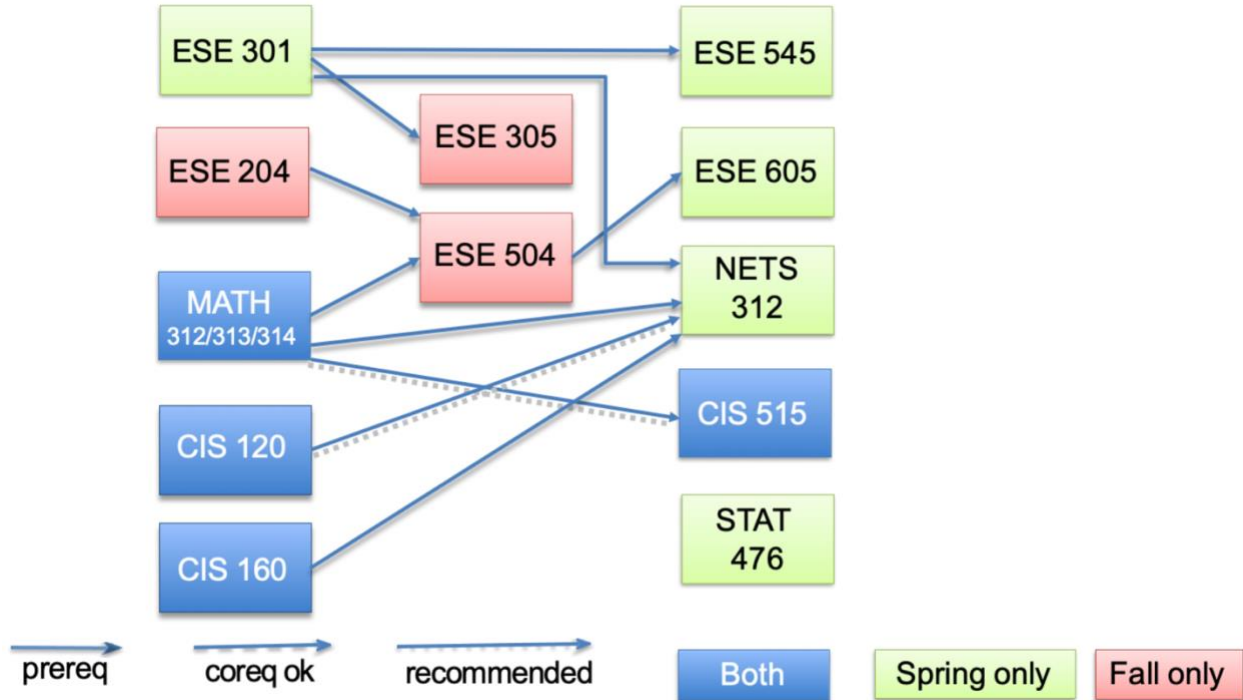# SSE Concentration: Decision Science

Requirements: Complete ESE 504
Choose 3 Electives: ESE 545, ESE 605, ESE 550, NETS 312, OIDD 224, OIDD 353, CIS 515, STAT 476

Requirement Flow:

Impact: The ubiquity of data and software for extracting patterns from it has generated a critical need for individuals who can use mathematical models to interpret the data and support decision making. Data does not speak for itself. Understanding how to use data and integrate it with mathematical models of processes (e.g. healthcare, transportation, yield management) whose performance we are trying to improve will be the fundamental challenge of the age.

Description: Decision Science (DS) is an interdisciplinary field that uses analytical methods to support better decisions. It employs techniques from probability, statistics and mathematical optimization. The concentration will equip students with the foundational knowledge and technical expertise need to deal with complex decision-making problems in organizations ranging from petrochemicals to airlines, finance, e-commerce, logistics, and government.

Sample industries and companies: Financial services (e.g. Goldman), internet companies (e.g., Microsoft), manufacturing (e.g. Tesla), Transportation (e.g. Via), management consulting (e.g. McKinsey), service industries (e.g. Universal Studios).

Sample Job Titles: Operations Researcher, Operations Analyst, Data Analyst, Business Intelligence Analyst and Systems Analyst.

Graduate research in: Operations Research, Operations Management, Industrial & Systems Engineering