

## *Decision Making Cases from May 14, 2001 Workshop*

1. Un curso subgraduado avanzado de Economía Ingenierial requiere que se haga un proyecto en grupo que vale un 40% de la nota. Al finalizar el semestre y antes de entregar el proyecto el grupo reúne con el professor para discutir el hecho de aque solo 4 de los 5 integrantes del grupo habían trabajado.

El professor habla con el estudiante, quienes graduado, y éste le asegura qu se ha reunido envarias ocasiones con el grupo pero como es estudiante subgraduado no toman en consideración su insumo. ¿Qué debe hacer al profesor?

- a. Recalcar el hecho de que el trabajo es en grupo y que ellos son resssresponsables de dividir la tarea.
- b. Usar la hula de autoevaluación/contribución para asignar la nota.
- c. Evaluar el trabajo y dar la mismanota a todos.
- d. Dar un examen oral para probarquién ha trabajado.

2. You have been presented a recommendation for an office re-layout by the engineering manager. The re-layout involves moving a portion of your employees offsite. You are concerned because some are hourly employees who need to meet in-site with other functions.

Even though moving costs were included in the analysis and development of the layouts, the increased transportation time costs were not. You know that the analysis is incomplete. The re-layout starts today. What should you do?

- a. Accept the re-layout.
- b. Tell the engineering manager that your employees will not move.
- c. You look with the engineer manager for ways to minimize transportation costs.
- d. You let the engineer manager know that he will be accountable for any cost increases to the general manager.
- e. Other. Explain.

3. Un professor pública un artículo en una revista científicia y no incluye el nombre del estudiante que escribió el programa de computadoras que producía las resultados fundamentals del artículo. Cuando sale el artículo, el estudiante se sorprende porque no se reconoce su labor en ningún sitio. Llama el professor y lo insulta por no incluirlo como co-autor.

- a. Is it realistic?
- b. Ethical or unethical?
- c. Disagreement?

4. Un estudiante se presenta y toma su repaso de reválida según anuncio en el periódico. Ahí se encuentra con otro profesor, que habrá renunciado del departamento, ofreciendo darle otro repaso de reválida a un costo menor. ¿Debe el estudiante aceptar esta oferta?

- a. Is it realistic?
- b. Ethical or unethical?
- c. Disagreement?

5. El presidente de una asociación de ingenieros ha hecho unas declaraciones públicas sobre un departamento de ingeniería. En sus declaraciones, este declaró que dicho departamento no enseña un área de ingeniería lo cual no es cierto. ¿Qué debe hacer el departamento?

- a. El departamento debe hacer caso omiso a estas declaraciones.
- b. Se debe llamar a dicha persona e insultarlo. Escribir una carta pública aclarando las declaraciones falsas.
- c. Hacer que dicha persona escriba otra carta publicando que se retracta de sus aseveraciones.
- d. Corroborar con el Presidente, cuales fueron las declaraciones hechas, antes de tomar medidas.  
Fé de errata.

6. An engineer working for a large multinational company discovers, upon studying several procurement contracts, that a key supplier is bringing somebody in the higher echelons (top management or board of directors). His denouncing this situation will jeopardize his employment. What should he do?

- a. Is it realistic?
- b. Ethical or unethical?
- c. Do you think others might disagree with you?

7. Un supervisor descubre que un empleado pública se esta embolsicando (robando) la renta de unos solares del gobierno. El supervisor somete la evidencia al Departamento de justicia. Cuando se vio las vista en corte el abogado de Justicia no asistió a la misma y salio sin acusación.

Se descubre años más tarde otro empleado robandose la renta de los solares. El supervisor del supervisor llama al individuo y le expone que tiene una declaración jurada certificado que se esta robando la renta. Le solicita que someta su renuncia. El accede inmediatamente.

8. Perito en corte

El Ing. Noel Deliz es llamado a ser perito en corte en un caso criminal. El sabe que hay mucha subjetividad pero el puede hacer una presentación cuasi-técnica para convencer al jurado de la inocencia del acusado. Pero además, el sabe que su presentación no es precisa y que la culpabilidad o inocencia no se pueden probar con su conocimiento técnico. ¿Qué debe hacer?

