## Introduction to Assignment & Rubric:

The Critical Reflection assignment invites you to connect the topics from class to your own life, experiences, career, and beliefs. This assignment relates to a number of our course learning objectives, including:

* Assess the consequences of personal actions and language
* Understand and respect the needs, perspectives, and actions of others
* Recognize interpersonal and intrapersonal conflicts and identify possible solutions
* Reflect on one’s role in the Virginia Tech community and engineering profession

This assignment will be assessed according to the following rubric. To receive full credit for this assignment, you must score "Proficient" or above in all three categories. A score of "Working Toward Proficiency" in any category will require a resubmission based on feedback from the grader.

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|  | **Working Toward Proficiency** | **Proficient** | **Beyond Expectation** |
| **Organization** | Information is not organized and/or not written in paragraph format.  One or more components are missing.  Minimum word count not met or maximum word exceeded count by an excessive amount. | Information is well organized in paragraph format.  All components are completed and submitted.  Word count fits within specified range. | Information is very well organized with well-constructed paragraphs; use of subheadings.  All components are completed and submitted.  Word count is within specified range. If maximum word count is exceeded for a prompt, there are no more than 100 extra words. |
| **Quality of Response** | Information is not on topic.  All questions and sub-questions were not answered thoughtfully. | Information clearly relates to the topic.  All questions and sub-questions are answered thoughtfully.  Responses include some general ideas/issues from class discussion and/or from outside experiences related to the topic. | Information clearly relates to the topic.  All questions and sub-questions are answered thoughtfully.  Responses demonstrate in-depth synthesis of experiences related to topic and/or connections to experiences outside of class. |
| **Sources** | Sources are quoted or referenced, but they are not cited. | References or quotes are attributed to the original source through a citation. | Citations and references are organized and cited according to APA, IEEE, or other disciplinary standards. |
| **Note**: If you refer to a source (e.g., article, website, etc.), it **must** be cited. Failure to cite your sources appropriately is a violation of the VT Graduate Honor Code. | | | |

*A note on specified word count range:* Word limits/counts are approximate and represent our estimate of how much you need to write in order to complete each prompt in a thoughtful manner. Don’t fixate on the word count; instead, focus on providing quality responses.

## Assignment Prompts:

*Review the prompts below and type your responses in the yellow boxes/spaces provided. When complete, save this document as a .docx or .pdf file and submit it to Canvas.*

1. **Diversity** (Covered in Part 3)

**First**, read the following short article (*PDF available on Canvas under Files*):

* Manning, K. (2009). Philosophical underpinnings of student affairs work on difference. *About Campus*, 14(2), 11-17. <https://doi.org/10.1002/abc.284>

**Then**, reflect and respond to the following questions:

* 1. Of the 7 paradigms mentioned in the article, which do most align with? Which do you least align with? Please provide a thorough explanation.
  2. Consider an organization you were part of, are currently a part of, or aim to become part of (e.g., a department, research group, company, student club). What are 2-3 actions that you might take to improve the organization as it relates to DEI? Please specify the organization in your response.

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| **Please respond to 1.1-1.2 in the box below. Your response should be in paragraph format and be approximately 150-250 words total.** |
| I align with the Color-Blind paradigm as it relates to social equality and human dignity. I recognize the practical limitations of this mentality given historical discrimination, but I support the ultimate goal of judgement based purely on merit, rather than superficial qualities. My beliefs are least aligned with the Political Correctness (PC) paradigm and in fact I see it as ultimately detrimental to true positive change. In my opinion, the PC movement has created a culture of “finger pointing” that many have latched onto rather than understanding true social issues.  My employer could improve their organizational commitment to DEI by targeting professional societies for members of different backgrounds (race, ethnicity, nationality, etc). This would connect the organization to talent with more diverse backgrounds enriching the workforce with new ways of thinking. Another step could be to facilitate open discussion on diversity and inclusion among the current workforce and educate on the ways to better support diversity and the benefits of doing so. |

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| **Additional Context** |
| Topics associated with DEI (Diversity, Equity, and Inclusion) have become increasingly a source of controversy in recent years. As you continue in your career, you may find yourself having to a) articulate your stance during a hiring process or thereafter and b) interact with people from different perspectives. Because most people have little experience addressing this topic formally, we want you to practice articulating your perspective. This reading should help you do so. |

1. **Bias & Stereotypes** (Covered in Part 4)

**First**, complete at least one of the [Implicit Association Tests (IATs)](https://implicit.harvard.edu/implicit/takeatest.html)offered by Project Implicit *from the following list*: (1) Race, (2) Disability, (3) Gender-Science, or (4) Sexuality. (Tests are available at: <https://implicit.harvard.edu/implicit/takeatest.html>).

