**English 1112 E: September 25, 2015 discussion group**

**Activity 1: Eliminating vagueness and ambiguity**

Edit the following sentences to eliminate problems of ambiguity and vagueness:

1. **The engineer told the technician that he will be joining the alternative energy committee.**
2. **Imagine that this is the title of section (1) in a report about Internet addiction:**
3. **The Nature of the problem**

1. **About 80% of individuals diagnosed with internet addiction in our study were university students. This is partly due to the absence of direct supervision.**
2. **Though abundantly available, Ottawa does not yet efficiently harvest wind to generate energy.**

1. **In recent years, certain improvements have been made in prenatal testing. However, these things do not come without their risks.**
2. **The eight columns supporting the building should be built approximately five-metres apart.**
3. **Students resort to electronic distractions during lectures for numerous reasons.**
4. **The liver is a complex organ whose functions include protein synthesis, detoxification and the production of biochemicals for digestion.**
5. **I need to be careful with my money because I must save, but it is also important to enjoy life, so I use my credit card to buy the things that I really love. As an engineer, I will have a good income, so I can pay it off later.**
6. **Call me any time if you have questions about your report.**
7. **I would love to read your report about energy solutions for Ottawa. However, I am very busy right now. Let’s see if I can find time in the future. I look forward to reading it very soon.**

**Activity 2: Vagueness in report instructions? (this activity is not depicted on the slides)**

Students often ask for more precise instructions for Report One: how exactly should I structure my report? Are there samples that I should follow? How long should each section be?, etc.

Do you find the report instructions vague? Your workshop leader will give you suggestions for your report based on documents in the course pack and on the materials below. For your reference, the report instructions from Virtual Campus are also pasted below.

**What is Gravitation? From Newton to Einstein, and beyond**

**Abstract**

Since Isaac Newton’s discovery of the Law of Universal Gravitation in the seventeenth century, the question of what gravitation is has been central to our understanding of the physical universe. Newton’s Law was the culmination of a revolution in cosmology that is often referred to as the Scientific Revolution. He completed the heliocentric kinematics developed by Nicholas Copernicus and the three empiric laws of Johannes Kepler by identifying the dynamics of motion and the force that causes planetary motion—gravitation. The introduction of an attractive force that explains all motion in the solar system puzzled Newton and his admirers alike. Newton struggled to understand the essence of gravitation, proposing many mechanisms for its operation

before coming to terms with the idea that it is an instantaneous force operating from a distance without any physical mediation. Newton’s Universal Gravitation is highly effective for explaining the motion of all the planets within the solar system, except Mercury. However, Albert Einstein’s theory of Relativity enhanced and modified the Newtonian understanding of gravitation. Relativity deals with speeds much greater than the speeds of apples falling from a tree or planets rotating around the sun. In General Relativity, Einstein suggested that gravitation is a geometry that curves space time, an effect which can be felt only in extreme circumstances

where gravitation is very strong, such as in the case of a highly dense star. Modern physics replaces Netwon’s understanding of gravitation as an instantaneous force with a model of gravitation as both a force effect transmitted by particles (gravitons) and a wave which, like electricity, travels at the speed of light. Today, despite many high-budget experiments designed to detect them, there is no direct empirical proof for the existence of gravitons or gravitational waves. This, together with some other discrepancies generated when General Relativity is applied on the entire universe, raises fascinating questions about the validity of Modern

Physics: could it be that just as Einstein improved Newton’s description of the universe, so his own understanding of gravitation is in need of modification?

