The Advanced Analytics certificate teaches students how to apply engineering approaches and methods to the analysis and management of engineering and business processes. Students learn how to collect, clean, and analyze data; build decision models based on data; and make predictions and decisions.

Admission Requirements

You must hold a bachelor’s degree and have the background necessary to complete graduate-level courses in advanced analytics gained through either their bachelor’s degree or work experience.

Those interested in earning this non-degree certificate must send an email to Rhonda McElroy at rmcelroy@illinois.edu to sign up.
Degree Requirements

Students must complete a total of 12 credit hours with a grade of B or higher in each course. Students must choose both 8 credit hours from the Advanced Analytics Core list and 4 credit hours from the Advanced Analytics Secondary list (or an additional four hours from the Core course list).

Advanced Analytics Core Courses:
- IE 528: Computing for Data Analytics (4)
- IE 529: Stats of Big Data and Clustering (4)
- IE 530: Optimization for Data Analytics (4)
- IE 531: Algorithms for Data Analytics (4)
- IE 532: Analysis of Network Data (4)
- IE 533: Big Graphs and Social Networks (4)

Advanced Analytics Secondary Courses:
- IE 400: Design & Analysis of Experiments (4)
- IE 410: Stochastic Processes & Applications (4)
- IE 411: Optimization of Large Systems (4)
- IE 510: Applied Nonlinear Programming (4)
- IE 511: Integer Programming (4)
- IE 521: Convex Optimization (4)

Program Contacts

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Program URL: https://ise.illinois.edu/graduate/degrees-and-programs/advanced-analytics-certificate.html