**ISYS 4193: Business Analytics and Visualization**

Introductory study of business analytics, visualization, and systems to provide analytics-based information derived from data within and/or external to the organization. Business analytics used to support management in the decision making. Application of tools in business analytics, problem solving, visualization, and decision making. Prerequisite: [WCOB 1033](http://catalog.uark.edu/search/?P=WCOB%201033) with a grade of "C" or better.

**Course Outline –**

Business Analytics and Data Concepts – An Overview

* Business Analytics (Davenport & Harris)
* Competing on Analytics
* Big Data
* Sources and Users of Data/Analytics – Volume, Velocity, & Variety
* Visualization Overview
* Trustworthy Analytics
* Discovery, Summary, & Visualization vs Predictive Analytics vs Prescriptive Analytics

Data Sources and Fundamentals – Databases, Data Warehouse, Structured Query Language

Summary Analytics – “What the Data is Telling Us”

* Descriptive Analytics
* Graphical & Tabular Analytics
* Visual Analytics
  + What is data visualization?
  + Dimensions and measures
  + Simple statistics
  + When to use tables vs. graphs

Business Analytics – “Digging Deeper to Help Make Decisions”

* Interval Analysis
* One and Two Sample Analytics
* Multiple Samples

Modeling with Analytics – “Putting the Data to Work”

* Predictive Analytics
* Predictive Analytics using Linear Regression
* Model Building using Multiple Attributes
* Forecasting and Special Conditions

Decision Support – Data Visualization, Survey Development, and Presentation to Management

* Survey Design to Support Analytics
* Current Analytics Software to support Management Decisions
* Visual Perception and Graphical Communications
* Visualization – Telling Compelling Stories using Visualization

Current Analytics and Visualization Software