

Capstone Syllabus

This course provides a bridge between the study of GIS in class and its application in an applied project. As the name implies, it is the “final” course of the program and serves as the final evaluation of your academic career at ASU.

- Students will present a GIS project to a group of reviewers and classmates.
- It is expected that you will work through project topics on your own (either individually or in groups), including programming questions. It is also expected that you will keep in contact with instructors if you have questions or run into problems during your work.
 - While you are expected to work through the project, as well as research and identify solutions to problems you encounter, this does not mean that instructors are not available while you are working on your capstone. If you need feedback, encounter a problem that you cannot resolve, or have a possible significant change to the scope of work please be sure to contact an instructor for assistance or suggestions.
 - Times for open lab meetings where someone will be present for programming or similar questions (there will be 2-3 during summer) will be announced during summer session
- All students will be responsible for demonstrating how GIS technology has enabled them to address a spatial problem more effectively either through development of an app, tool or web map and/or analysis of a spatial problem.

Each final grade will be based on the following percentages:

15% Proposal

10% Progress Report 1

10% Progress Report 2

30% Execution of GIS project and final product

10% Written Report

20% Presentation

5% Handling of questions during presentation

You cannot receive a passing grade for your capstone course if you do not complete all of the required work (proposal, progress reports, meetings with mentors, presentations, papers, project, and other items as required).

Goals and Guidelines: The Capstone course is meant to challenge you to integrate your total university experience. Thus, it includes both written and oral presentation parts. To achieve the integration goal, it should be an applied project consisting of the following:

PROPOSAL

You will prepare a written proposal that presents a well-defined topic, with a statement of the problem and a proposed method of attacking the problem, and key references. The proposal should be approximately 6-8 pages in length, double spaced, with 1-inch margins and 12-point Times Roman (or similar font) (excluding figures, tables, references and appendix). Submission due dates are the following:

- **Friday March 6 at 11:59 PM:** Submit your capstone group (provide names of each person in your group)
- **Friday March 6 at 11:59 PM:** Last day to submit your capstone topic idea for review
- **Friday April 17 at 11:59 PM:** Submit your proposal as a Word document via Canvas (if you have a lot of figures and are worried about formatting problems, you can submit a PDF in addition to the Word document). Use the naming convention “GX Capstone Proposal” where X is your group number. For example, if you are Group 2, your submission would be named “G2 Capstone Proposal”
 - This proposal should be written as your final proposal. The only revisions that will be allowed will be related to your project and not due to problems with the writing or structure. **This should not be a draft.**
- **Wednesday April 22:** You will give a short proposal “presentation” (think elevator pitch, so no PowerPoint) during GIS 640 in the lab (5th Floor COOR). More information will be sent out once we have the group information.
- **Wednesday April 29:** Any extension from this date will be provided in any comments sent to you. This allows time to make any adjustments based on comments during your pitch or based on your written proposal. Submit your final proposal as a Word document via Canvas. Use the naming convention “GX Capstone Proposal Final” where X is your group number.

In your proposal, you are expected to provide most of the pertinent information that could be included in the final paper (so what are you doing, why is it important to work on, and how is your project going to accomplish your stated goal). You need to have a project idea, proposed methodology, at least some of the data or knowledge of where you will get the data, and any foundation research completed and included in the proposal. You have to do a lot of the research and planning as you are writing your proposal. This is similar to what was required for your GIS 604 proposal.

Note: You must get approval of your proposal. This is not optional.

Late submissions for any of the proposal work will result in a zero for that portion of the project. However, even if late you must still submit your proposal for review. This is an opportunity to have your idea, methods, data etc. reviewed for any significant issues before you are past the point of no return.

Adjustments from your proposal plan. Any changes to your capstone that represent a significant change, must be submitted in writing and approved.

Group Work. Students have the option of working on the capstone individually or in a group. We encourage people to work as part of a team as it allows for more complex projects and people for you to work through challenges with. If you have something for work or that you are passionate about, individual projects are also an option, but they should not be your only consideration.

