# UW – Data Science Capstone Project

## Overview

The DS 785 Capstone course is intended to draw from previous coursework in the MSDS program through the development and implementation of a semester-long project that the student selects and develops.

The end product is intended to reflect the integration of knowledge and information drawn from their other MDS courses, personal experiences, and involvement in the project they undertake.

The two primary objectives of the MSDS 785 Capstone course are:

1. To identify and develop a capstone project that will engage the student in the field of data science and contribute to his/her career and employment opportunities in the field of data science.
2. Identify data science theories and concepts that will enable the student to structure and organize a final written report of professional quality that can be added to their resume and portfolio. The report will summarize the research, interviews, data collection and analysis, and integration of material focused on the topic of the student’s choice. The Capstone project should closely reflect the type of project work found in business and work settings.

There are a number of options the student may choose for their Capstone project. Some of the more popular options are as follows:

* Internship
* **Client Based Project**
  + A client based project involves working on a specific project developed in conjunction with a client. These can be accomplished as a volunteer based project.
* Developing a Business Plan
* Case Studies
* Development of a Survey

Additionally, an additional requirement in the Capstone course project is that at least two interviews are conducted with individuals who have experience in the field, profession, or business associated with the student’s project. This requirement not only provides current research material but can also provide the student with contacts in their area of interest. This requirement helps the student to build a network related to their area of interest and also possibly keep them informed of future job opportunities.

Beginning with a project timeline development, the student will build their project from a proposal to a finished project, with written activity updates due every other week during the semester.

## Requirements

It is expected that the student will most likely spend at least 10 hours a week on research, writing, interviews, and organization of materials.

The first week of class the student is required to submit a project idea which will briefly identify their chosen project topic.

In week two of, the project proposal is submitted. This is a fairly significant document that includes a description of the students project and why it's worthy of receiving college credit. A timeline that divides the project into weekly increments will also need to be submitted.

The instructor will then review and the proposal in regard to how well it fits with the student’s career goals. After week two, with approval of the project, the student will be ready to move forward and take the necessary steps to complete their project as outlined.

## Client Based Project

#### Proposal

In a client-based project, the purpose of the proposal will be specifically created between the student and the client and it will describe what the two have agreed on upon. The student will want to identify and discuss the organization they are working with, the client contact and position indicating that there is an arrangement between the student and the organization in terms of the expected outcomes.

As stated before, the key part of the proposal is the development of the project timeline that will show the students workflow throughout the semester. It will serve to track the progress of the project as it moves towards completion

**IMPORTANT**: The project proposal should explain how the project will be useful to the client and why the project is worthy of academic credit.

While the client is not obligated to implement findings from the project, the proposal should acknowledge that the project could be used for real and practical purposes and that the student will provide information necessary to implementing the findings if the organization should choose to do so.

The proposal may need additional clarification after instructor review, in which case the student will need to obtain client approval of any changes made.

#### Project Options

There are two project options for a client-based project:

* a client-created project and
* a student-proposed project.

There is an advantage of a client-created project, there is typically more interest and resources available for undertaking the project since it likely meets an organizational need.

If a student-proposed project is chosen it should be well researched and tailored to the needs of the organization in addition to being interesting to the student.

The final written agreement should clearly meet both the capstone objectives and the client's needs.

#### Development

The first task is to establish a timeline with, for example, the submission target dates for the semester-long project. It’s important that the project be doable within the timeframe of a single semester. When you're working with a client, the student should try to identify five sections or checkpoints along the path to completing the project.

A client-based project requires that the student makes a commitment to the client in terms of project completion. The client must be confident that work will be completed in exchange for time spent advising and mentoring the student, and that the established meeting times and dates will be observed. The student also need to be respectful of the client's time and keep client contact to the agreed upon number of meetings or other interactions.