

MSIA Capstone Project

Who: MSIA students who've completed their course work. These will be students who have completed the 6 core courses, hence will have a strong foundation in the basics of preparing data, applied statistics, applied machine learning, data visualization, big data methods, and the overall analytics process. They will also have completed the 3 courses of their concentration and thus have specialized knowledge based the concentration:

- **Advanced Data Analytics:** Further depth of knowledge in applied statistics and specialized training in handling complex big data
- **Bioinformatics:** Apply computational methods to analyze datasets related to gene sequences, protein-protein interactions, ontology annotations and more
- **Computational Analytics:** Further study into the theory, technology, and algorithms in the development of analytical systems
- **Cultural Analytics:** Use text-mining and exploratory data analysis to study cultural trends and the circulation of digital artifacts
- **Geospatial Analytics:** In-depth study of methods and principles of analyzing geographic data to examine economic, environmental, physical, and social phenomena

What: The elements of the capstone course should include:

- A committee consisting of one faculty mentor as chair and one other person (with approval from the Program Director) to judge the final outcome of the project
- An internship experience consisting of at least 200 hours of work approved by faculty mentor **or** sufficiently ambitious capstone project large enough to warrant completion in no less than 8 weeks. Both options should, ideally, adequately (as determined by committee or chair) incorporate the student's concentration

- A 20 minute presentation of project(s) completed and a minimum 15 page capstone paper.

When: Students are expected to take the capstone course in their final semester. The internship experience should take place within that semester and end early enough for students to have time to prepare and present their presentation and paper. Depending on course availability, students may petition to take their capstone course in the penultimate semester.

Where: We are developing connections with local businesses, but it is ultimately the student's responsibility to procure an internship/project, which may involve nonlocal companies, nonprofits, units at UNCG, and other approved entities.

Why: The purpose of the capstone is to enable students to gain experience in industry or other relevant entities related to their chosen concentration. Through tangible results, students can use their capstone project to build a portfolio and leverage the knowledge gained in MSIA to connect with potential employers.