

<b>Course Title and Code</b>	<b>IT 351 Data Science for Internet of Things</b>
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**I. Course Identification and General Information:**

<b>Course Title</b>	Data Science for Internet of Things	<b>Course Code</b>	IT 351	<b>Pre-requisite</b>	IT 332
<b>Department</b>	Information Technology	<b>Course Level</b>	9	<b>Credit Hours</b>	3(2+1)

**II. Course Description/Topics: The following course topics will be covered.**

- This course is a data science course that focuses on the manipulation of large amount of data generated from multiple mixed sources, especially in the Internet of Things (IoT) framework. It introduces the data generation by sensors in the Internet of things ecosystem and ways to process this data. Thus the course targets the processing and manipulation of data, extracting meaning from Data, statistical processing and machine learning algorithms that make it possible to extract meaningful and useful information from data.

**III. Course Outcomes: Summary of the main learning outcomes for students enrolled in the course.**

- When asked, in writing, students will be able to understand the need for IoT, data science, analytics and big data processing.
- When asked, in writing, students will be able to Explain Bayesian statistics, naive Bayesian, deep learning paradigm
- When asked, in writing, students will be able to differentiate between the efficacies of the various algorithms for processing big data.
- When asked, in writing, students will be able to evaluate the impact of big data processing methods.
- When asked, in writing, students will be able to Use tools to manipulate and understand the data science in IOT ecosystem.
- When asked, in writing, students will be able to demonstrate the usage of the big data by extracting business and socially relevant information and its usage in IOT domain.
- When asked, in writing, evaluate the performance data science algorithms especially for IOT.

**IV. Required Text:**

- Data Science and Big Data Analytics course from Dell EMC, 2018.
- Big Data: A Revolution That Will Transform How We Live, Work, and Think Paperback – March 4, 2014.

**V. References:**

- Vijay Madiseti and Arshdeep Bahga, "Internet of Things (A Hands-on-Approach)", latest Edition, VPT.