Southampton Data Science Academy

CIPFA

Certificate in Data Science

cipfa.org

About the course

Data is playing an increasing role in organisations and changing the way we live every day. Understanding data science concepts and how and when best to apply them (and when best not to) is a key skill for public finance processionals looking to develop and enhance their career prospects.

The CIPFA Certificate in Data Science explores how to work effectively with data, unlock its value and communicate the insight. It will give you the opportunity to learn the art of what's possible in order to enhance your role and bring benefits and strategies to your organisation.

The programme offers the flexibility to learn at times that suit you and requires around four hours a week of study.

Delivered in partnership

This course is delivered by and was developed in partnership with the Southampton Data Science Academy (SDSA), a partnership between the Web Science Institute at the University of Southampton and Cambridge Education Group.

To date SDSA has trained, formally assessed and awarded certificates to more than 1,500 professionals in finance, insurance, communications and the actuarial and statistical professions.

Who is the course aimed at?

This course is for professionals in the public finance and accountancy profession who want to develop the knowledge and practical skills needed to work more effectively with data.

You will learn how to talk about data to those with, and without, technical knowledge. Interactive exercises will enable you to experience real examples of the techniques and concepts covered in the taught material. The course will empower you to make better-informed business decisions grounded on data evidence.

No coding skills are required, but ideally you will be comfortable using Excel.

Course outline

The course content is broken down into manageable weekly topics:

Week 1

Introduction to data science

- Welcome and introduction to the course
- What data science is and why it's important
- Creating impact from data science
- Introduction to data storytelling
- Understanding your rights to use data
- The data spectrum
- Unlocking value from open data
- Gathering data

Week 2

Health check – Cleaning and visualising hospital data

- The 4 steps of data science
- Organising and cleaning data
- Choosing and designing schemas
- Annotating and describing data
- Open data and open standards
- Data formats and structures

Week 3

Case study – Improving the performance of the London Fire Brigade (Part 1)

- Filtering and pivot tables
- Introduction to quantitative data analysis
- Introduction to qualitative data analysis

Week 4

Case study – Improving the performance of the London Fire Brigade (Part 2)

- Data visualisation formats and best practice
- Mapping open data
- Narrating your story
- Visual description
- Practical data visualisation

Week 5

Building a business with live data

- From spreadsheets to web-based identifiers
- Having a REST with API design

Week 6

Applications

- How data science creates value
- The benefits of and business opportunities for applying data science within your organisation

Learning outcomes

After successfully completing the course, you will be able to:

- Explain the key concepts of data science and its real-world application
- Classify the different types of data available and usage rights
- Implement an effective data collection and management strategy
- Prepare data for analysis
- Analyse a large amount of data to gain valuable insights
- Create data visualisations
- Effectively work with live data and understand the opportunities presented by cloud services
- Critically evaluate the challenges and opportunities arising from utilising data science within your organisation

Course delivery and duration

The course takes eight weeks of part-time study to complete, or four hours a week.

It is completed entirely online, using SDSA's online learning platform.

In the first six weeks, you will work through the six modules, studying online at your own pace. Each module is supported by a weekly group tutorial on Thursdays at 10am BST/ GMT with an archive available if you can't attend live. You will then have an additional two weeks to submit your final assignment.

You will also be able to book a 1:1 tutorial at a time that suits you, which is ideal for resolving any questions related to the course content and ensuring you can make the most of the learning experience.

You will need to invest approximately 30 hours in total for the course, including study time, the assignments and tutorials.

Studying with SDSA

Studying with SDSA, you'll have access to:

- Engaging and interactive course content to help you learn and master the skills you need to become proficient in data science methods and techniques
- A practical, hands-on approach to learning data skills – enabling you to immediately apply the concepts and techniques covered in the course material to your work
- Expert tutors that are world-leading authorities in data science to guide your learning, helping you with any questions or difficulties you might have along the way
- A cutting-edge online learning platform which you can easily access via smartphone, tablet or desktop – anytime and from anywhere in the world
- A global online network of like-minded professionals plus group discussions, Q&A sessions and video tutorials

At a glance

- 30 hours study time (across 8 weeks)
- 6 modules
- Interactive quizzes and exercises
- 6 group tutorials (1 tutorial per module)
- 1:1 tutoring session
- Coursework assignments
- Peer networking via discussion forum
- Course content available for 6 months from the start date

Assessment

You will be assessed on three separate assignments which will evaluate your knowledge and technical skills, creativity, problem-solving and critical thinking. Your tutor will provide feedback on each of these.

Assignments are typically around 1,500 words in length (33% each of the total mark), plus a set of discussion forum contributions.

Results are released three to four weeks following completion of the course.

Accreditation

On successful completion of the course, you will receive a downloadable electronic certificate of completion from CIPFA and the Southampton Data Science Academy, recognising your achievement and the CPD hours.

CPD hours

This course carries up to 30 CPD hours.

All CIPFA training counts towards your continuing professional development (CPD). If you are a CIPFA Chartered Member, you are required to undertake a minimum of 20 hours of relevant CPD activity each year as part of maintaining your professional competence and to develop skills and knowledge.

For full details visit: **www.cipfa.org/cpd**

How to book

Search for course dates at:

www.cipfa.org/datascience

or call **+44 (0)20 7543 5600**

By purchasing this course you consent to CIPFA supplying your name, organisation name and email address to SDSA and their constituent partner organisations (as described in this document) for the sole purpose of enrolment, delivery of learning and accreditation.

About us

Why train with CIPFA?

CIPFA has a long history of delivering outstanding training to finance professionals and public service leaders in the UK and across the world.

As the only professional body exclusively for people in public finance, we understand the market challenges and are committed to providing the best training and development tools to support practitioners at all levels of public service, throughout their careers.

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CIPFA

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