GENERAL GUIDELINES for DATA SCIENCE COURSE SEQUENCING and SCHEDULES

The only course a DS student can take without a prerequisite is

**FIRST**

DS 501 - INTRODUCTION TO DATA SCIENCE

Courses in Data Science, Computer Science and Math require programming experience and will be learned in DS 501.

First semester - if your CS skills are limited and/or you need to refresh your python/computing skills

**FIRST**

CS 5007 - INTRODUCTION to PROGRAMMING CONCEPTS, DATA STRUCTURES and ALGORITHMS

If your statistics skills are limited and/or you need to refresh them, first take

**FIRST**

DS 517 - MATHEMATICAL FOUNDATIONS FOR DATA SCIENCE

Suggested order among statistics courses

**FIRST**

MA 511 - APPLIED STATISTICS for ENGINEERS and SCIENTISTS (can be skipped)

**SECOND**

MA 543/DS 502 - STATISTICAL METHODS for DATA SCIENCE

**THIRD**

MA 542 - REGRESSION ANALYSIS or

MA 554 - APPLIED MULTIVARIATE ANALYSIS

Suggested order among data management courses

**FIRST**

CS 542 - DATABASE MANAGEMENT SYSTEMS or MIS 571 - DATABASE APPLICATIONS DEVELOPMENT

**FIRST**

CS 585/DS 503 - BIG DATA MANAGEMENT or

**FIRST**

CS 561 - ADVANCED TOPICS in DATABASE SYSTEMS or

Data Management course prerequisite to Business Intelligence

**FIRST**

CS 542 - DATABASE MANAGEMENT SYSTEMS or MIS 571 - DATABASE APPLICATIONS DEVELOPMENT

**THEN**

MIS 584 - BUSINESS INTELLIGENCE (prerequisite is one data management course)

Analysis Courses

**FIRST**

CS 584 - KNOWLEDGE DISCOVERY and DATA MINING

**THEN**

CS 539 - MACHINE LEARNING

Mixture of Courses

**FIRST**

DS 502 - STATISTICAL METHODS for DATA SCIENTISTS AND

**FIRST**

CS 585/DS 503 - BIG DATA MANAGEMENT AND

**FIRST**

(CS 548 KNOWLEDGE DISCOVERY and DATA MINING and/or

**FIRST**

MKT 568 - DATA MINING BUSINESS APPLICATIONS )

**THEN**

CS 586/DS 504 - BIG DATA ANALYTICS

Core DS Courses should be completed before DS Special Topics courses

OR

CS 525 - DEEP LEARNING

OR

CS 525 - UNSUPERVISED LEARNING

OR

DS 595 - URBAN PLANNING

OR

DS 595 - INFORMATIONAL RETRIEVAL

OR

CS 525/DS 595 ...........

The Graduate Qualifying Project is to be taken during the last semester of the Data Science Program

**LAST**

DS 598 GQP Graduate Qualifying Project

09.05.2018