**Outline**

1)Introduction: the puzzling essence of gravitation

2) Background of Newton’s discovery: the Scientific Revolution

2.1 Copernicus’s heliocentric description of the solar system

2.2 Kepler’s laws of motion

2.3 A summary of what Copernicus and Kepler achieved and what was missing from their picture: they explained the kinematics, but not the dynamics, of motion

3) Newton’s Law of Universal Gravitation

3.1 How Newton discovered the Law—myth and evidence

3.2 A scientific and mathematical explanation of the Law

3.3 Newton’s struggles to come to terms with gravitation as an instantaneous force operating from a distance, without physical mediation

4) Einstein’s modification of Newton’s gravitation

4.1 Why Relativity requires an understanding of gravitation as geometry

4.2 Difference between gravitation as an instantaneous force and as an effect traveling at

the speed of light

5) Putting Einstein’s theory to the test

5. 1 A brief overview of experiments to detect gravitational waves and the graviton particle

5.2 Conclusion: possibilities raised by the results of the experiments about the future of physics

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**Instructions for Report 1 (pasted from the report instructions handout on virtual campus)**

20% of final mark; due Friday, October 23; submit at the discussion group; 5-6 pages double spaced, plus 1-2 pages bibliography; 12-point font; write your name and student number on the first page and staple all pages together. You are not required to use visuals (graphs, tables, pictures, etc.), but if you decide to use them you must still write 5-6 pages of text. Your report must discuss at least five texts found through library research (not resources available on the free internet). Use APA or IEEE to document your sources. You may use another documentation system, but if you do, please write on the first page of your report, “I have used [name of system].” To avoid plagiarism, study the resources for students on the academic integrity website: <<http://web5.uottawa.ca/mcs-smc/academicintegrity/home.php>>.

Write one of the following five reports.

1. Describe your plan for succeeding in your chosen profession following the completion of your schooling (to ensure relevance to the course, the profession must be related to engineering or science). Divide your report into the following sections: (1) A description of the profession and its job market (2) Your plan for succeeding in that job market, including a discussion of at least one obstacle and how you plan to overcome it (3) A discussion of at least one challenge/question that engages experts in your chosen profession and how you might contribute to solving this challenge/question. You may add other sections and/or modify the sections listed above if you see fit.
2. Choose a problem related to the Internet (for example: fraud, Internet addiction, distractions during lectures). Write a report that proposes a solution to that problem. Divide your report into the following sections: (1) A description of the problem and its causes (2) An overview of possible solutions (3) Your recommendation/s. You may add other sections and/or modify the sections listed above if you see fit.
3. Will a computer expert system ever be able to replace a human editor in providing meaningful feedback? Divide your report into the following sections: (1) An overview of the capabilities and limitations of artificial-intelligence expert systems (2) Analysis of the specific challenges of an editorial program (3) Your answer to the above question, with an explanation of what a computer system will and will not be able to do. You may add other sections and/or modify the sections listed above if you see fit.
4. Should the government mandate parents to vaccinate their children prior to enrolling them in school? Divide your report into the following sections: (1) An overview of the vaccination debate (2) Your recommendation/s. You may add other sections and/or modify the sections listed above if you see fit.
5. Read a science-fiction novel or another novel relevant to engineering and/or science. Three suggestions are *Frankenstein* by Mary Shelley, *The Time Machine* by H.G. Wells and *The Long Winter* by Laura Ingalls Wilder. Write a report that explains how one (or more) of the lessons that can be learned from the novel might be helpful to engineers and/or scientists today. Divide your report into the following sections: (1) An explanation of at least one lesson relevant to science and/or engineering (keep plot summary to a minimum) (2) A discussion of at least one example of how this lesson/these lessons can be applied to the present-day context.

You will be graded based on your ability to

* Write clearly and professionally while avoiding grammatical and stylistic errors.
* Conduct research effectively.
* Summarize and analyze information effectively.
* Demonstrate evidence of critical thinking.

**Activity 3: DEAR (this activity is not depicted on the slides)**

Technical writing is not a mechanical skill. Like any kind of writing, it relies on a high level of literacy, which can only be developed by reading extensively and attentively (ideally while keeping a reading journal). Enjoy the following excerpt from the first chapter of Rosemary Sutcliff’s *Black Ships before Troy* and discuss how it might relate to our discussion of vagueness.

**The Golden Apple**

In the high and far-off days when men were heroes and walked with the gods, Peleus, king of the Myrmidons, took for his wife a sea nymph called Thetis, Thetis of the Silver Feet. Many guests came to their wedding feast, and among the mortal guests came all the gods of high Olympus.

