

Summer Reading for Engineering Students (Division 1)



Read **Catastrophe!** (W. H. Freeman and Company) by Fred Bortz, a book about engineering failures and the lessons learned from them. A copy of the book has been sent to you.

Neatly write or type reflections on the following questions. Use **complete** sentences and paragraphs.

1. List two main themes or mottos that Bortz draws from the accidents that he describes that can help you in your work this coming year and beyond.
2. The introductory essay explains that one lesson learned from the Rocket Sled work was that objects should be designed to force the user to install them properly (page 9). Find at least two items in your home that follow this rule. Explain:
 - a. What the object is,
 - b. How it is designed to permit only one way to be attached or used, and
 - c. What you think might go wrong if the design did not block misuse (do not try it yourself!).
3. The Kansas City Hyatt Regency Hotel and Challenger Space Shuttle disasters were both due to a failure of a part. In both of these cases, the parts were not built in a flawed way because the design required it, but because of manufacturing limitations. The objects simply could not be built in one piece. This conflict between what a designer imagines and what can actually be produced using current or affordable technology is a common one. The complexity of our artifacts is impressive. Pick an object and make a *component list* – how many different parts and how many of each are there? Your object can be high tech (e.g., a microwave oven) or low tech (e.g., a dresser). Be creative in your choice. You should not take it apart! Just catalog all that you can see through careful and systematic observation.
4. The above question highlights that one consideration in an engineering design is *feasibility* – whether the design can actually be built as conceived or imagined. List as many other considerations or variables that engineers and designers care about when doing their work. In other words, what are the different goals that they are trying to meet? Are any of these goals in conflict? Give an example either from the reading or another situation where the more you improve your success with one goal, the harder it is to satisfy the other.
5. Briefly describe a time in which you learned from an unsuccessful effort. What did failure help you figure out?
6. Briefly describe a time in which you learned from a successful effort. What did getting something right help you figure out?
7. Which of the two above (failure or success) was easier to come up with examples of? Why do you think that is so?
 - **Optional:** *Catastrophe!* was written in 1995. In the nuclear meltdown essay, Bortz ends by making certain specific predictions (see page 57). What are those predictions? Were they true a year ago? Are they still true in light of the tsunami that damaged the nuclear plants in Fukushima? Research the current situation (you can start by Googling “nuclear power industry”). Are new plants being built? Proposed? What are the key questions in the debate these days?



Division 1

Humanities: Heroes and Villains

Summer Reading

In the fall, we will begin by exploring the nature of myth, and how peoples throughout history have told their stories of creation. What is a myth? Why are myths so important for us as humans? We will then move into an in-depth study of Ancient Greek Mythology as a way of looking at notions of “good” and “evil” in Western society. What is a hero? What is a villain?

Your summer reading assignments will serve as a jumping off point for our first class discussions, so it's important that you come to our first class in September with these assignments completed. Feel free to e-mail me with any questions over the summer.

Assignment #1: Read “What is a Myth?” from Karen Armstrong’s *A Short History of Myth*, which is attached. This is a difficult reading with a lot of tough vocabulary, so as you’re reading, make sure to underline words that you’re not familiar with, look them up in the dictionary, and then write down their definitions. **Come in with this list of words and definitions on Day 1.** This will help us to build a shared, working vocabulary.

Assignment #2: Read the attached packet of creation stories, from the Sami, Hebrew, Aztec, and Persian/Zoroastrian traditions. Do some research on these four cultures, either online or at the library, and try to answer the following questions for each culture, in a few sentences each:

- Where is the homeland of _____ (the Sami people? The Hebrew people? The Aztecs? The Persians?)
- What does their homeland look like? What kind of landscape is it? Do they live in the desert? Near the ocean or rivers? Is it cold or hot, wet or dry, flat or mountainous, etc.? What sorts of animals and plants can you find in these landscapes? Try to find a picture of what each of these landscapes might look like, and bring it in.
- How can you see the landscape of each people reflected in their creation myth/story? For example, in the creation story of the Sami people, you read about reindeer grazing on the holy mountain, which would show that these people come from a place where reindeer and mountains are part of their everyday lives.

Assignment#3: Read *Heroes, Gods and Monsters of the Greek Myths* by Bernard Evslin (ISBN: 0-553-25920-2). Create a chart of major characters (gods, heroes, and mortals) that tracks interesting and important details about them. Please see the attached chart for a suggested format. Do not feel limited to this size!

