“Data Science is a rapidly evolving and exciting field of work, where statisticians with strong and flexible skills can play a starring role. The complexity and sheer volume of data that we are dealing with means that we need new methods and models to obtain insight into important areas of scientific research and industry.”

Associate Professor Luke Prendergast,
Mathematics and Statistics

latrobe.edu.au/studydatascience
Master of Data Science

**Campus**
Melbourne Campus (Bundoora)

**Duration**
2 years full-time or part-time equivalent

**Academic entry requirements**
Australian Bachelor’s degree (or equivalent) in science (with a major in mathematics or statistics), computer science, information technology or computer engineering.
International students need a minimum overall academic IELTS (or equivalent) score of 6.5, no band less than 6.0.


**Rescuing insights from a mess of information**
Data science at La Trobe gives you the skills to model, analyse and interpret messy, real world data. You’ll gain valuable technical skills, and apply them to real-world data and scenarios.

**Learn skills applicable across disciplines and industries**
The Master of Data Science prepares you to become an adept data analyst and an expert extractor of valuable information. With a focus on extracting insights and making predictions based on complex data, our Master of Data Science prepares you to make an immediate and positive impact in your chosen field.

That’s because one of the strengths of the course is its applicability to multiple industries, professions and research disciplines.

As a data scientist you might develop an algorithm that automates workflows to drive business efficiency, or you might contribute to life-saving medical breakthroughs by modelling the efficacy of a cancer treatment. You might work in elite sport performance management, financial risk assessment, or academia… the opportunities go on.

**CHOOSE FROM ONE OF THREE MAJORS**
When you choose the Master of Data Science you also get to choose from three areas of specialisations – or majors:

**Big Data and Cloud Computing**
Although the name suggests it, “big data” doesn’t only refer to data sets that are too large for traditional processing applications, but also too complex – and often both. As part of this major, you’ll learn about the technologies being used to compete with a new world of information that’s difficult to penetrate and untangle. You’ll take a close look at the Hadoop ecosystem technology and gain hands-on programming experience using a combination of Cloudera’s virtual machine and Amazon Web Services. You’ll also discover more about the basics of MapReduce, Pig, Hive, Zookeeper and Apache Spark.

**Analytical Science**
In this major, you’ll learn about practical data analysis and develop high-level proficiency in the use of modern statistical software. You’ll cover sub-disciplines such as meta-analysis, analysis of repeated measures data, as well as models for bioinformatics.

**Bioinformatics**
If you’re interested in how your maths, stats and data analysis skills can be harnessed in the field of health and biology, this might be the major for you. Bioinformatics is the study of biological data – more specifically the collection, classification, storage and analysis of biochemical and biological information using computers as applied to molecular genetics and genomics.

**Sample subject selections**

**Foundation subjects**
- Database Fundamentals
- Object-Oriented Programming Fundamentals
- Number Systems and Linear Algebra
- Calculus and Differential Equations
- Statistical Science
- Probabilistic Model

**Specialisation subjects**
- Analysis of Repeated Measures
- Big Data Management on the Cloud
- Bioinformatics
- Bioinformatics Technologies
- Computational Intelligence for Data Analytics
- Data Exploration and Visualisation
- Data Mining
- Meta Analysis
- Models for Bioinformatics
- Web Development on the Cloud

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**Data Science fast facts**

1.5 million data-savvy managers needed in United States by 2018. That projection is expected to extend proportionally to the rest of the world.

Nearly half of companies are finding it difficult to find and retain employees with the data analytics skills they require, according to the 2015 MIT Sloan Management Review.

83% of respondents to a CrowdFlower survey of data scientists said there weren’t enough professionals in their field to go round. That was an increase from 79 percent in 2015.

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* McKinsey Global Institute Report 2011 - Big data: The next frontier for innovation, competition, and productivity
Some of society’s most important challenges are also the most difficult to solve. The more data we gather in an attempt to understand these challenges, the more complex they become.

This is where the role of data scientists have become so important, and why we’ve designed our Master of Data Science.

**Career outcomes**

Data scientists are in short supply around the world, but desired in multiple industry sectors.

La Trobe University is already working with hospitals, large internet companies and the Australian Institute of Sport to solve real-world data problems using the very skills being taught in this course.

Whether you’re looking for a commercial career or you want to help solve society’s most important challenges, this degree will give you the skills you need to put you in high demand for careers across a range of industries.

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“We’ve taken a distinctive approach to course development working with statisticians and computer scientists with extensive industry experience, delivering real-world data science projects. Finding highly skilled data scientists is difficult, and real work experience is essential for becoming a successful data scientist, so we’ve worked with our industry partners to incorporate real world projects into our course so our graduates are career ready.”

Dr Zhen He, Associate Professor, Program Director (Big Data Stream of Data Science)
APPLY NOW

Application process
Applying via our online application system is easy. The application should take no longer than 20 minutes to complete and you may need to submit relevant paperwork that addresses the entry requirements.
latrobe.edu.au/apply

One-on-ones
Register for a one-on-one consultation with a course specialist to find out more about our postgraduate courses. If you’re unable to make it in person, we can organise a phone consultation at your convenience.
latrobe.edu.au/consult

La Trobe College Excellence Scholarship
La Trobe University values academic excellence and offers La Trobe College Excellence Scholarships across a range of degrees including the Master of Data Science. The Scholarships are worth between 15%, 20% or 25% fee reduction for your entire degree and are limited in number.

To be eligible, you’ll need to meet course prerequisites and have a weighted average mark (WAM) of at least 65% or higher.

For more information, visit: latrobe.edu.au/study/how-to-apply/excellence-scholarship

Want to know more? Get in touch!

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