

CSDA - Computer Science Data Analytics | Grad

CSDA 5110 Analytics Programming with R (3)

This course teaches students how to program in R and how to use R for effective data analysis. Students will learn how to install and configure software necessary for a statistical programming environment. The course covers practical issues in statistical computing which includes programming in R, reading data in R, accessing R packages, writing R functions, debugging, organizing and commenting R code. Topics in statistical data analysis and optimization will provide working examples.

CSDA 5130 Social and Ethical Issues in Analytics (3)

There is a subtle balance between improvements in business operations by using big data analytics and increased risk if (inadvertently) overstepping certain legal or social boundaries. This course addresses the pros and cons of using data analytics in business and social, ethical and security issues associated with it. Several real world cases will be discussed and analyzed in the course.

CSDA 5210 Databases and Data Warehouses (3)

This course will provide a foundation for understanding organization databases technology by examining the way databases are designed, used and managed. The course will introduce fundamental concepts related to operational and data warehouse databases. The course will also cover the principles of building data warehouse and data mart cubes as well as extracting required data with SQL and MDX techniques. Students use various query designer software to improve their database query proficiency.

CSDA 5230 Data Analytics (3)

This course will introduce the field of data analytics, which has been defined as the extensive use of data, statistical and quantitative analysis, exploratory and predictive models, and fact-based management to drive decisions and actions. The course covers all analytics stages such as setting analytics project objectives, building a data warehouse model, extracting-transforming-loading, implementing analytics, and creating visualization. Also, the application of selected data analytics techniques to business data is illustrated. **Prerequisites:** CSDA 5210.

CSDA 5240 Database Programming (3)

Students in this course will learn programming in SQL that enables users to perform various types of data manipulation to satisfy business requirements. Students will also learn how to use procedural SQL to accomplish actions to implement business applications. **Prerequisite:** CSDA 5210.

CSDA 5310 Data Visualization (3)

This course studies techniques and methods for creating effective reports and dashboards based on principles from graphic design, visual art, perceptual psychology and cognitive science. Students will be introduced to the basic as well as advanced visualization tools. The course is targeted toward building better visualization tools for analytics. **Prerequisite:** CSDA 5230.or CS1vt . ere148.07200623 397 <</MCID 49>> BDC BT /F1 8 Tf 1 1 0aof dairform vai>il EMCsRcubes as well