

# Data Science Foundations (Certificate)

This online/on-campus program is well suited for working professionals who have some formal training in Computer Science and/or Statistics and wish to acquire a basic understanding of data science. Whether to improve their on-the-job experience or career prospects, one can expect to acquire a basic understanding of data science through this certificate program. Applicants admitted to the certificate program can enroll part-time, completing one class per semester, or enroll full-time at 9 or 12 credit hours.

Financial aid is not available through our program. Interested applicants will need to review other means of assistance, if needed.

## More Information

Data Science Foundations Program Website (<http://www.csc.ncsu.edu/academics/graduate/degrees/dsf.php>)

Applicants are expected to have an accredited Bachelor of Science degree in either a sciences or engineering discipline, Computer Science or Statistics. A minimum GPA of 3.0, on a 4-point scale, is also expected. The GRE is not required for admission.

## Applicant Information

- **Delivery Method:** On Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

## Application Deadlines

- **Fall:** May 1
- **Spring:** October 15

## Certificate in Data Science Foundations

Code	Title	Hours
<b>Required Courses</b>		<b>6-9</b>
Complete a minimum of two courses from "Core Courses" listed below		
<b>Elective Courses</b>		<b>3-6</b>
Complete minimum of one course from "Elective Courses" listed below		
<b>Total Hours</b>		<b>12</b>

## Required Courses

Code	Title	Hours
<b>Select minimum of two courses from the following: <sup>1</sup></b>		<b>6-9</b>
CSC 505	Design and Analysis Of Algorithms	
CSC 541	Advanced Data Structures	
ST 517	Applied Statistical Methods I	
ST 563	Introduction to Statistical Learning	

## Elective Courses

Code	Title	Hours
<b>Select minimum of one course from the following</b>		<b>3-6</b>
CSC 522	Automated Learning and Data Analysis <sup>2</sup>	
CSC 540	Database Management Concepts and Systems	
CSC 591	Special Topics In Computer Science (Topics include: Data Driven Business Intelligence; Graph Data Mining; Spatial and Temporal Data Mining)	
ST 540	Applied Bayesian Analysis	

<sup>1</sup> Students must take at least one ST and one CSC course

<sup>2</sup> Credit cannot be given for both CSC 522 Automated Learning and Data Analysis and ST 563 Introduction to Statistical Learning

## Faculty

### Department Head

Gregory E. Rothermel, *Professor*

### Distinguished Professors

Tiffany M. Barnes

Laurie A. Williams, *Co-Director - NCSU Science of Security Lablet*

### Distinguished University Professor

James C. Lester II, *Director of the Center for Educational Informatics*

Michael A. Rappa, *Director, Institute for Advanced Analytics*

### Alumni Distinguished Graduate Professor

Georgios N. Rouskas, *Director of Graduate Programs*

Munindar P. Singh, *Co-Director - NCSU Science of Security Lablet*

### Full Professor

Min Chi

Rada Y. Chirkova

Huaiyu Dai

Rudra Dutta, *Associate Department Head*

William H. Enck, *Director of Wolfpack Security & Privacy Research (WSPR) Laboratory*

Edward F. Gehring

Xiaohui (Helen) Gu

Christopher G. Healey, *Goodnight Distinguished Professor Analytics, Institute for Advanced Analytics*

Steffen Heber

Timothy J. Menzies

R. Frank Mueller

Xipeng Shen

Matthias F. M. Stallmann

R. Raju Vatsavai

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## Associate Professors

Wesley K. G. Assunção

Dror Zeev Baron

Marcelo d'Amorim

Zhishan Guo

Khaled Harfoush

Arnav H. Jhala

Alexandros Kapravelos

Sandeep K. Kuttal

Xu Liu

Collin F. Lynch

Noboru Matsuda

Kemafor Anyanwu Ogan

Sharath Kumar Raghvendra

Bradley G. Reaves

David L. Roberts, *Assistant Director of Undergraduate Programs*

Alessandra Scafuro

Muhammad Shahzad

Donald R. Sheehy

Kathryn T. Stolee

Sharma Vallin Thankachan

Benjamin A. Watson

Wujie Wen

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## Assistant Professors

Samira Mirbagher Ajorpaz

Veronica M. Cateté

Anupam Das

Shiyan Jiang

Jung -Eun Kim

Chin Ho Lee

Jiajia Li

Jianqing Liu

Xiaorui Liu

Yuchen Liu

Yuan Liu

John-Paul Ore

Thomason W. Price

Dongkuan (DK) Xu

Dominik Wermke

Bowen Xu

Chenhan Xu

Man Ki Yoon

Ruozhou Yu

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## Teaching Professor

Sarah S. Heckman, *Director of Undergraduate Programs*

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## Teaching Associate Professors

Kimberly J. Titus

Tzvetelina (Lina) Battestilli

Jamie A Jennings

Jason T. King

Chandrika Satyavolu

Jessica Y. Schmidt

David B. Sturgill

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## Teaching Assistant Professors

Suzanne M. Balik

Abida Haque

Caio Batista de Melo

Alexander Card

Ignacio X. Dominguez

Adam Gaweda

Shuyin Jiao

Sterling M. McLeod

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## Lecturers

B. Jasmine Adams, *Director of Undergraduate Advising*

Scott Gerard

Margaret Heil, *Director of Senior Design Center*

ToniAnn Marini, *Assistant Director of Undergraduate Advising*

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## Research Professor

Franc Brglez

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## Assistant Research Professor

Bitu Akram

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## Director

Leslie Rand-Pickett, *Graduate Career Services*

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## Emeritus Faculty

Dennis R. Bahler

Wu-show Chou

Jon Doyle

Edward W. Davis, Jr.

Robert J. Fornaro

Thomas L. Honeycutt

David F. McAllister

Harry Perros

Douglas S. Reeves

Woodrow Robbins

Carla D. Savage

William J. Stewart

Alan L. Tharp

David J. Thuent

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## Adjunct Faculty

Ram Chillarege

Aldo Dagnino

Steven Hunter

Chris Martens

Wookhee Min

Peng Ning

Christopher Parnin

Injong Rhee

Robert St. Amant

Xiaogang (Cliff) Wang

Tao Xie