Allowable group size is 2-3 students. Please do not ask for larger group sizes, as additional people require a larger project, which can be challenging to manage in the allowable time.

If you are working in a group, when preparing your proposal, identify each group member and clearly outline the anticipated roles and activities for each person. We realize that this distribution of work and responsibilities may change as the project progresses, so this distribution of work should also be covered clearly in the final project.

PROGRESS REPORTS

There are two progress reports that should be submitted during summer.

- The first progress report is due on or before end of day **Wednesday June 3 at 11:59 PM**
- The second progress report is due on or before **Saturday July 1 at 11:59 PM**

Each report should be a 1-2 page statement on the status of your project. The progress report must be more than general comments such as

- we are working on it,
- we are making good progress, or
- this really is a good project,

By this point, you should be well into the project and able to submit meaningful information about work completed up to this point. This means screen shots of development work, preliminary results of analysis, maps, data etc.

The progress report should be submitted as a Word document via Canvas. No email submissions or hard copies will be accepted. Sample website links or working applications can be provided as well.

If you ran into problems during your work and had to revise your project, this is also the place to provide that information.

CAPSTONE PAPERS

On or before **end of day Friday July 24**, you must submit a technical report that includes the sections that fit your project (sections typically include -Title, Author, Introduction, Literature Survey, Data, Methods, Results, Discussion and Analysis, Conclusion, Future Work and References).

Submission should include a PDF and Word document. The paper must be double spaced with 1-inch margins and 12-point Times Roman Font (or similar).

Depending on the project type, your report may be a more traditional project report with longer text documenting your work, a shorter technical report plus an app, or a shorter report plus a final portfolio of work, such as

- If you do a traditional analysis project (i.e. evaluating the impact of access to open space on obesity and diabetes rates in children) your work product might include a longer report with the usual sections previously described
- If you develop a web or mobile app, your work product might include a shorter technical report with a working web or mobile app (where the finished app can be demonstrated both in your presentation and provided to us to evaluate)
- If you develop a spatial database, web maps or map books for a project or internship, your work product might be a shorter technical report and a portfolio of the work

Please indicate in your proposal which option you think you will be taking for your final work product.

Please note the following about length:

- There is no page limit (maximum or minimum). The key is to provide sufficient information in a well-written and organized document.
- Short does not mean three pages where you give bullet point or step-by-step technical documentation of your work and pages of copied code. At the minimum for apps, websites and databases, you need to provide foundation/background literature or research, the reason for the project (such as is it a new approach, what is the problem, how is it different from prior work), support for your methodology/approach, etc. All papers will be evaluated, completing an app, website or database does not negate the importance of a well-crafted document.
- Longer is not necessarily better. Your final paper will be evaluated based on content and presentation. An overly long, needlessly wordy, poorly structured, repetitive paper with irrelevant sections and the feel that you included everything but the kitchen sink just to be sure you didn't miss anything will almost certainly be returned for revisions.

Your written work will be evaluated and comments provided. Major issues with the written document will be identified and revisions will be requested. Revisions can be due to issues with the completed work or the written document. You will not receive a grade for the capstone course until a final version of your work is submitted and approved.

For the written report, please be sure to take the time to write a draft, and then read and revise to make the work well written and succinct as possible. Technical writing should not include a lot of “I...” statements or long narratives about every single step you took. Step by step papers are not appropriate for technical reports unless you are providing a manual of some sort (this would need approval prior to starting work).

PRESENTATIONS

The capstone presentations are **scheduled for Tuesday July 28 and Wednesday July 29 starting at 5:30 each night**. The link for the presentation will be provided on Canvas the week of presentations.

Presentation (defense) of your work will be completed at the end of summer to your classmates, instructors and other members of the School.

- For individuals, presentation should be for about 20 minutes including about 5 minutes for questions and discussion.
- For groups, presentations should be about 30 minutes including 5-10 minutes for questions.

