and that the audience will be able to easily read all information on the screen. You are encouraged to include visuals in your presentation. There is no required number of slides for this presentation.

3. Report on the Ethical Case

You must submit **individual report** on the selected case. While writing the report-

1. Identify the primary “ethical dilemma (or question) in the case.
2. List the stakeholders in the case (and try to identify an important “right” of each stakeholder).
3. List and describe alternative courses of action that may be taken and determine the likely consequences of each proposed action for each stakeholder.
4. Describe your normative recommendation in this case. What is the basis of your recommendation?

Ethics Cases:

This section of the document contains the ethics cases your group can choose to research. Please choose **ONE** case that is interesting to your group. While reading these cases think about what majors each focus on. Your team must find and reference at least one more source, in addition to the one provided, for your presentation; you may not use Wikipedia.

1	<p>Who Can Change Proprietary Source Code [Hypothetical]:</p> <p>A software specialist works in small software firm on developing of software for various management activities. The software expert switches to large software firm and engages in design and development of specialist innovative software for various customer services. The software engineer in the meantime is providing software services to the small software firms by modifying the codes of software of present large firms. This causes ethical and legal problem to the developer of the software working in the large firm. Extracted from Who Can Change Proprietary Source Code accessed at: http://www.onlineethics.org/Resources/csaindex/WhoCanChange.aspx</p>
2	<p>Air Bags, Safety and Social Experiments [Hypothetical]:</p> <p>Air bags can be installed in the automobiles to reduce injuries and fatalities in accidents. This case focuses on the issues regarding public safety, professional testing and experiments on airbag product. Extracted from an Air Bags Safety and Social Experiments accessed at: http://www.onlineethics.org/Resources/Research_Ethics_and_Society/27992/AirBag.aspx</p>
3	<p>Case Study: Climate Change Adaptation and public Participation in Yuma, AZ [Hypothetical]:</p> <p>This case study focuses on public involvement and participation in adaptation and mitigation of climatic change. Public forum in Phonix first took initiative to study the climatic conditions and</p>

	discussed various ways of adapting and controlling ecological problems. Extracted from Case Study : Climate change adaptation and public participation in Yuma, AZ accessed at: http://www.onlineethics.org/Resources/Climate-Change-Case-Study.aspx
4	<p>Big Data Case Study: Big Data & Public Health [Hypothetical]:</p> <p>Zhang Kar-wai, a graduate in computer science works on tracking and processing of health related data on individual such as blood pressure, blood glucose level, eating habit, sleeping cycles, seasonal illness, weight, reproductive health from smart phone and on-line application. The goal is to design health related products enable to mitigate health problems and also predict outbreak of any fatal disease. This case discusses ethical issues relating to use of personal health related information and processing data by some algorithm and producing prediction on out breaking of disease. Extracted from Big Data Case Study : Big Data & Public Health accessed at: http://www.onlineethics.org/Resources/40348/40522.aspx</p>
5	<p>Blowing the Whistle on a Therapeutic Patient [Real World]:</p> <p>This case discusses the whistle blowing occurred by Jan, an experienced nurse in the late 1970 and early 1980 against conducting experiment on psychiatric patient without their consent. Unethical issues regarding the experimental program and their consequences have been raised in this case. Extracted from Blowing the Whistle on Therapeutic Experiment accessed at: http://www.onlineethics.org/Resources/gradres/graderesv1/therapeutic.aspx</p>
6	<p>Artificial Intelligence & Robotics Subject Aid [Hypothetical]:</p> <p>Robotics is a branch of science and engineering that develops automated machines for sensing and realizing of various tasks. Robotic and artificial intelligence system have much impact on ethical, social, and legal issues of society. This case explores the ethical factors of robotic system in line with benefits provided.</p> <p>Extracted from Artificial Intelligence & Robotics Subject Aid accessed at: https://www.onlineethics.org/Resources/Subject-Aids/AI-and-Robotics-Subject-Aid.aspx</p>

