GIS Capstone (course GIS 6555)
Students enrolled in the PSM (GIS) program are required to complete a two semester Capstone project, under the direct guidance of a qualified mentor and under the supervision of the GIS 6555 Capstone course instructor. The topic and methodology chosen for the project must be related to the student’s course work and interest. Ideally, the Capstone will be a culminating project, integrating material studied in the program. Students currently employed in a GIS position, may elect to use their current position for the project.

Course Description:
In the first semester, students work with instructor guidance to identify and research their project client and topic, and write a background paper outlining previous research and related studies. This semester will cover the following topics: Project Concept and Scope, Project Initiation and Planning, and Preliminary Analysis and Design.

In the second semester, students work in collaboration with local partners, faculty, or the student's current employer to develop, execute, and implement a real-world GIS application. Working independently, students: communicate with instructor and mentor to identify project goals; acquire and prepare spatial data for GIS data analysis; communicate with project partners to assess progress; manage spatial data; and produce necessary outputs for presentation as part of a final report.

This final project should affirm the student's ability to think critically and creatively, to solve practical problems, to make reasoned and ethical decisions, and to communicate effectively. The capstone course serves as documentation of the student’s personal mastery of professional competencies. It is designed to be an integrative experience for PSM students in the GIS specialization.

Goals of the Capstone Project:

1. Organize and execute research project in a systematic and timely manner

2. Outline the aspects of a client’s GIS needs and develop a practical project plan for addressing those needs
3. Design, compile, and develop (1) a spatial database with relevant data from various sources and of various data types, and (2) a set of analytical tools appropriate for the problem/application

4. Assess, select, and apply technologies that will contribute to project objectives

5. Demonstrate a mastery of geographic analysis and cartographic skills

6. Communicate the GIS project process and the results in written, oral, and graphic media at a professional level

7. Demonstrate professional skills of effective communication and project management

**Capstone Project Schedule**

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<th>Fall Semester Start</th>
<th>Spring Semester Start</th>
<th>Summer Semester Start</th>
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<tr>
<td>1.</td>
<td>Initial meeting with Capstone course instructor</td>
<td>June 1</td>
<td>November 1</td>
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<td>2.</td>
<td>Obtain commitment from mentor/Capstone Proposal Form</td>
<td>June 15</td>
<td>November 15</td>
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<td>3.</td>
<td>Draft Proposal</td>
<td>July 15</td>
<td>December 15</td>
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<td>4.</td>
<td>Final Proposal</td>
<td>September 1</td>
<td>February 1</td>
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<td>5.</td>
<td>Draft Project</td>
<td>November 30</td>
<td>April 15</td>
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<td>6.</td>
<td>Project Implementation Report &amp; Site Visit</td>
<td>February 5</td>
<td>July 5</td>
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<td>7.</td>
<td>Site Visit (2)</td>
<td>March 30</td>
<td>August 5</td>
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<td>8.</td>
<td>Final Defense and Presentation</td>
<td>End of the semester</td>
<td>End of the semester</td>
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1) **Consult with your advisor** to discuss the Capstone as part of your program of study in GIS. Your advisor will identify who the course instructor for the Capstone will be. Then **Communicate with Capstone (GIS 6555) Course Instructor.** The purpose of the discussion is to outline preliminary ideas with an aim to focusing the topic into a project that is doable in the two semester time frame, identify possible qualified mentors, and review the course timeline. Initial contact should be made by email.

2) **Choose a Mentor.** The mentor may be a UWF faculty member, an appropriate person from the student’s place of work, or any expert with appropriate credentials. The mentor is the
person who will guide the substantive progress of the capstone and, ideally, the mentor is currently involved in some aspect of the proposed study. Mentors who have not previously worked with UWF must be approved by the course instructor. The course instructor will communicate directly with the mentor regarding their task in working with you (the student), deadlines for the project, the grading policy, etc. The GIS program does offer a stipend to mentors, and the course instructor will arrange for this directly with the mentor. Please complete the Capstone Proposal Form at this time.

3) Submit a Draft Proposal. The proposal is a detailed description of the research, its objectives, the GIS methods to be used, and the anticipated results. The draft proposal can be preliminary, but must be submitted by the above date. Students should work closely with their mentor to complete the proposal. The length of the proposal should be about 2 pages.

4) Submit Final Proposal. The proposal includes a statement of purpose with a clear definition of the goals of the project and the rationale for these goals, background information, suggested data sources to be used, a detailed explanation and justification of the GIS methodology and techniques to be used, a description of the anticipated results and outcomes, anticipated final visualization of the output, and a bibliography. An adequate proposal is usually 4-5 pages long.

5) Draft of Project Report. This is to be submitted to the mentor and course instructor by the above dates. Note that the mentor may require additional deliverables during the project. An adequate project length is 15-20 pages, double spaced, not including any map inserts. Students are highly recommended to label, as appropriate to their project, the sections of the report according to standard scientific format, Introduction, Literature Review, Statement of the Problem, Data, GIS Techniques and Methods, Anticipated Results and Discussion, Proposed Conclusions, and Cited References.

6) Project Implementation and Site Visit. The student will provide the instructor a short 1-2 page update on the Capstone project, any hiccups or snags, success stories, and overall confidence in the project. The instructor may also request to see deliverables such as maps or database analysis. During this time, the Capstone instructor will establish a formal meeting with all included parties.

7) Secondary Site Visit and Follow up. The course instructor will designate a time to discuss project needs, issues, and final delivery. The mentor may be included if deemed necessary.

8) Final Project Report and Deliverables. The following are the deliverables for the final project:
   - Final report as described above with the addition of actual results during Semester 2 execution and implementation. Students are expected to updates Semester 1 report to also include updated conclusions.
   - Map portfolio – depending on the visualization method chosen, a map portfolio containing maps relevant to the project should be developed. For the purpose of submission, these may include PDF maps, web mapping applications or other visuals;
• Presentation – students are strongly encouraged to present their project at a local GIS conference or venue. If this is not possible, consult with the instructor for alternatives.

The mentor should approve the final project report and the map portfolio at least one week before the end of the semester and suggest a grade to the course instructor.