Name of god/goddess	Interesting detail	Pg #
Zeus		
Hera		
Poseidon		
Hades		
Ares		
Apollo		
Artemis		
Athena		
Aphrodite		
Eros		
Hephaistus		
Hermes		
Demeter		
Dionysis		



Division 2: Constitution Nation

Humanities Summer Reading

In September, we will be studying the American Constitution as well as other forms of government throughout the world. We will be looking at how culture, religion, and value systems impact governments and how forms of government begin. Because we will be focusing largely on the American Constitution for the first part of the year, your summer reading consists of one book and one section of a book that deals with early American colonial history.

Assignment #1: Read *The Widow's War* by Sally Gunning (ISBN#: 978-0060791582). Answer the following questions in at least one paragraph each (5-7 sentences). Be sure to use quotes from the text to support your claims. Also, if you can connect the text to another book you have read or other historical knowledge you have, please do so in your answers.

- How does race affect the characters and the story?
- Gender is central to this story. How would you characterize the role of women in colonial America? How have gender roles changed in America since the late 1700s? Have gender roles changed?
- Who was your favorite character? Explain why!
- Did you like the ending? Explain why!

Assignment #2: Read chapters 3 and 4 of *A People's History of the United States* by Howard Zinn ("Persons of Mean and Vile Condition," "Tyranny is Tyranny"). Answer the following questions in at least one paragraph each (5-7 sentences):

- What surprised you in the chapters you read? Describe in detail and use quotes.
- Do you think this book is anti-American? Some critics have labeled it as such. Why or why not? Explain.
- From what point of view does Zinn write this history? Compare the point of view reflected in *A People's History* with the point of view in any history text you have come across. What do you think about each point of view and why?



Division 3: Hi(story)ography

Humanities Summer Reading

In the fall, we will begin our exploration of history and story by reading Daniel Quinn’s novel, *Ishmael*. In addition to your reading for humanities, all Meridian high school students will be reading *The Immortal Life of Henrietta Lacks* (details below).

Your summer reading assignments will serve as a jumping off point for our first class discussions, so it’s important that you come to our first class in September with these assignments completed. Feel free to e-mail me with any questions over the summer.

Assignment #1: Read *Ishmael* by Daniel Quinn (ISBN: 0-553-37540-7).

Write a 3-page reflection (12-point font, double-spaced), in which you reflect on some of the main questions the novel left you pondering. A good framing question might look like, “What is Mother Culture whispering in my ear without my knowing it?” or, “Who is the intended audience of this novel?” I challenge you not to limit yourselves to these questions, but to honestly explore questions that *you* care about—what the book made *you* think about? These reflections can include both creative and analytical language—in both cases, the point is to think critically. And as always, when you make a claim, make sure to back it up with support, either from previous knowledge, your own experience, information from another class you’ve taken, support from the text itself, or from another text you’ve read.

Assignment #2: Read *The Immortal Life of Henrietta Lacks* by Rebecca Skloot (ISBN#: 978 0307589385). Answer questions #2, #3, #6, #9, #11, and #15. Answer the questions in at least one paragraph (5-7 sentences) using text examples to support your claims.

Division 3 MST Summer Reading for Returning Students

Returning Students, as a final reading for our game theory studies, please read the enclosed essay *The Tale of Happton* by Douglas Hofstadter. Reflect on ways in your life in which you “write postcards” or don’t find the time to do so.



Division 4

Humanities Summer Reading

This year's summer reading includes a famous science fiction dystopia and a true story of a collision between ethics, race and medicine.

Assignment #1: Read *The Immortal Life of Henrietta Lacks* by Rebecca Skloot (ISBN#: 978-0307589385). Answer questions #2, #3, #6, #9, #11, and #15 on pages 378-381. Answer the questions in at least one paragraph each (5-7 sentences) using text examples to support your claims.

Assignment #2: Read *Fahrenheit 451* by Ray Bradbury (ISBN# 978-0345342966). Answer the following questions in at least one paragraph each (5-7 sentences) using text examples to support your claims.

- Montag comes to learn that "firemen are rarely necessary" because "the public itself stopped reading of its own accord." Bradbury wrote his novel in 1953: To what extent has his prophecy come true today?
- Clarisse describes a past that Montag has never known: one with front porches, gardens, and rocking chairs. What do these items have in common, and how might their removal have encouraged Montag's repressive society?
- How does the destruction of books lead to more happiness and equality, according to Beatty? Does his lecture to Montag on the rights of man sound like any rhetoric still employed today?
- Are there any circumstances where censorship might play a beneficial role in society? Are there some books that should be banned?
- If you had to memorize a single book or risk its extinction, which book would you choose? Explain!