Amazon.com provides customized assortment of items.

We live in the era of Big Data.

Overview

Modern businesses need to make managerial decisions in the presence of vast amounts of information generated through technology-based transactions in various business processes.

These organizations use data management, statistical methods, and quantitative modeling skills to analyze their internal and external business environments and gain strategic advantages over their competitors.

This concentration will equip students with knowledge and tools that can help them derive useful information from business data and utilize the information intelligently in making faster and more effective business decisions.

Android: They know how people move around (GPS).
Big Data

Data are everywhere.
- Mobile devices produce so much individual level data.
- 5 billion mobile phones are in use.
- 30 billion pieces of content shared on Facebook every month.

Saving and processing data became much cheaper than ever.
- With US$ 6000, you can store all of the world’s music.

These “Big Data” can change the way organizations make decisions.

What Business Analytics can do:

It provides a structured way to use data to:
- Learn about people / organizations
  - Customer behavior
  - Employee management
  - Competitors and the industry trends
- Make the decision making processes easier and more efficient
- Make better predictions
- Provide customized solutions
- Replace human decision making process with automated algorithms

Cheaper cost, Higher revenue. Strategic advantage over competitors.

Why Business Analytics Concentration?

It is just the beginning!

Huge demand for data scientists and managers who understand the importance of Big Data paradigm.

As of 2019:
140,000 — 190,000 positions for deep analytical talents, and
1.5 million data-savvy managers needed, only in the US.
Curriculum

Equip students with fundamental techniques of data science so that they are able to:

- apply the techniques to extract valuable information from data
- understand the value that data science can bring into organizations
- know the steps how big data create values

Students are expected to know:
What can be answered by data, how can it be analyzed to get the answers, how important those answers are to organizations.

Curriculum

For students admitted in 2014-2015 and 2015-16

Total of 15 units required.

Mandatory courses:
- DSME2221 - Applied Econometrics for Business Decisions
- DSME4120 - Decision Modeling and Analytics
- DSME4270 - Data Management and Big Data Analytics

Curriculum

One in the following:
- DSME4240 - Supply Chain and Logistics Analytics
- DSME4160 - Business Process Analytics

One in the following:
- DSME3090 - Business Forecasting
- DSME4030 - Web Analytics
- DSME4310 - Economic Analytics
- DSME4220 - Data Mining for Business Intelligence
- DSME4280 - Network and Security
- MKTG4120 - Quantitative Marketing

Curriculum

For students admitted in 2016-2017 and thereafter

Total of 15 units required.

Mandatory courses:
- DSME2221 - Applied Econometrics for Business Decisions
- DSME4240 - Business Analytics
- DSME4220 - Decision Modeling and Analytics

Curriculum

One in the following:
- DSME4070 - Data Management and Big Data Analytics
- DSME4240 - Supply Chain and Logistics Analytics
- DSME4160 - Business Process Analytics

One in the following:
- DSME3090 - Business Forecasting
- DSME4030 - Web Analytics
- DSME4310 - Economic Analytics
- DSME4220 - Data Mining for Business Intelligence
- DSME4280 - Network and Security
- MKTG4120 - Quantitative Marketing

Takeaways

Data can provide invaluable information to organizations.

Organizations need people who see the value of data science and who have the techniques.

Business Analytics concentration is designed to educate students to meet such demands from practice.