

# PROFESSIONAL CERTIFICATE IN DATA SCIENCE

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Learn the fundamental concepts of data science to collect, prepare, analyze, model and visualize data. Learn to use tools such as Python, R and Machine Learning. Apply the knowledge learned in health, research, finance, marketing, industry and others.

**COURSE BEGINS IN OCTOBER 15, 2018**

Modality: Online

Introductory Course Only: (8 hours of content in 4 weeks duration)

Complete Certificate (40 hours of content in 4 months duration)

Costs:

Introductory Course \$160

Complete Certificate \$500

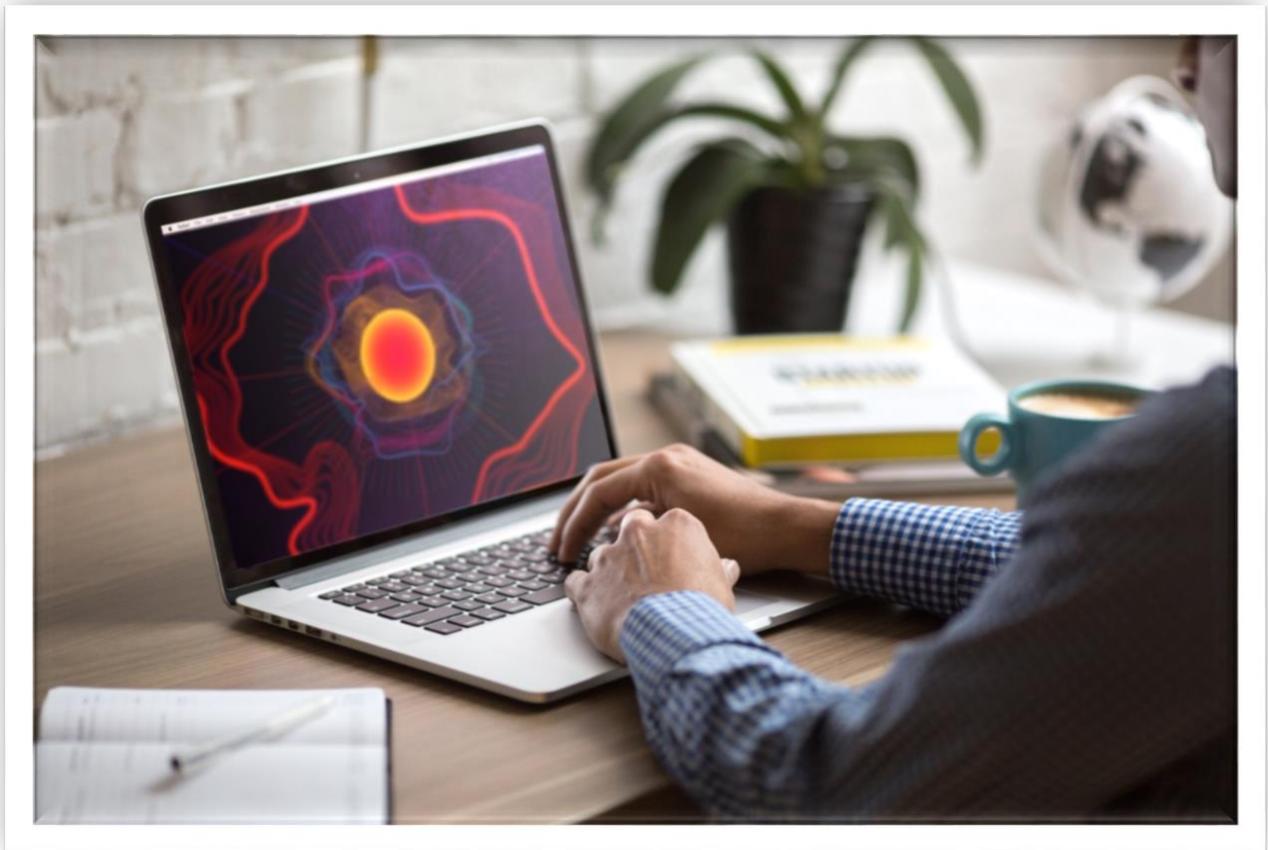
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## PROFESSIONAL CERTIFICATE IN DATA SCIENCE

The Data Science Certificate has been designed to introduce you to the world of data analysis and enhance your skills to finally become a Data Scientist. Data Science is an interdisciplinary field of scientific methods, processes, algorithms, computer science, statistics, mathematics and other tools to extract knowledge or information from data in various ways and help in decision making. The field of Data Sciences is applicable in academia, industry, research, finance, government and many others. The demand for skilled data science practitioners in industry, academia, and government is rapidly growing. If you want to pursue a career in the field of "Data Science", this is the certificate for you.

