Data Sciences and Operations

USC Marshall School of Business

DSO 428 *Essentials and Digital Frontiers of Big Data* (4 units)

SPRING 2022
Days: Thursday & Saturday
Time: 10–11:50AM

Professor Erik Krogh, PhD
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Professor Erik Krogh

Erik Krogh's extensive Information Systems practitioner experience spans 22 years. He began his career as a data analyst and rose to the rank of Divisional CIO. His IS experience spans multiple industries, including financial services, eCommerce, supply chain/manufacturing, and government contracting.

As an academic, Dr. Krogh has taught undergraduate and graduate courses at the USC Marshall School of Business and at Pepperdine University's Graziadio Business School. He holds a PhD in Information Systems from Claremont Graduate University and an MBA from the USC's Marshall School of Business.

Who should take the course?

- General education or NON-technical students interested in the state-of-the-art of big data – overview of key concepts and hands-on experiences at introductory level
- Business Major interested in the basics of big data management, analytics, digital tools.
- Students wanting a course with NO pre-reqs to prepare them for an intern or job in Business Analytics, Data Science, or other data-related jobs (marketing, finance, PM)

Course Objectives

- Bring cutting-edge industry knowledge and experience to the class (lectures, guest speakers, course project), and prepare students for data-related jobs
- Provide hands-on experience at introductory level so you know how to work with big data in a firm using various state-of-the-art digital technologies and tools
- Solve real-world problems that require knowledge & skills around data/digital tools
- Use the course toward a number of different minors and majors (& careers)!

Key Concepts

Big Data Management (How to process and manage big data using *Digital Technologies*)
- Basics of SQL and HiveQL (SQL on Hadoop)
- Data Warehouses and Data Marts
- Introduction to Big Data Digital Infrastructure (Hadoop, MapReduce, Spark)

Big Data Analytics (How to analyze big data for insights and applications with *Digital Tools*)
- Basics of Data Mining and Machine Learning
- Introduction of concepts and techniques of A/B testing (e.g. Optimizely platform)
- Data Tracking (e.g. Google Analytics) and Visualization (e.g. Tableau)

Big Data Landscape (How to find data jobs and seize opportunities with *Digital Innovations*)
- Careers in Big Data -- Required skills, and role and career path in Firms
- Business Opportunities and Startups in Big Data