DATA ANALYTICS (DATA)

DATA 110, INTRODUCTION TO DATA ANALYTICS 4 (4)
This course is designed to provide the student with a basic understanding of data analysis. Students will learn how to collect, analyze and derive meaningful information from data. The course covers a broad range of data science topics, which are further developed within the specific courses within the degree program. This course does not require prior mathematical, statistical, or programming skills.
General Education: GEO1, GEO2, GEO3, GEO4, GEO6, GEO7
Typically Offered: Fall and Spring Semesters

DATA 130, ETHICAL AND LEGAL FRAMEWORK OF BIG DATA 3 (3)
This course will cover the ethical and legal issues in society with regard to collecting, processing and utilization of personal data, particularly in large interconnected data sets. An exploration of both the positive benefits and negative consequences will be part of the course.
General Education: GEO2, GEO4, GEO6
Course Entry Requirement(s): Concurrent: ENGL 161
Typically Offered: Fall Semester

DATA 150, DATA ANALYSIS WITH LINUX TOOLS 3 (4)
In this course, the student will develop a knowledge of the Linux operating system, become agile with preparing and transforming datasets on Linux, perform basic analytical tasks on data, and become introduced to programming languages that are common to data analytics. Students will learn about tools to generate simple statistical measures, visualizations and modeling algorithms — all with command line tools.
General Education: GEO1, GEO2
Course Entry Requirement(s): Prerequisite: CISS 121
Typically Offered: Fall and Spring Semesters

DATA 205, MANAGING DATA FOR ANALYTICS 3 (4)
This course is an introduction into what is meant by Big Data and its uses. An overview of the analytical platforms and tools to work with Big Data are discussed in the context of running better businesses and providing better services to customers. The issues of data variability, velocity, volume and data governance will be explored. Students will become familiar with data management tools in Hadoop and SQL and analysis tools in data visualization and machine learning with a focus on data integrity and consistency.
General Education: GEO1, GEO2, GEO3
Course Entry Requirement(s): Prerequisite: MTHM 168 with a C or higher and CISS 143
Typically Offered: Fall Semester

DATA 221, MODELING & ANALYSIS WITH R & PYTHON FOR DATA PROFESSIONALS 3 (4)
This course provides a foundation in the R and Python programming languages as applied to data analytic applications. Students will learns the basics of the Python and R languages for the purposes of data set preparation, data modeling, linear regression, and other statistical calculations.
General Education: GEO1, GEO2, GEO3
Course Entry Requirement(s): Prerequisite: MTHM 168 with a "C" or higher and DATA 150
Typically Offered: Fall Semester

DATA 222, BUILDING ANALYTICAL MODELS AND MACHINE LEARNING ALGORITHMS 3 (4)
This course provides a foundation in the R and Python programming languages as applied to data analytic applications. Students will learns the basics of the Python and R languages for the purposes of data set preparation, data modeling, linear regression, and other statistical calculations. Assignments, lab activities and examples will feature implementations of common data analytics statistical calculations, data management scenarios, and linear regression modeling.
General Education: GEO1, GEO2, GEO3, GEO7
Course Entry Requirement(s): Prerequisite: DATA 221
Typically Offered: Spring Semester

DATA 230, PREDICTIVE AND VISUAL ANALYTICS 3 (4)
This course will teach the student how to use the software tool, SPSS, for in depth predictive statistical analysis, reporting and modeling of Big Data sets. Students will learn optimization techniques and how to access data sets from Hadoop data stores. In addition, students will use the I2C visualization tool to discover relationships within large data sets.
General Education: GEO1, GEO2
Course Entry Requirement(s): Prerequisite: MTHM 168 with a "C" or higher and CISS 143
Typically Offered: Spring Semester

DATA 248, DATA ANALYTICS CAPSTONE 4 (4)
This course concentrates on machine learning and the development of a capstone project. Students will explore the application of tools to prepare datasets, analyze data, and machine learning modeling to predict and validate a hypothesis. Capstone projects include initial feasibility study, data analysis, data design, presentation of results emphasizing data visualizations, and conclusions as outcomes of the analysis. Students completing the Data Analytics curriculum will utilize the tools and techniques to analyze datasets from various sources and industries. Students can select a project from their area of interest. Project approval is accomplished through a feasibility study. Using Big Data tools and Cloud Computing, each student completes their analysis and prepares a presentation of the results and how the analysis was accomplished.
General Education: GEO1, GEO2, GEO4, GEO7
Course Entry Requirement(s): Prerequisite: DATA 150, DATA 205, DATA 221; Concurrent: DATA 222, DATA 230
Typically Offered: Spring Semester

DATA 287, WORK-BASED LEARNING I - DATA 1-3 (1)
This course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.
General Education: GEO1, GEO2, GEO6, GEO8
Course Entry Requirement(s): Prerequisite: A student must be pursuing a degree seeking program at LCCC; have completed 12 credit hours with a min of 6 credit hours in the discipline of placement; have a min GPA of 2.5 in the discipline a 2.0 overall GPA; have division approval., Prerequisite: A student must be pursuing a degree seeking program at LCCC; have completed 12 semester DATA hours; have a min GPA of 2.0 in the discipline and a 2.0 overall GPA.
Typically Offered: Offer as required

DATA 288, WORK-BASED LEARNING II - DATA 1-3 (1)
This course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.
General Education: GEO1, GEO2, GEO6, GEO8
Course Entry Requirement(s): Prerequisite: DATA 287
Typically Offered: Offer as required