ATOC4500-002/ATOC7500-002 Class Project

Part 1: Proposal for class project, including the motivation for the project, the goal, a science question to be investigated, and a description of the coding project in words or as a flow chart. Should be 1 page, max 2 pages, 11 font, single spaced, 1 inch margins. Due April 7th by 5pm. One file per group.

Part 2: Coding part of the project. Translate coding plan into actual code and run experiments. Several class periods dedicated to that, but will also involve work outside class. Final code needs to be submitted on presentation day (one per group). Good commenting is a good idea. Due May 1st/3rd (day of presentation)

Part 3: Presentation of class project to the whole class on May 1st/3rd, as a oral presentation with some visual (powerpoint/keynote/pdf/jupyter notebook, etc). Length 13 to 15 min, describing the motivation and goal of the project and then showing some results from the model. If the project failed, describe steps taken to fix it and an analysis of why it failed. Expect questions from the class.

Part 4: Peer evaluation of group work participation and class projects presentation, due May 1st/3rd (more info after spring break)

Class project scope: Should build upon a model we have build in clas. Should allow for some experiments with the new model (i.e., don't just run it once, plan some scientific experiments with the model that can answer a quetsion, i.e., what happens for stronger greenhouse effect, stronger/weaker sun, test sensitivity to parameters/integration scheme, initial conditions, etc). If the project fails, ask me for help and if it fails permanently, describe steps taken to fix it and an analysis of why it failed. Presentation should focus on the motivation and results, but can also include a bit on the method (code modifications made)

Grading: One grade for the group, based on project plan, presentation, and code. 25% of final grade

Special requirement for graduate students: A minimum 3 page and maximum 4 page individual written report (typed, single spaced, min 11 pt font (max 12 pt font), 1 inch margins), with at least 6 references (references can be on additional pages if desired). This report should clearly describe the assumptions made for the project, discuss how these affect the results, describe the key results, and discuss future developments of/additions to the code should be discussed. Results from the model experiments have to be put into a broader context of published research. Due date is the last day of class (May 3rd)