

E80 Spring 2009 Final Report Rubric

1 Abstract 2%

2 Introduction/background 5%

3 Main body 50%

3.A IMU and flight analysis 17%

One of the goals for this class is for you to begin to behave like a professional. For that reason, your version of the rubric gives you lots of hints and suggestions, while the professors' version has details about what we're expecting. You are supposed to exercise your collective professional judgment as to what data you should take, what modeling and calibration you should do, and what your error sources and magnitudes were.

You will want to take advantage of all your sensors and software. Sensors include the rate gyros, the accelerometers, the Pitot-static sensor, the altimeters, the handheld GPS, the video, and anything else you used. Consider carefully how you will process the data from the sensors, and how you will compare the results from the different sensors to get error estimates. Discuss all of the sources of error and their relative magnitudes.

Software includes Rdas, Rocksim, your own flight modeling software, your own data analysis software, and anything else that seems handy. Can you back out unexpected information from your data and software? Did the motor behave as expected? Can you get your drag coefficient?

Are the telemetry data useful? If so, how? If not, why not? Did the flight events happen when and how you expected? Can you compare them in your different data sources?

3.B Vibration analysis 17%

What are your excitation sources? Do the vibration sensors show flight events? Did they saturate? Can you get modal shapes, frequencies and magnitudes? How do magnitudes change over time? Should you analyze data in both domains? How did you prepare for flight? How should you analyze your flight data? Do you have error sources and estimates?

3.C Temperature and pressure analysis 16%

Of what are you actually measuring temperature? Which sensors work? What are your error estimates? What temperatures did you expect to see? Why? Do all of the sensors agree? Explain. Is there atmospheric science available here?

Is there any info from the pressure sensors that you didn't present in the IMU section? Are there details that are more appropriate here than in the IMU section? Are MSL and AGL important?

4 Conclusion 8%

5 Acknowledgement 1%

6 References 4%

7 English usage 30%

7.A Grammar/Usage/Mechanics 15%

___ **Superior** – Free of spelling, capitalization, and usage errors. Few, if any, errors in punctuation. Sophisticated and consistent command of standard English.

___ **Good** – Number and type of errors does not interfere with meaning. Few, if any, spelling, capitalization, or usage errors.

___ **Marginal** – Number and type of errors may interfere with meaning at some points. Some spelling, capitalization, or usage errors. Some fragments and/or run-ons. Some errors in punctuation.

___ **Inadequate** – Number and type of errors obscure meaning. Frequent errors in spelling, capitalization, and usage. Many fragments and/or run-ons. Serious and frequent punctuation errors.

7.B Style/Organization 15%

7.B.i Transitions

___ **Superior** – Ideas/paragraphs/sections are connected by effective transition words and phrases. Precise, interesting, and accurate word choice. Writing style enhances readability of writing.

___ **Good** – Transitions used. Word choice is adequate to convey meaning.

___ **Marginal** – Few or no transitions. Overall style choppy.

___ **Inadequate** – No transitions. Sentence style choppy. Vocabulary limited.

7.B.ii Focus

___ **Superior** – Language choices (degree of jargon) and use of background material reflect attention to audience. Writing has a clear, distinct focus.

___ **Good** – Most material is appropriate to audience. Focus may be unclear at points.

___ **Marginal** – Little evidence of attentiveness to audience. Focus on topic not consistently sustained.

___ **Inadequate** – No evidence of attentiveness to audience. Writing is unfocused.

7.B.iii Organization

___ **Superior** – Generally well-developed ideas have a logical flow. Introductory and closing material is used effectively. Piece has a sense of completeness.

___ **Good** – Ideas may not be in their most effective order. Some main points are underdeveloped. Some attempt is made at introductory and closing material; piece has a sense of completeness.

___ **Marginal** – Order of ideas not entirely effective. Lack of distinction between main and supporting statements. Piece seems incomplete.

___ **Inadequate** – Lack of cohesive plan for presentation of material. No opening or closing. Incomplete.

7.B.iv Elaboration / Support

___ **Superior** – Each main idea is supported by detailed data or reasoning. All details are related to topic. Complete, correct documentation of a wide variety of sources.

___ **Good** – Details and/or data in some paragraphs may be sketchy; details may be insufficient to reach conclusions. All details are related to topic. Complete documentation of a variety of sources.

___ **Marginal** – Details may appear to be listed rather than integrated into coherent flow; some details are irrelevant. Marginal documentation of sources; some key sources may be missing.

___ **Inadequate** – Half or more of conclusions/main ideas are not supported by details. Half or more details cited are irrelevant. Inadequate documentation of inadequate sources.