## COURSE DESCRIPTION

This course is designed for beginners with or without experience in statistics or programming, coming from different disciplines or sectors, including graduate students, professors, health professionals, industry, government, finance, marketing, business and anyone interested in the field of Data Science. The course will cover the basic aspects of data science, data preparation, data visualization, modeling data and data presentation. **The course is divided into two (2) components, depending on the interest of the participant.**

### Component 1: Introduction to Data Science

**The first component** - (Session 1 - Total 8 hours) is a conceptual introduction to the ideas behind converting the data into actionable knowledge. The course is designed to be offered online and at the participant's pace. Session 1 is part of the components of the certificate but can be taken independently as a separate course or seminar. If you are only interested in the introductory course (Session 1), it lasts four (4) weeks. The recommended time and effort are two (2) hours a week. Session 1 could be taken alone; however, a Professional Certificate in Data Science will not be granted. The participant will receive a certificate of participation in the course "Introduction to Data Science". This course is a prerequisite for Component 2.

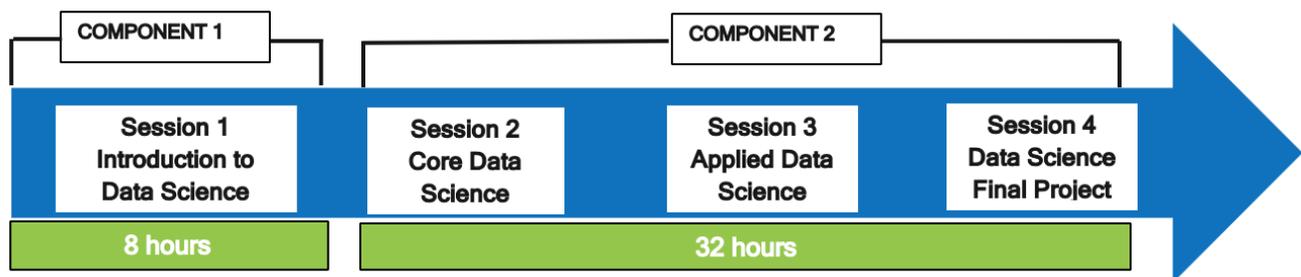
#### *What you will learn in this component?*

- Fundamentals and Concepts of Data Science
- Big Data Fundamentals
- What is Data Science?
- The Life Cycle and process in the handling of data
- Skills and roles applied to Data Science
- Process in the construction of a Project in Data Science
- The teamwork and the challenges for a Data Scientist
- Introduction to the tools of R Studio and Python
- Other sources of help in Data Science
- Opportunities in the field of Data Science



## Component 2: Professional Certificate in Data Science

The second component includes sessions 1 to 4 (Total 40 hours) as part of the complete Professional Certificate in Data Science. You must first complete component 1 to continue with component 2. The course is designed to be offered online and at your own pace. The participant can start the course at the beginning of each quarter. Once the course begins, he / she has four (4) months to complete the course and obtain the Professional Certificate in Data Science. The evaluations in this course are graded. You must obtain a grade of 70% or more to pass this course. The recommended time and effort are three (3) hours a week.



### *What you will learn in this component?*

- Apply fundamentals concepts in Data Science
- How to use different tools in Data Science
- Fundamentals in the use of R
- Fundamentals in the use of Python
- How to collect, clean, prepare and analyze data
- How to develop and implement predictive models in Machine Learning and visualize the data.
- How to use other tools to manage and monitor the data
- How to import data libraries
- How to create a tools bank
- How to obtain data and apply the skills learned in real cases
- How to communicate and present your data
- Build a Project in Data Science

## Course Objectives

1. Understand the fundamental principles of Data Science and the applicable processes to obtain and analyze the data.
2. Learn the basic tools of R, Excel and Python used in Data Sciences
3. Understand the principles and skills of data visualization for better communicate findings based on data.
4. Learn how to make data models and apply learning algorithms using Machine Learning.
5. Understand how to communicate and present data
6. Apply knowledge of Data Science in a real-world project

## Course Methodology

The course methodology includes video lessons, practice exercises, case studies, use of software applications, articles and short tests.

## Audience

This certificate is designed for researchers, graduate students, industry personnel, government and anyone interested in the field of Data Science.

## Evaluation Strategies

Pre-Test and Post-Tests, exercises, short tests and final project (only in component 2).

Evaluation criteria: 70% or more in all exercises and final project.

