

SYSE 571

ANALYTICS IN SYSTEMS ENGINEERING

Offered in Fall

Prereqs: STAT 301 or equivalent

DESCRIPTION

Discovering the appropriate means of applying statistics, machine learning, artificial intelligence, algorithms, analytics, and analysis patterns to a wide range of engineering challenges.

BENEFITS

Systems Engineers are not just data scientists—they are the architects for how data is integrated, collected, and analyzed in their engineering projects. Determining how to appropriately use parametric and non-parametric statistics, machine learning, artificial intelligence, algorithms, and analytics in engineering systems is crucial for systems engineers. Applying the three forms of parallelism (task, component, and meta-algorithmics) is crucial for the design, testing, and measurement of systems.

COURSE OBJECTIVES

Topics include:

- Parametric and non-parametric statistics and algorithms for analytics
- Machine learning and artificial intelligence for analytics
- Software and parallelism considerations
- Data mining, knowledge discovery, analytics, and advanced analytics
- Algorithms and advanced algorithms
- Applications from imaging to biometrics to text analytics
- Clustering and regularization, cumulative gain curves