7	<p>GM Ignition Switch [Real-World]:</p> <p>General Motors had to recall 2.6 million Chevy Cobalt vehicles. The ignition switch contained a design flaw that was demonstrated when owners placed weighted items on their key rings. The key would rotate into accessory mode and shut down all mechanical and electrical functions in the car including the air bags and power steering and brakes. This issue has caused at least 13 deaths. The problem was brought to the attention of GM in 2005, but engineers decided against a fix because it would take too long and cost too much money. Extracted from The Long Road To GM's Ignition Switch Recall accessed at: http://www.npr.org/2014/03/31/297312252/the-long-road-to-gms-ignition-switch-recall</p>
8	<p>Three Mile Island Nuclear Power Plant Disaster [Real-World]:</p> <p>The meltdown happened on Three Mile Island, PA on March 28, 1979. General Public Utilities and Metropolitan Edison were the companies responsible for the partial nuclear meltdown. Radioactive gases released to environment and the plant site was contaminated (14 year clean-up effort). The nuclear meltdown received a Level 5 on the International Nuclear Event Scale with Level 7 being the worst. A Combination of design and human error lead loss of coolant, which lead to a partial meltdown. Extracted from Backgrounder on the Three Mile Island Accident accessed at: http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html</p>
9	<p>Software Design Testing [Hypothetical]:</p> <p>Engineer A employed by a software company is involved in designing of specialized software in connection with the operations of facilities relating the public health and safety (i.e. nuclear, air quality control, water quality control). Engineer A conducted extensive testing on the software as per the existing standards. He faces various moral dilemmas in respect to complying the software with the newly drafted testing standards, protecting the interest of employer and customers. Extracted from Software Design Testing accessed at: http://www.onlineethics.org/Resources/32828/SoftwareBER.aspx</p>

10	<p>Beyond Expertise: One Person's Science, Another Person's Policy</p> <p>[Hypothetical]:</p> <p>Dr. Debra Reams works in the field of environmental chemistry and focuses on the oxidation and reduction reactions of the heavy metal jekylhydium in water and soil. Jekylhydium is used in many industrial processes and is known to exist in nature primarily in two oxidation states. The oxidized form is extremely toxic; the reduced form is harmless. The Environmental Protection Agency (EPA) is concerned about the toxicity and potential for human exposure to jekylhydium. The Agency is alarmed by news of the possibility of transformation from the less toxic to the more toxic form and asks Reams to help rewrite the regulatory limits for jekylhydium in soils and water based on her findings. Reams declined to rewrite regulations even though she was person to clearly demonstrate the danger. Extracted from Beyond Expertise: One Person's Science, Another Person's Policy accessed at:</p> <p>http://www.onlineethics.org/Resources/Cases/expertise.aspx</p>
11	<p>The Case of the Killer Robot [Hypothetical]:</p> <p>Randey Samuels was a programmer at the Silicon Techtronic's Inc. who worked on programing robots. Bart Matthews was crushed to death when the robot he was operating malfunctioned and started to wave its hands violently. The Robot arm struck Matthews, throwing him against a wall and crushing his skull. They were both employees of Cybernetics Inc. in Silicon Heights when the accident occurred on February 16, 2006.</p> <p>Extracted from Case of the Killer Robot accessed at:</p> <p>http://www.onlineethics.org/Resources/19049/killerrobot.aspx</p>

12	<p>From Fundamental Physics to the Private Sector [Hypothetical]:</p> <p>Huge University and Ivy University emerged as the leaders in the new field of applying particle accelerators, matching each other patent for patent. Since the group at Ivy spearheaded the collaboration that wrote the original article in Popular Cross Disciplinary Research, they claimed the first patent, which secured the rights to the idea of using the technique for medical imaging. Groups at Ivy U. and Huge U. each began building an apparatus that would produce the specially treated gas to be used for the new MRI technique. Ivy finished first and patented its new machine. Huge finished a few months later, but its machine had the added capability of being able to produce and deliver the gas with the same machine. Huge also received a patent. Both universities are in positions to violate each other's patents. Extracted from From Fundamental Physics to the Private Sector accessed at:</p> <p>http://www.onlineethics.org/Resources/Cases/fundamental.aspx</p>
13	<p>Case SUMO – 1(Real World):</p> <p>Over 17 million people died from cardiovascular disease worldwide in 2008 (World Health Organization, 2013). The World Health Organization estimates that number will be over 23 million by 2030. In the U.S., approximately 600,000 people die annually from heart failure. One new development in cardiovascular gene therapy focuses on the SUMO-1 gene (Tilemann et al., 2013; Woods, 2013). The SUMO-1 gene is naturally occurring in human beings, but its activity is reduced in patients with heart failure. In studies on mice and pigs, insertion of the SUMO-1 gene reduced blood pressure and improved overall cardiovascular function. Clinical trials on SUMO-1 with human beings are just beginning. If these trials are successful, and SUMO-1 is approved for general use, doctors will have a powerful new tool for combatting cardiovascular disease. Extracted from Case SUMO - 1 accessed at:</p> <p>http://www.onlineethics.org/Resources/30931/31015/31250/31252.aspx#publicationContent</p>