But as they sat feasting, one who had not been invited was suddenly in their midst: Eris, the goddess of discord, had been left out because wherever she went she took trouble with her; yet here she was, all the same, and in her blackest mood, to avenge the insult.

All she did – it seemed a small thing – was to toss down on the table a golden apple. Then she breathed upon the guests once, and vanished.

The apple lay gleaming among the piled fruits and the brimming wine cups; and bending close to look at it, everyone could see the words “To the fairest” traced on its side.

Then the three greatest of the goddesses each claimed that it was hers. Hera claimed it as wife of Zeus, the All-father, and the queen of all the gods. Athene claimed that she had the better right, for the beauty of wisdom such as hers surpassed all else. Aphrodite only smiled, and asked who had a better claim to beauty’s prize than the goddess of beauty herself.

They fell to arguing among themselves; the argument became a quarrel, and the quarrel grew more and more bitter, and each called upon the assembled guests to judge between them. But the other guests refused, for they knew well enough that, whichever goddess they chose to receive the golden apple, they would make enemies of the other two.

In the end, the three took the quarrel home with them to Olympus. The other gods took sides, some with one and some with another, and the ill will between them dragged on for a long while. More than long enough in the world of men for a child born when the quarrel first began, to grow to manhood and become a warrior or a herdsman. But the immortal gods do not know time as mortals know it.

Now on the northeast coast of the Aegean Sea, there was city of men. Troy was its name, a great city surrounded by strong walls, and standing on a hill hard by the shore. It had grown rich on the tolls that its kings demanded from merchant ships passing up the nearby straits to the Black sea corn lands and down again. Priam, who was now king, was lord of wide realms and long-maned horses, and he had many sons about his hearth. And when the quarrel about the golden apple was still raw and new, a last son was born to him and his wife Queen Hecuba, and they called him Paris.

There should have been great rejoicing, but while Hecuba still carried the babe within her, the soothsayers had foretold that she would give birth to a firebrand that should burn down Troy. And so, when he was born and named, the king bade a servant carry him out into the wilderness and leave him to die. The servant did as he was bid; but a herdsman searching for a missing calf found the babe and brought him up as his own.

The boy grew tall and strong and beautiful, the swiftest runner and the best archer in all the country around. So his boyhood passed among the oak woods and the high hill-pastures that rose towards Mount Ida. And there he met and fell in love with a wood nymph called Oenone, who loved him in return. She had the gift of being able to heal the wounds of mortal men, no matter how sorely they were hurt.

Among the oak trees they lived together and were happy – until one day the three jealous goddesses, still quarreling about the golden apple, chanced to look down from Olympus, and saw the beautiful young man herding his cattle on the slopes of Mount Ida. They knew, for the gods know all things, that he was the son of Priam, king of Troy, though he himself did not know it yet; but the thought came to them that he would not know who they were, and therefore he would not be afraid to judge between them. They were growing somewhat weary of the argument by then.

So they tossed the apple down to him, and Paris put up his hands and caught it. After it the three came down, landing before him so lightly that their feet did not bend the mountain grasses, and bade him choose between them, which was the fairest and had best right to the prize he held in his hand.

First Athene, in her gleaming armor, fixed him with sword-gray eyes and promised him supreme wisdom of he would name her.

Then Hera, in her royal robes as queen of heaven, promised him vast wealth and power and honor if he awarded her the prize.

Lastly, Aphrodite drew near, her eyes as blue as deep-sea water, her hair spun like gold wreathed around her head, and, smiling honey-sweet, whispered that she would give him a wife as fair as herself if he tossed the apple to her.

And Paris forgot the other two with her offers of wisdom and power, forgot also, for that moment, dark-haired Oenone in the shadowed oak woods; and he gave the golden apple to Aphrodite.

Then Athene and Hera were angry with him for refusing them the prize, just as the wedding guests had known that they would be; and both of them were angry with Aphrodite. But Aphrodite was well content, and set about keeping her promise to the herdsman who was a king’s son.