**Then**, reflect and respond to the following questions:

* 1. Did the results of your Implicit Bias Test surprise you? How did these results make you feel - pleased, guilty, defensive, skeptical? Please provide an explanation.
  2. When reflecting on your own life, where do you think stereotypes or biases may have originated?
  3. What steps can we take to reduce or eliminate our own stereotypes and biases?

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| **Please respond to 2.1-2.3 in the box below. Your response should be in paragraph format and be approximately 150-250 words total.** |
| I was surprised by the results of the test. I assumed I would score perfectly neutral in my implicit association of race since I consider myself very anti-racism. I am interested in what implicit association means for a person’s day to day choices. I feel that I am very supportive of equality and minority inclusion but perhaps the underlying mechanisms of the mind are not aligned with this outward mentality. I guess I am a bit defensive with my results since I find that I am trying to come up with counterexamples and questioning the validity of the test.  I have to go straight to the media that is ubiquitous in American society; movies, TV, social media have blatant racism, which is easy to spot, but perhaps there are underlying themes that train the brain to associate qualities based on race. I think I came from a fairly diverse school system, so I imagine my location was not as big a factor.  I think taking a more active stance on choices that relate to social aspects could help mitigate the implicit biases that may not be obvious otherwise. Taking a moment to consider potential alternatives could reduce the automatic, subconscious choice. |

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| **Additional Context** |
| “The IAT measures the strength of associations between concepts (e.g., black people, gay people) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy). The main idea is that making a response is easier when closely related items share the same response key.” ([About the IAT](https://implicit.harvard.edu/implicit/iatdetails.html)). The IAT is an effective educational tool for raising awareness about implicit bias, which can help us assess the consequences of personal actions and language. However, it should not be used for diagnostic or selection purposes, such as hiring or qualification decisions. If you want to learn more about implicit bias, you may also find the following [Hidden Brain](https://hiddenbrain.org/) podcast episodes informative - Revealing Your Unconscious: [Part 1](https://hiddenbrain.org/podcast/revealing-your-unconscious-part-1/) and [Part 2](https://hiddenbrain.org/podcast/revealing-your-unconscious-part-2/). |

1. **Vulnerable Populations** (Covered in Part 5)

**First**, read the following article (*PDF available on Canvas under Files*):

* Mechanic, D., & Tanner, J. (2007). Vulnerable People, Groups, And Populations: Societal View. *Health Affairs*, *26*(5), 1220–1230.

**Then**, reflect and respond to the following questions:

* 1. How does and/or how could your engineering discipline impact vulnerable populations?
  2. Which people, groups, or populations are most impacted (*positively and negatively*) by your discipline or research?
  3. How might you mitigate the negative impact of your work?

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| **Please respond to 3.1-3.3 in the box below. Your response should be in paragraph format and be approximately 150-250 words total.** |
| My discipline, aerospace engineering, doesn’t directly impact vulnerable populations but does have many indirect influences on society as a whole. The defining contribution of aerospace is in unifying communities regionally, nationally, and globally. Most obvious being the emergence and proliferation of air travel to the (relative) masses, but less discussed are the communication and positioning services provided by satellite systems. Populations are more diverse than ever and thus respect and understanding have surely increased.  As with most technologies, the increase in affordability of travel has brought cultural exchanges to low-income communities. This is an understated effect of aviation and space technology on the global society. People who may never have seen anyone who looked different than themselves can now be expected to have interacted with broad range of tourists and immigrants. This is especially true of places outside major cities that were traditionally accessible by sea and rail.  The negative impacts lie in the environmental impacts of fossil fuel-based transportation. The whole world reaps the consequences of emissions lingering in the atmosphere and global temperature rises. The wealthy are generally more insulated from these whereas the poor have fewer options. Much effort has been invested in mitigating and reversing these effects. The most promising are the increases in efficiency in aviation propulsion systems which reduce emissions to more manageable levels. Alternate power sources such as electric propulsion are also making good progress. |