- a. No debe presentar
- b. Debe presentar y dejar a la corte que decida.
- c. Debe presentar, pero advertir el grado de error de su teoría.

Rewriting Textbook Exercises for EAC (Ethics-Across-the-Curriculum)

*(The following exercises were prepared to respond to ethical issues raised in textbooks and syllabi from Industrial Engineering.)*

9. Ellerbe Creek receives wastewater from the 10 mgd Northside Wastewater Treatment Plant in Durham, North Carolina. The creek has a mean summertime flow of  $0.28 \text{ m}^3/\text{s}$ . The wastewater characteristics are: temperature =  $28^\circ\text{C}$ ; ultimate BOD (L) =  $40 \text{ mg/L}$ ;  $k_1 = 0.23 \text{ d}^{-1}$ ; dissolved oxygen =  $2 \text{ mg/L}$ . The total stream length is 14 miles, at which point it empties into the Neuse River. Should the State of North Carolina be concerned about the effect of this discharge on Ellerbe Creek? Explain and justify. (From Michael Davis, *Ethics in the University*, Chapter 8, 157. Based on a case from Arne Vesilund, *Introduction to Environmental Engineering*.)

10.

Part A:

The data below are the joint temperatures of the O-rings (degrees F) for each test firing or actual launch of the space shuttle rocket motor (from Presidential Commission on the Space Shuttle Challenger Accident, Vol. 1, pp. 129-131): 84, 49, 61, 40, 83, 67, 45, 66, 70, 69, 80, 58, 68, 60, 67, 75, 61, 72, 73, 70, 81, 76, 79, 75, 76, 58, 31.

- (a) Compute the sample mean and sample standard deviation.
- (b) Construct a dot diagram of the temperature data.
- (c) Set aside the smallest observation ( $31^\circ\text{F}$ ) and recompute the quantities in part a. Comment on your findings. How "different" are the other temperatures from this last value?

Part B

Evidence from flight 51B on April 29, 1985 showed that "a primary seal eroded in three places over a 1.3 inch length up to a maximum depth of 0.120 inches and the secondary seal in the same joint was eroded 0.032 inches. It was postulated that this primary seal had never sealed during the full two minutes of flight." This, in your opinion, represents a life-threatening situation for the shuttle crew. What should you do?

(From *Applied Statistics and Probability for Engineers*, by Douglas C. Montgomery and George C. Runger. Last part of exercise quotes from Roger M. Boisjoly. "The

Challenger Disaster: Moral Responsibility and the Working Engineer," appearing in *Ethical Issues in Engineering*, edited by Deborah G. Johnson.)

11. The course syllabus for ININ4010, **Probability and Statistics for Engineers**, says the following on the issues of ethics: "Any academic fraud is subject to the disciplinary sanctions described in article 14 and 16 of the revised General Student Bylaws of the University of Puerto Rico contained in Certification 018-1997-98 of the Board of Trustees."

Discuss the following scenario. A friend of yours has asked to borrow a lab report you prepared for a class you took last semester and he is now taking this semester. You give it to him. Two weeks later you are in his room and discover that he used your report without alteration. What should you do?

- a. Do nothing. The damage is already done. Besides he is your friend and helping him has priority over avoiding academic fraud.
- b. Go directly to the instructor and explain what happened.
- c. Tell your friend to go to the instructor and explain what happened.
- d. Find a new friend.
- e. Borrow *his* lab report for the class you are currently taking.

12. Discuss the relation between 5j in the CIAPR code of ethics and academic fraud

The University of Virginia has an interesting way of dealing with academic fraud. They have a student honor code. Any violations will lead to immediate suspension. Anyone who has graduated and helps another student commit academic fraud will have his or her degree revoked.

A physics professor has developed a special program to detect repeated phrases and papers. He has found that 123 students are involved in recycling term papers including several who have already graduated. The students caught were suspended. The former students participating were had their degrees revoked. What do you think about this?