Submission Instructions

Your assignment will be submitted through Blackboard. Submit a single pdf file for your report and the Python files used to produce the output.

PDF format notes

Assignments will be marked through Blackboard. To make this is as error free as possible you must make sure that your submitted PDF contains all of your figures, all of the pages are correctly oriented, all of the pages are in the correct order and any fonts and line styles used in figures are readable. You may scan diagrams and detailed working, but it is your responsibility to make sure what you submit is readable. If it is not legible it cannot be marked.

Software submission

Submit the Python files used to generate all of the results (especially the figures) in your report. Leave all of the files as text files with the .py extension. If you have many files please zip them into a single file for upload to blackboard. Include documentation in a README file so that the marker knows how to generate your results from the code you have provided.

Report Structure

Your submission is to be a brief technical report. You should structure it in the way you feel is most appropriate (a good starting point is the IMRAD format). While you must address all of the tasks required in your submission, structuring your submission as a series of headings Task 2 through Task N is *not* a technical report — you must make the effort to synthesise your work for the reader.

Your report should have only enough detail that another engineer would be able to recreate your results from the report provided — or to put it another way, another engineer should be able to critically evaluate your work from only the material you provide.

Criteria

Your submission will be marked on the following criteria. *The points listed for each item are not a checklist for addressing that criteria*, but a set of questions that the markers will be asking themselves in determining your grade:

1. Communication and reporting (All Tasks) (20%)

- Is the report appropriately structured?
- Is the writing style appropriate (quantitative, specific, concise)?
- Are all necessary elements included?
- Are the grammar and spelling adequate?
- Are the figures and tables readable and adequately explained?
- Is the report self contained — has everything been documented?

2. Analysis and physical modelling (Tasks 2-5, 7) (15%)

- Is your physical model correct?
- Has the problem been formulated appropriately?
- Has the numerical scheme been outlined?
- Is the selection of the drag coefficient reasonable and justified?
- Is the no drag case correctly analysed?
- Is the method for finding the optimal launch parameters reasonable and justified?

3. Implementation (Tasks 6, 8-10) (30%)

- Does the code produce the results presented?
- Does the code match the method described?
- Is the implementation correct?
- Is the code well structured?
- Is the documentation (including docstrings, comments and the README) adequate?

4. Results (Tasks 7-10) (20%)

- Are the modelled trajectories reasonable?
- Is the zero drag case correct?
- Are the optimal parameters reasonable?
- Does the optimal trajectory actually clear the house?
- Is the timestep chosen reasonable?

5. Discussion and conclusions (All Tasks) (15%)

- Have all of the results been interpreted and explained?
- Has the validity of the results been justified?
- Have the limitations of the model been outlined?
- Are the conclusions reasonable and justified?
- Do the conclusions and discussion match the results?