

# Data Analytics

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All business units, and companies large and small, are using data to improve operations and financial performance. Data science allows companies to make data-driven decisions in marketing, sales, finance, purchasing and more. Through a progression of courses at CCM, you can earn a Certificate in Data Analytics.

## Data Analytics Certificate Program

**PREREQUISITE:** A solid foundation in Microsoft Excel; some programming knowledge is helpful.

The CCM Certificate in Data Analytics, offered through Workforce Development, provides participants with data acumen in the areas of data manipulation, visualization and interpretation. To obtain your certificate, you must take all of the following courses. Classes may be taken in any order, but the recommended sequence is:

Course Code	Course Title	CEUs
CPC-631E	Introduction to R Programming	0.6
CPC-603E	Advanced R Programming for Data Science	1
CPC-624E	Visual Basic Applications in Excel	0.6
CPC-629E	Business Analytics with Excel	0.6
CPC-618E	Tableau I	0.8
CPC-619E	Tableau II	0.8

For information on current course offerings and how to register, go to [www.ccm.edu/workforce/](http://www.ccm.edu/workforce/) (<https://www.ccm.edu/workforce/>)

## Courses

### Introduction to R Programming

**PREREQUISITE:** Proficient knowledge of MS Excel. R's widespread popularity to analyze large data sets makes it an essential tool in almost every field. The course will cover exploratory data analysis techniques, visualization methods, modeling and ideas in reproducible research using packages from base R. Students will learn the basic syntax for R and how functions and packages work. CPC-631E.

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### Advanced R Programming for Data Science

**PREREQUISITE:** Proficient knowledge of MS Excel and the Introduction to R Programming course or some programming knowledge. Expanding on the topics covered in the Introduction to R Programming course, students learn the use of the Tidyverse and the ggplot2, dplyr and tidyr packages. In addition, advanced data science methods such as k-means, clustering and dendrograms will be covered. CPC-603E.

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### Visual Basic Applications in Excel

**PREREQUISITE:** Proficient knowledge of MS Excel. Learn to record macros, read, write, and debug VB code, pass lists and floating variables through VB, use conditional statements, and create input and message boxes. At the end of this course, students will

be familiar with the VBA programming language as it applies to Microsoft Excel and will apply this knowledge to make interactive and fully functional spreadsheets. CPC-624E.

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### Business Analytics with Excel

**PREREQUISITE:** Proficient/intermediate knowledge of MS Excel. Learn how data science is applied in business. Explore concepts in correlation, regression analysis, hypothesis testing and multivariate analysis. Learn how correlation helps to understand portfolio diversification and design. 'What If' analysis will be covered utilizing the Solver and Goal Seek features of Excel. CPC-629E.

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### Tableau I

Learn Tableau fundamentals as well as connecting and preparing data, exploring data and managing, sorting and grouping data. CPC-618E.

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### Tableau II

Continue by saving and sharing, filtering data, custom visualizations and creating maps, dashboards and stories. CPC-619E.

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