ANLY 699: Applied Project in Analytics

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Office Hours: contact for an appointment
Class Hours: TBD
Office: Microsoft Teams
Classroom: Microsoft Teams

Table 1. Course Schedules		
Day & Time	**Date(s)**	**Location**
T 7:00 PM-8:30 PM	**1/10/2026 - 4/24/2026**	**Synchronous Virtual Classroom, Online Virtual Classroom**
S 8:00 AM-1:00 PM	**1/10/2026 - 1/10/2026**	**Harrisburg University Main Campus, 326 Market Street Building, 1114**
S 8:00 AM-1:00 PM	**3/28/2026 - 3/28/2026**	**Harrisburg University Main Campus, 326 Market Street Building, 1114**

Course Description

This course allows students to pursue an area of interest within the broad scope of analytics. In the first part of the course, students will review the fundamentals of data analytics methods and apply them to their project. The second part will be dedicated to performing data analysis, writing, and individual advising with the faculty.

Learning Objectives

At the end of this course, students will develop a solid research thesis or an applied project. - Improve logic, organization, and style of writing. - Be able to evaluate and revise.

Prerequisites

- GRAD 695

Program Goals Assessed

Program Goal 2. Design and execute insightful analyses

2. Select the appropriate analytical technique (Results Section)
3. Determine appropriate data requirements and process the required format (Results Section)
4. Defend the choice of algorithms used to answer a research question (Results Section)

Program Goal 5. Recognize and analyze ethical issues related to intellectual property, data security, integrity, and privacy

2. Demonstrates appropriate use of data (Results Section)
3. Understands bias in analysis (Final Paper)

Program Goal 6. Communicate effectively with a variety of audiences

3. Articulate through a written report comprehensive, but concise, relevant information (Final Paper)
4. Able to develop and use persuasive arguments about technical topics to non-technical audiences (Final Paper)

Assignments

1. Quizzes: Short quizzes are designed to test critical knowledge of writing and data handling. You will have 3 attempts at each of these.

2. Writing Assignments: Writing assignments will help you begin to piece together the final capstone paper. These assignments are meant to be drafts for sections of your final paper. You will have 3 attempts on each of these, and revisions/edits will be a key component.

3. Consultations: You are required to attend individual consultations with me throughout the semester to ensure sufficient progress on your capstone project. Attending these will constitute the majority of your Attendance and Participation grade.

4. GRAD 695 Draft: You will turn in your final proposal from GRAD 695 with revisions based on feedback from your instructor. You should not simply turn in the same proposal as in 695. You should make an effort to improve it. Writing is an iterative process, and there are also improvements to be made.

5. Final Paper Draft: This will be a complete draft of your final paper. Note that the purpose of this is to ensure you are making sufficient progress toward your final paper and to allow for a final chance to receive feedback. You will receive full credit for this assignment as long as all components are included; there is only one attempt. *However*, you will be expected to take feedback on this assignment, which you will receive, and incorporate it into the final paper.

6. Final Presentation: At the end of the semester, during the final executive session, you will give a 10-minute presentation on your capstone project.

7. DOI link: You are required to submit your manuscript to a reputable preprint server to obtain third-party approval of your thesis.

8. Final Paper: This is the culmination of your time in the program. This should represent your very best work and highlight what you have learned in the Analytics program. One attempt for submission. Your final paper should have all the elements of a publishable article: abstract, introduction, literature review, methods, results, and discussion. With everything, it should be roughly 25~30 pages.

Course Policies

1. Canvas: We will use Canvas for all course activities.
2. Attendance: Each week, we will have a live session for the course lecture. You are expected to attend these sessions. [See Table 1]
3. **Late Assignments: As assignments build on each other, submitting assignments by the deadline is very important. Every day an assignment is late is 10% off the final score achieved. The final deadline (April 14, 2026) is 10 days before the semester end date (April 24, 2026).**

   Class: ANLY 699-50-A/CBDS 699-50-A-2026/Spring Applied Research Project

   Student's name: _____

   Student's signature: _____

   Date: _____
4. Email: Email communication must be conducted professionally, addressing your teachers using academic titles (Dr. or Professor). Use the text subject line to include your course number, semester, and content. Dr. Huang prefers to use MS Teams for class communications.