Presentation time limits will be adhered to for all presentations. Once you reach your time limit, you will be asked to stop, and questions will begin. Please practice your presentations.

Your presentation day and time will be assigned and sent out to you soon after the proposal submissions. You will have the chance to request your preferred day, but this is not guaranteed. If you obtain a job out of state, please let Stephanie know so that we can work out the details of which day you will present. Please note that alternate presentation days will not be available except for in the case of documented illness or emergency.

Virtual presentation options will be allowed for limited circumstances. Please request this well ahead of time to determine whether virtual presentations will be approved.

It is expected that you will attend the presentations both to support your classmates and to learn about what they have completed for their work.

CAPSTONE GRADING

The purpose of the progress reports is to identify any individuals or groups who are not making sufficient progress towards completing a successful capstone, meaning they are at risk for getting a grade of B- or lower. If we identify any concerns with your progress

report(s), we will provide feedback, and possibly ask for a meeting to help you identify how to address the issues.

Please note, submitting a progress report that shows sufficient progress or correcting issues identified in a progress report is not a guarantee of any specific grade on your final work. While failure of the capstone is not the norm in the program, insufficient work may result in a grade of B- or lower. In this case, the capstone does not pass. If this occurs, the following options will be made available:

- For grades of B-, C or D, students will be given one chance to revise and resubmit their work. The student will be provided feedback about the issues with their work, and will then be required to submit a written explanation of what they will do to address the concerns. We will review this with the student, who will complete the work either before the end of summer session or during fall semester, depending on the extent of the revisions required.
- For grades of E, this is considered a major revision to the work. The student will be provided feedback about the issues with their work, and will then be required to submit a written explanation of what they will do to address the concerns. We will review this with the student, who will complete the work during Fall and possibly Spring semester, depending on the extent of the revisions required.

If revisions are required, you will be provided with comments and revision instructions. Deadlines for the final revised work may vary depending on the revisions and when the work was presented, but the deadline provided to you will be no later than **Sunday August 9**.

Your initial capstone submission should be written as your final submission. The only revisions that will be allowed will be related to your project and not due to problems with the writing or structure. **This should not be a draft.**

Academic dishonesty

There is a zero-tolerance policy for cheating. If you do not understand the information that follows, it is your responsibility to ask for clarification or to find additional information on your own using the link provided below. Indicating that you “did not know X was cheating” or were not aware of the policies does not remove responsibility.

Copying another’s work, either in the class or from another class, and turning it in as your own work, or sharing your work is strictly forbidden and constitutes academic dishonesty. Other examples of academic dishonesty include but are not limited to plagiarism and not citing sources.

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions for academic dishonesty on the capstone project include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty

(indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal.

We will strictly adhere to the College of Liberal Arts and Sciences' academic integrity and plagiarism policy. Information about the policy can be found at: <http://provost.asu.edu/academicintegrity>

RESPONSIBILITIES

Please read this syllabus carefully, and review as you move through the project. It is your responsibility to know what is in the syllabus and to submit documents according to the schedule.

Please check Canvas regularly throughout the semester, as **there may be changes to the syllabus or schedule throughout the semester**. Any changes will be announced via Canvas. It is your (the student's) responsibility to check your email and Canvas and thus be aware of these changes.

Similarly, program communication will be through the class Canvas website and ASU email. You are responsible for frequently checking the website and your email for any announcements made about the course. Saying that you "did not receive the email or see the announcement" will not be considered acceptable excuses for not being aware of changes to the schedule, announcements, etc.

Policy on Threatening Behavior

All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

Student Services Manual [SSM 104-02](#) "Handling Disruptive, Threatening or Violent Individuals on Campus"

Disability Resource Center

Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. The DRC Tempe office is located on the first floor of the Matthews Center Building. DRC staff can also be reached at: (480) 965-1234 (V) or (480) 965-9000 (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc.

Title IX Reporting

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish to discuss any concerns confidentially and privately.