14	<p>Exportation of Risk – The case of Bhopal [Real World]:</p> <p>This case examines the 1984 catastrophe arising from a chemical leak at a Union Carbide Corporation plant in Bhopal, India, which resulted in the death of as many as 3,000 and injury to thousands more, from the standpoint of exporting risk from industrialized to developing countries. The case, which includes comparisons with Bhopal's sister plant in Institute, West Virginia, considers the moral responsibility for preventing such tragedies on the part of multinational corporations, the governments of the industrialized nations where they are head quartered, and the governments of developing countries where they operate. The moral responsibilities of engineers and scientists working for these organizations are also considered. Main focal point of this case is environmental and industrial safety ethics. Extracted from Exportation of Risk : The case of Bhopal accessed at: http://www.onlineethics.org/Resources/Bhopal.aspx</p>
15	<p>CITICORP Building [Real-World]:</p> <p>Structural Engineer Bill LeMessurier designed welded joints for the CITICORP building in Citicorp Centre, N.Y (fifth highest skyscraper) 1977. However the contractor, Bethlehem Steel, changed them to bolted joints. Tests proved that the diagonal wind loading (with a return period of 16 years) can lead to the failure of the critical bolted joints and therefore the building. Recalculation was not done to check what the construction change would do. The building was strengthened by welding two-inch thick steel plates over each of the 200 bolted joints. Extracted from: http://www.theaiatrust.com/whitepapers/ethics/study.php</p>

Final Presentation Groups, Topics and Presentation Date: Engineering Ethics [Sec F]

GROUP	ID	NAME	TOPICS	PRESENTATION DAY
1	18-39076-3	MD. MOHIBUL ISLAM HRIDOY	1	Day 1: 27 th July, 2019 (Saturday)
1	18-39045-3	MD. SHAHARIA SHIHAB		
1	18-39081-3	MD. RUHUL AMIN		
2	18-38950-3	ABDUR RAHMAN SWAPNIL	2	
2	14-27612-3	NANDAN MITRA	2	
3	18-38893-3	KAZI MD NAFIZ AL AKIB	3	
3	18-38946-3	MOHAMMAD NIRJON PATWARY	3	
4	18-38878-3	TANGINA AFROJA	4	
4	18-37850-2	SIFET JAHAN TRIPETO	4	
4	15-29927-2	ABRAR SHARIAR BIN ASAD	4	
5	19-40329-1	RIAZ MORSHED	5	
5	19-39437-1	S.M. SHAZIB TALUKDAR RUDRA	5	
6	16-32016-2	MD. SOHEL RANA	6	
6	14-26612-2	MD. HAMIDUR RAHMAN	6	
6	16-31647-1	SHUVOJIT ROY	6	
7	16-32498-2	EMMANUEL BARSHAN GOMES	7	Day 2: 31 st July, 2019 (Wednesday)
7	16-32275-2	MD TAWHID SULTAN	7	
7	16-32513-2	MOHAMMAD MAHIDUR RAHMAN	7	
8	18-38872-3	MD. ISTIHAD ALAM	8	
8	15-30664-3	MD. RUHUL KIBRIA MARUF	8	
8	18-39185-3	TAPASH CHANDRA DABNATH	8	
9	15-30024-2	MD. RUBAYET ALAM	9	
10	18-39027-3	NUR MOHAMMAD AKRAM	10	
10	18-39058-3	MD. ABDULLAH AL-NAHIAN	10	
10	18-38999-3	MD. SHAH SULTAN	10	
11	14-27556-3	FARJANA YIASMIN UPAMA	11	
11	16-31209-1	FARIHA ROWSHAN HUDA	11	
11	19-40607-1	SHAHARIER KABIR	11	
12	14-26518-2	MAHBUBA JEBIN	12	
12	14-26588-2	CRYSTAL CRUZE	12	
13	15-29623-2	MD. NAFIS IMTEAZ	13	

13	15-30450-3	REHNUMA TAHSEEN	13
13	15-28903-1	RAFI AHMED	13