

Fall Semester 2019
Rules and Principles Governing the CIS ASCS
EAS 499 Project and Thesis

Course Coordinator: Prof. Max Mintz

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Summary: The purpose of the document is to delineate the requirements that must be satisfied in order to successfully complete the CIS ASCS EAS 499 Senior Capstone Thesis. In addition to these stated requirements, this document also offers guidance on how to approach this project-oriented course.

Rules and Principles:

1. The degree of mix between theory and application for this project is, within reason, negotiable. The most important thing is that you find a suitable project that meets the requirements stated below, and one that you are really excited about. History shows that lack of excitement on your part leads to degraded performance or even disaster. With a suitable and exciting project, you are much more likely to work on it consistently throughout the term and not leave it all go to the end. Leaving it go to the end results, with high probability, in a disaster, i.e., failure to graduate in December 2019 for “December 19” grads.
2. If you have not already developed a suitable and exciting proposal topic, you need to do this now. Ideally, the energy and insights needed to make this happen are generated internally. It is not unreasonable for us to expect that there are aspects of your educational experience in CIS and the wider world that define a set of possible projects. It is up to you to then sell one of these ideas to a faculty adviser in CIS, or SEAS, or outside SEAS. The adviser implicitly promises to guide you where needed. The adviser will not drag you kicking and screaming to the finish line. Obviously, the adviser needs to be knowledgeable about the project domain and be enthusiastic about the project. **The student is responsible for fully informing the thesis adviser about all EAS 499 course requirements and expectations.**
3. Since this is an EAS 499 in CIS, there should be a very substantial substrate of CIS embedded in the resulting thesis. The amount of CIS substrate is a judgment call that, if necessary, I will help you make. There is no requirement that you write programs as part of this project. This project could be a very extensive literature review about some new CIS-related technology, “X,” that you explore, and show its potential impact on the wider world. A literature review of this new technology must demonstrate that the author has a deep understanding of the scientific and engineering basis for this technology. A review that merely summarizes various sources without showing a deep integrated understanding of the technology will be deemed insufficient.
4. The project proposal should be about two-three single-spaced pages in length and include: (i) your name and email address; (ii) a short project title and date; (iii) your adviser(s) name(s) and email address(es); (iv) an abstract; (v) an introduction; (vi) a description;

(vii) a paragraph about why we should care about this; (viii) expected outcomes; (ix) a schedule; and (x) references. These 10 items are a superset of the requirements imposed by the RAS (formerly the APO). I will review all of these proposals. If there are required changes, the proposal will be returned for revision. **The proposal must be submitted to Desirae Cesar in PDF format in addition to a printed copy.** Do not submit any MSW documents. You must also complete the form:

<http://www.seas.upenn.edu/undergraduate/pdf/ug-aspcredit-request.pdf>

5. **The completed project proposal and completed Applied Senior Project Form requesting academic credit must be submitted by: 12 noon, Wednesday, 4 September 2019. A form without the signature of the thesis adviser will be deemed incomplete.** The proposal will be counted towards the final course grade.
6. There must be a written project final report (Thesis). **This report is expected to be at least a 20-page (single-spaced) document.** Computer programs, tabulated data, extensive figures, and extended bibliographies will not count towards the 20-page minimum requirement. The written project report will be reviewed by your thesis adviser. The thesis adviser will submit a recommended grade to me. I will be responsible for determining the final grade. A late or incomplete report will receive a reduced grade. **The final report must be submitted to Desirae Cesar in PDF format in addition to a printed copy.** Do not submit any MSW documents. **The final report is due by: 12 noon, Monday, 9 December 2019.**
7. Team projects are **NOT** permitted. Each thesis is deemed to be entirely the work of a single investigator.
8. **Other Requirements:**
 - (a) It is understood that the work you submit is your original work. Thus, proper citations to all of your sources must be included.
 - (b) Since your work, in its entirety, should be subject to dissemination to the faculty and students in CIS and SEAS, the application of any **non-disclosure agreements is completely prohibited.**
 - (c) It is also understood that the academic work leading to this thesis was undertaken solely for EAS 499 in fall 2019, and was not a derivative of other papers or other work produced for or in conjunction with other courses, academic programs, or outside work, e.g., internships.
9. **Honors Work in EAS 499:** Recent examples of superior EAS 499 Senior Capstone Theses can be found on the CIS Department's website at:

<http://www.cis.upenn.edu/current-students/undergraduate/courses/index.php>