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*
THIRD	**MA 554** - APPLIED MULTIVARIATE ANALYSIS

Suggested order among data management courses

FIRST	**CS542** - DATABASE MANAGEMENT SYSTEMS *or* **MIS 571** - DATABASE APPLICATIONS DEVELOPMENT
THEN	**CS 585/ DS 503** - BIG DATA MANAGEMENT *or*
THEN	**CS 561** - ADVANCED TOPICS in DATABASE SYSTEMS *or*

Data Management course prerequisite to Business Intelligence

FIRST	**CS542** - 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