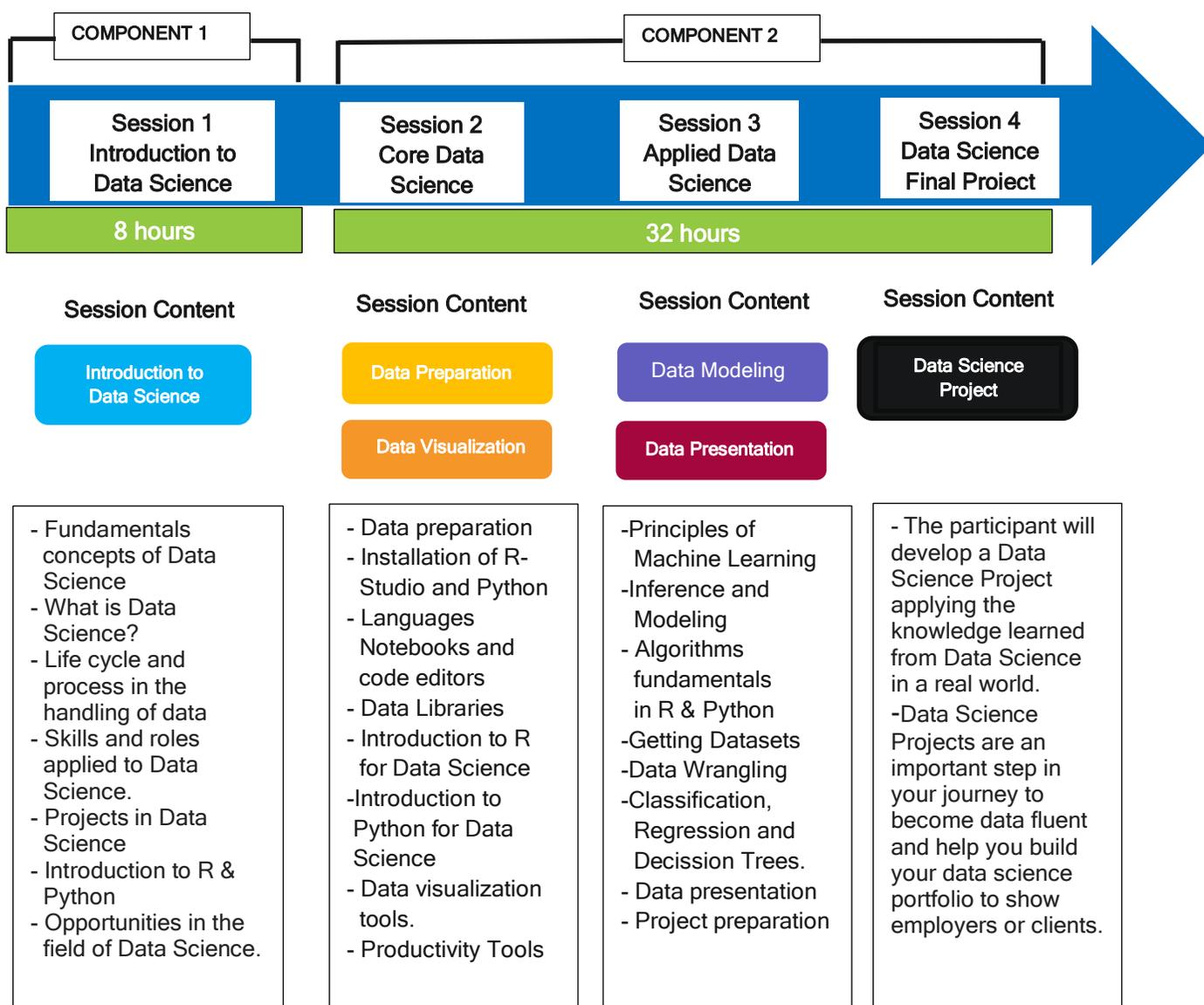


## Pre-Requisites

A minimum of a bachelor degree is required for the full certificate. This requirement does not apply to Component 1. It is recommended to have knowledge and access to the use of computers, MS Excel and basic fundamentals in databases. Verified ID is required for the complete certificate.

## Curricular Sequence

1. Introduction to Data Science (Session 1) - Modality: Online (8 hours)
2. Certification in Data Science (Session 1- 4) - Modality: Online (40 hours)



## Course Faculty



Prof. Carlos Ortiz

Carlos Ortiz, works as Associate Professor at the Medical Sciences Campus and is a PhD Candidate in Computer Sciences at Nova Southeastern University. He has a master's degree in technology management with extensive experience in database systems, programming, data science and application development. For many years he has been coordinator of distance education and instructor of courses in clinical informatics. During the past 17 years he has been Director of the Office of Informatics and Educational Resources at the School of Health Professions, MSC, UPR.



Dr. Abiel Roche

Dr. Roche-Lima earned his PhD in Computer Sciences from the University of Manitoba, Canada. He has broad background applying computer science to biological sciences. In the recent years, he has focused his research on applying machine learning approaches to develop bioinformatics and biomedical software applications. Currently, he is the Director of the Integrated Informatics Service core, as part of the RCM program, funded by NIH.



Dr. Istoni Da Luz

Dr. Istoni Da Luz has a Ph.D. in computational statistics and works as a faculty and researcher at the Graduate School of Public Health in the Medical Sciences Campus, UPR. He has had extensive experience in the use of predictive models using R and "machine learning" and also works as a statistical consultant. He has worked in epidemiology, environmental, biological, marketing and clinical studies in Brazil, Spain and the United States.

## Costs

Introductory Course - \$160

Complete Certificate - \$500

Make payment using: VISA, Master Card or American Express  
UPR Employees: May pay with Internal Account Transfer

## Enrollment

You can make your registration completely online through the following link or by pressing the Registration button.

Link: <https://goo.gl/NhCpuc>

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## For More Information

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