**Activity 4: Email editing**

Imagine that the following fictional examples are taken from emails written by students to their professors. Suggest how these emails might be improved.

1. **This is the first line of an email:**

**Hi, I am your student in technical report writing.**

**Hi miss,**

**I do not understand how to cite sources. Please explain. Cheers, Brad**

**3.**

**Hi prof,**

**I will not be able to submit my paper this Wednesday. I am so sorry!!! I had tragic circumstances: my computer broke down. I hope that you will find it in your heart to forgive me. When can I submit it?**

**Thanks!!!!**

**4.**

**Hi this is Jen I am horribly sick and have to miss today’s test please send me an email notifying me when I can write a makeup**

**Activity 5: Discussion of a letter (this activity is not depicted on the slides)**

Read the following letter about AIDS written by the medical researcher Donald P. Francis and discuss its strengths and weaknesses.

Background: In the early 1980’s, the medical establishment in the United States was too slow to respond to the AIDS crisis. We will discuss the reasons for and lessons from this failure when we read excerpts from Abraham Verghese’s *My Own Country: A Doctor’s Story* and Randy Shilt’s *And the Band Played On* on the week of October 20.

Public Health Services  
Centers for Disease Control  
Atlanta, Georgia 30333

4402 North 7th Street  
Phoenix, Arizona 85014

April 12, 1983

Walter R. Dowdle, Ph.D.  
Director, Center for Infectious Diseases  
Building 1, Room 6007  
Centers for Disease Control  
Atlanta, Georgia 30333

Dear Walt:

The outbreak of AIDS is a huge public health problem which requires a massive infusion of resources. The number of people already killed is large and all indications are that this disease will not stop until thousands of Americans have died. Even though tragic enough to justify great expenditures for control, the direct effects of this disease are only a part of its effect. The problem arising in the blood and plasma collection systems, the hospitals, and among the research establishments could have far-reaching and long-lasting effects.

Our government's response to this disaster has been far too little. Much of this is because the slope of the epidemic curve has been gradual, lasting years instead of days. We are not accustomed to dealing with outbreaks having long latent periods. But these situations require even greater speed because even after discovery of the cause, we will be so far behind and control will be even more difficult. Even if we are so fortunate to have the rapid development of a control modality for AIDS (perhaps a vaccine), we cannot be guaranteed that we can stop it. from our HBV-vaccine predictions, we fear that few homosexual men and IV drug users could be vaccinated prior to their exposure to infection.

This is a major challenge for CDC and will remain so for many years. We can predict increasing frustrations now in pursuit of the cause and later in pursuit of control. This disease is not going to go away. To do what is right we must ensure large scale funding for AIDS research and control. The inadequate funding to date has seriously restricted our work and has presumably deepened the invasion of this disease into the American population. In addition, the time wasted pursuing money from Washington has cast an air of despair over AIDS workers throughout the country. Possibly worse, it has sandwiched those responsible for research and control between massive pressure to do what is right and an ummovable wall of inadequate resources. The resulting frustrations have severely inhibited the open-mindedness and cooperation that is required to conquer such a scourge. Because of the slow and inadequate funding process, it seems that after we get funds and recruit staff, we are always too late -- the disease has passed us up again and we are again understaffed and underfunded.

There must be a way to do it right. We can predict a massive need of both epidemiologic and laboratory staff and a need for rapidly mobilizable funds to undertake field investigations. In this vast and wealth country there must be a way to get $10 to $20 million immediately for this disease. I stress speed because the usual government funding and spending processes are so slow to be unacceptable in such an emergency situation.

For the good of the people of this country and the world, we should no longer accept the claims of inadequate funding and we should no longer be content with the trivial resources offered. Our past and present efforts have been and are far too small and we can't be proud. It is time to do more. It is time to do what is right.

With utmost concern and continuing hope

[signed]

Donald P. Francis, M.D., D.Sc.  
Assistant Director for Medical Science