Knight Foundation School of Computing and Information Sciences

Course Title: Data Analytics for the Internet of Things   **Date:** 11/20/2018

Course Number: CAP 2750

Number of Credits: 3

Subject Area: Intelligent Systems	**Subject Area Coordinator:** **email:**
Catalog Description: Concepts/applications of Data Analytics for IoT, Data science, machine learning, and artificial intelligence at the edge. Inference, sensor fusion, bandwidth, transfer learning, and generative models.	
Textbook: Analytics for the Internet of Things (IoT): Intelligent analytics for your intelligent devices Paperback, Andrew Minteer	
References:	
Prerequisite Courses: None	
Corequisite Courses: None	

Type: Elective

Prerequisite Topics:
- None

Course Outcomes:
Upon completing this course, students should be able to:
1. Explain what "Data Analytics" term means
2. Differentiate between traditional Data Analytics and Data Analytics for IoT
3. Enumerate and describe the fundamental concepts of Data Analysis for IoT
4. Demonstrate the ability to translate IoT data into actionable business insights
5. Evaluate the use of IoT data from acquisition through cleansing, warehousing, analytics, and visualization to drive business decisions
6. Apply Data Analytics to real-world IoT datasets

Outline:

Topic	Number of Lecture Hours (Total: 37.5 hours)	Outcome
Introduction to Data Analytics & Tools	2.5	O1, O2
IoT Analytics in the Cloud	7.5	O5
IoT Data Collection Strategies and Techniques	2.5	O5
EDA for IoT Data	2.5	O4, O5, O6
IoT Dataset Augmentation	5	O6
IoT Data Visualization and Dashboarding	5	O5, O6
Data Science, Machine Learning, & AI at the Edge	6.5	O3
Organizing IoT Data for Analytics	2.5	O5
Practical Considerations for IoT Data Analytics	2.5	O6
IoT Data Analytics Project	1	O1 – O6

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Assessment Plan for the Course & how Data in the Course are used to assess Program Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan:
https://abet.cs.fiu.edu/csassessment/