**Capstone Report**

Prepare a 2,000- to 2,500-word paper describing the systems engineering approach (engineering practices and principles) used in a systems engineering case study\* of your choosing.

In your opinion, from your experience, and from what you’ve learned in this course, discuss:

* Discuss the standard **systems engineering processes** that are described or can be gleaned from the case study.
* What portions of the **system lifecycle** are addressed in the case study? Discuss how they were handled.
* What did they do right? How and why?
* What did they do wrong? In what way?
* If they had to do it all over again, **how could they do it better**?

\*Some Sources of Systems Engineering Case Studies (*you are not limited to these*):

Air Force Institute of Technology Case Studies (<http://www.afit.edu/cse/cases.cfm>)

1. A-10 Thunderbolt II (Warthog)
2. B-2
3. C-5A Galaxy
4. F-111
5. GPS
6. Hubble Space Telescope
7. Peacekeeper ICBM
8. Theatre Battle Management Core System

A paper in *Systems Engineering*, the Journal of the International Council on Systems Engineering (INCOSE), for example: Friedman and Sage, *Case Studies in Systems Acquisition*, vol 7, no 1, and Bahill and Henderson, *Famous Failures*, vol 8, no 1.

J. A. Moody, W. L. Chapman, F. D. Van Voorhees, and A. T. Bahill, *Metrics and Case Studies for Evaluating Engineering Designs*, Prentice Hall PTR, 1997.

Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences*, Alfred Knopf, 1996. ( medicine, environmental disaster, office automation and sports equipment and safety)

Some other possibilities:

Columbia Accident

Boeing 777

Apollo Program

Central Arizona Project

Manhattan Project

Polaris Submarine Program

Hubble Space Telescope

Lockheed F-117 Stealth Fighter

Northrop B-2 Bomber

McDonnell Douglas C-17 Transport

Learjet Model 60 Business Jet

McDonnell Douglas MD-11

Saturn Automobile

Pinewood Derby