

Payal Mehndiratta

CHIP 490 Data Analytics in Healthcare (1.5 credits, remote-synchronous via zoom)

Thursdays only 6.30 pm – 7:45 pm

Carolina Health Informatics Program

The University of North Carolina at Chapel Hill

Course Description

Data analytics has tremendous scope when it comes to Healthcare Industry. The high volume of data can be beneficial only when it can be converted into actionable insights to improve patient outcomes. These outcomes can range from the prediction of critical illness to cost savings by improved operational efficiencies. Data analytics in healthcare falls under 4 different categories:

- Descriptive analytics
- Diagnostic analytics
- Predictive analytics
- Prescriptive analytics

This course is focused on Descriptive analytics primarily. Descriptive analytics is the most basic type of analytics organizations use to measure performance year over year by monitoring their KPIs (Key performance indicators) and reporting purposes. In this class the focus will be on data profiling, querying data using Google's Big Query, Data analysis, and reporting in excel, Testing, and Validation, Project life cycle, Data visualization in Google Studio, etc. This course will provide an overview of Data Analysis and reporting, via Big Query and Excel. The course will review several use cases in healthcare. The course is project-oriented and will require students to understand the requirements before analyzing the data for designing and integrating data from multiple sources or reporting purposes. Additionally, the course will cover:

1. data warehousing concepts,
2. Translating business requirements into technical requirements,
3. Waterfall as well as agile project
4. UAT testing and test documentation
5. User stories and acceptance criteria
6. Data visualization using google studio

Objectives include learning about the following areas:

- Data warehouse, ETL, ELT, Fact, and dimension tables
- Data profiling
- Basic SQL to analyze the data
- Pivot tables and dashboard in Excel
- Different Use cases in healthcare
- Google Big Query and Google Studio

- Understanding and documenting business reporting requirements
- Business requirements to technical requirement documentation
- Testing and Validation for accurate data
- User stories and their acceptance criteria for Agile projects
- Hands-on learning experience

Course requirements

20% - Classroom Lab exercises

60%- Assignments/Project

20% - Class participation

Honor Code:

All students are expected to follow general classroom decorum and respect the rights of everyone to have a safe and collegial environment for learning. Violations of general academic practices and norms will not be tolerated. Please refer to the Carolina Honor system to learn more about basic academic expectations at UNC at Chapel Hill:

<https://studentconduct.unc.edu/honor-system>

Do not hesitate to contact the instructor if you have any questions about the honor system and related matters.

Contact Information:

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