Grading

As the majority of the assignments are designed to contribute to the final capstone paper, you will have 3 attempts at every assignment (this excludes the final presentation and the final paper; for both of these assignments, you will have one attempt).

- 15 % Writing Assignments and Quizzes
- 10 % Presentation
- 10% In-Class Assignments
- 15 % Attendance and Participation (including Consultations)
- 50 % Final Paper (695 Proposal, Draft, Final, and DOI)

Final grades will be based on the university's graduate grading system:

1. A 90.00%+
2. B 80.00% - 89.99%
3. C 70.00% - 79.99%
4. F < 70.00%

Proposed Course Schedule

Executive Session 1

- Introduction, Syllabus Review
- Project Discussions
- *Assignment:* Plagiarism Review Quiz

Week 01

- Review GRAD 695 Proposal
- If needed, IRB Submission
- *Assignment*: GRAD 695 Proposal

Week 02

- Data Collection and Documentation

Week 03

- Writing Tips

Week 04

- Data Cleaning and Processing
- *Assignment*: Writing Quiz

Week 05

- Data Visualization
- *Assignment*: Data Description

Executive Session 2

- Communicating Statistics and Writing a Results Section
- *Assignment*: Methods Section Revision

Week 06

- Analytic Plans and Best Practices
- *Assignment*: Data Visualization

Week 07

- Individual 20-minute Consultations
- Review Analyses and Models
- *Assignment*: Data Handling Quiz

Week 08

- Writing a Discussion Section
- *Assignment*: Results Section Draft

Week 09

- Abstracts, Appendices, and Other Such Sections

Week 10

- Writing Tips and Publishing
- *Assignment*: Discussion Section Draft

Week 11

- Presenting Science
- *Assignment*: Abstract Draft

Executive Session 3:

Final Presentations

Week 12

- Final Presentations, Individual Consultations
- *Assignment*: Final Paper Draft

Week 13

- Final Presentations

Week 14

- Individual Consultations

HU Core Competencies

At the conclusion of this course a student will have met the following core competencies that reflect HU's mission:

1. Critical Thinking and Problem Solving skills are demonstrated by the student's ability to: Identify and clarify the problem, Gather information, Evaluate the evidence, Consider alternative solutions, and Choose and implement the best alternative.
2. Communication - The core communication skills are demonstrated by the student's ability to: Express ideas and facts to others effectively in a variety of formats, particularly written, oral, and visual formats, and Communicate effectively by making use of information resources and technology.

3. Information Technology - The students will be making effective use of the .NET information resources and technology.

Statement of Academic Integrity

According to the University's Student Handbook: Academic integrity is the pursuit of scholarly activity free from fraud and deception, and is the educational objective of this institution. Academic dishonesty includes, but is not limited to cheating, plagiarism, fabrication of information or citations, facilitating acts of academic dishonesty by others, unauthorized possession of examinations, submitting work of another person, or work previously used without informing the instructor, or tampering with the academic work of other students. Any violation of academic integrity will be thoroughly investigated, and where warranted, punitive action will be taken. Students should be aware that standards for documentation and intellectual contribution may depend on the course content and method of teaching, and should consult the instructor for guidance in this area.

Honor Code - We as members of Harrisburg University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work. As a Community of Learners, we honor and uphold the *HU Honor Code*.

Disability Support Services

- Please refer to the Harrisburg University 2020 graduate catalog for specifics regarding requests for accommodations by qualified individuals with a disability
- link

Writing Services

- Please refer to the Harrisburg library for help with writing and research.
- Library: link

University Resources

- Canvas Support Portal link