



## **Master of Science in Applied Data Analytics**

### **Capstone Project (DATA5130) Guidelines**

Students pursuing the Master of Science in Applied Data Analytics (hereafter: MS-ADA) must complete the 30-credit hour program by a Capstone project (course #: DATA5130). This document outlines the guidelines and requirements on the project.

The MS-ADA Capstone Project is an effort-requiring task that should ideally begin during the first year in the program. Capstone projects will draw upon areas of interest to the students. The Capstone Project allows students to prepare to enter the workforce or pursue further education by developing a submission-quality project report that may or may not be submitted to an actual organization.

A Capstone project is a variable credit course with a maximum of 3 credits. It takes the place of a program course requirement. The project must be completed within a year once registering for the Capstone credits.

Capstone projects often take their inspiration from projects, papers, and experiences related to course work in the degree program. Students in their first year are recommended to start exploring potential project topics in consultation with the academic advisor and other faculty members in the program. Students should take a proactive role on discussing the potential topics with the academic advisor and the faculty whom the students would like to identify as the project advisor. The project advisor is a faculty in the program who agrees to oversee and advise on the student's Capstone project.

Students are suggested to complete the project over two consecutive semesters. It is very challenging to complete an entire project process of appropriate scale and produce a quality report within the beginning and end of one semester. Students should plan to begin the project in one semester and complete the project including the final report in the following one. Students must meet with their project advisor on a regular basis throughout the semester in order to obtain feedback on outlines and drafts, come up with deadlines and discuss progress towards completion.

The following example Capstone Project timeline is recommended for students who plan to complete the program in **12 months**. Note that if a student begins the program in the fall, the third semester would be the summer.

**First semester** – Explore potential topics while taking the required courses in the program.

**Second semester** – Identify the topic and select the project advisor. Register the capstone credits with the advisor. Start working on the project in consultation with the advisor.

**Third semester** – Register the rest of the capstone credits with the advisor. Complete the project with a final report.

The above timeline is only suggestive. Students are responsible to adequately plan work to meet their graduation plan and communicate the plan clearly with the project advisor. If the project is not completed, then the program requirement will be considered incomplete, and the students will not be able to graduate as planned.

To ascertain students' abilities for independent work and their capacity for self-directed inquiry, capstone projects must demonstrate in what ways individual graduate students have researched, developed, extended, and applied the ideas and strategies under investigation.

The final draft of the project report should be divided into chapters/sections and include proper citations and a bibliography. It is expected to minimally contain the following sections or similar.

- Abstract,
- Motivation statement,
- Literature review that considers relevant and related research,
- Methodology,
- Data and data analysis,
- Estimation results and interpretations,
- Conclusion and discussion,
- List of references.

Due to the inter-disciplinary nature of the program, students should consult with the project advisor to make sure that the project report have the format and style of a substantial scholarly article in the respective field. The final Capstone report must present the student's own research and relate this to existing scholarly/practical understanding of the topic and/or field.

If a student is going to use existing/archival data, then the following conditions apply-- (a) approval of the project advisor, (b) explicit (and preferably written) permission of the owner of the data for its use in the project, and (c) an explicit statement from the university's Institutional Review Board (IRB) that the use of the data for the project is acceptable.

If a student is going to gather his/her own data, then the following conditions apply-- (a) approval of the project advisor, and (b) an explicit statement from the university's IRB that data gathering, storage, and use meets the institution's research ethics research requirements.

If a faculty member working with a master's student leaves Detroit Mercy for any reason before that student has completed his or her degree requirements, it may not always be possible for that faculty member to continue working with the student as an advisor. In such cases, the department will work with students to help them identify a new project advisor.