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| **Additional Context** |
| Although engineers periodically discuss the responsibility to hold paramount the safety, health, and welfare of the public, we seldom spend time reflecting on what this might mean in our everyday practices. This reading should help you do so by providing you with an operational understanding of “vulnerability,” sources of vulnerability, and a better understanding of what it means to be susceptible to harm. |

1. **Professionalism** (Covered in Part 6)

**First**, read/skim (or listen to) 2-3 of the following articles (*PDFs available on Canvas under Files.*):

* Lawson, W. D. (2004). Professionalism: The golden years. Journal of professional issues in engineering education and practice, 130(1), 26-36. <https://doi.org/10.1061/(ASCE)1052-3928(2004)130:1(26)>
* Stieb, J.A. Understanding Engineering Professionalism: A Reflection on the Rights of Engineers. Sci Eng Ethics 17, 149–169 (2011). <https://doi.org/10.1007/s11948-009-9166-x>
* Van De Camp, K., Vernooij-Dassen, M. J., Grol, R. P., & Bottema, B. J. (2004). How to conceptualize professionalism: a qualitative study. Medical teacher, 26(8), 696-702.. <https://doi.org/10.1080/01421590400019518>
* Martimianakis, M. A., Maniate, J. M., & Hodges, B. D. (2009). Sociological interpretations of professionalism. Medical education, 43(9), 829-837. <https://doi.org/10.1111/j.1365-2923.2009.03408.x>
* Professionalism: What Does It Even Mean? (Gallup, Cultural Competence, 2022) <https://news.gallup.com/podcast/396323/professionalism-even-mean.aspx> [**PODCAST**]
* Tobia, J. (2014, June 10). Why I’m Genderqueer, Professional and Unafraid | HuffPost. *HuffPost*.<https://www.huffpost.com/entry/genderqueer-professional-_b_5476239> **[BLOG]**

**Then**, reflect and respond to the following question:

* 1. What does professionalism mean? What are some characteristics of professionalism?
  2. How did the articles/class discussion inform what you think it means to be professional? Please explain.
  3. How might you manage interpersonal conflicts that arise due to different perspectives on what it means to be professional?

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| **Please respond to 4.1-4.3 in the box below. Your response should be in paragraph format and be approximately 200-300 words.** |
| Professionalism is a broad and often underdefined notion of the ideal qualities present in workers supporting some larger effort. It’s easy to spot professionalism when we see it, but in stark contrast is difficult to define alone. Many agree that it involves expertise in a specific field of work (technology, medicine, etc.), a code of ethics which govern the actions taken to complete the work, and a general community of individuals practicing in the field. Another characteristic is the conscientiousness of the professional where the person conducts their business efficiently and ethically even when no obvious gain is expected.  The Lawson article reconditioned my notion of professionalism which originally was based only on the skill and quality of work performed. My new and more informed understanding is that the concept of professionalism is that it is founded on the integrity practiced by the professional, in addition to the skill and quality in the work they produce. The qualities of being ethical and having empathy for others that are affected by one’s work are integral to professionalism and the lack of them diminishes the power of the label applied to someone.  I think it makes sense to discuss and explain the foundations of individuals’ beliefs. Generally, most people follow similar core values (compassion, responsibility, competitiveness, etc.) and the differences in perspectives develop from their unique backgrounds and experiences. When you make a concerted effort to understand why people think the way they do, then most people can develop at least an appreciation for the differences from their own and relive some of the tension that might exist. This approach applied to conflicts based on perspectives on professionalism might expose why someone doesn’t consider ethical considerations to be a pillar of the concept. |

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| **Additional Context** |
| Professionalism is complicated, but it’s something we all have to navigate. As you continue in your career, you will undoubtedly find yourself in a situation where how professionalism is conceptualized will impact your ability to either manage others or be managed. To better prepare you for these situations, we want you to reflect on what the term “professionalism” means to you. |