Master of Data Science and Innovation
Postgraduate Course 2019
Faculty of Transdisciplinary Innovation
Ideas
Revolution

Faculty of Transdisciplinary Innovation
The Master of Data Science and Innovation is part of the Faculty of Transdisciplinary Innovation. Please note the above numbers are approximate as of August 2018.

Connect with Us

- UTS.transdisciplinary
- UTS_FTDI
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Acknowledgement of Country

UTS acknowledges the Gadigal People of the Eora Nation and the Boorooberongal People of the Dharug Nation upon whose ancestral lands our campuses stand. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.
As the challenges before us become even more complex, dynamic and networked, people with the capability to conceive of jobs that do not yet exist and to work with and across disciplines become highly prized as agents to envision and enact change.

Our vision at UTS’s Faculty of Transdisciplinary Innovation (FTDi) is to advance learning beyond the traditions of the disciplines, push boundaries and explore how we work in terms of transdisciplinarity to create new solutions for a future world.

We offer a unique style of learning with the opportunity to engage in collaborative learning across disciplines, work on real briefs from our industry partners and to connect with local, national and global start up cultures.

The Master of Data Science and Innovation (MDSI) will ensure that you gain the adaptability, resilience, entrepreneurial spirit and creative thinking that’s required to thrive in the future economy. You’ll gain hands-on experience with data and analytics tools; reflect deeply on the very human issues these can raise; and leave better equipped to lead a data science team, influencing decision making with evidence.

In forming the FTDi and developing the MDSI, UTS has taken the lead in educating the next generation of remarkable people to lead change in what we already recognise is a new industrial revolution - a revolution of technology, work, ideas and education.

“Ensuring that you gain the adaptability, resilience, entrepreneurial spirit and creative thinking that’s required to thrive.”
Why study the MDSI at UTS?

The Master of Data Science and Innovation (MDSI) addresses a global talent gap for people with analytics and data science knowledge. This unique, transdisciplinary program is the first of its kind in Australia where creativity and innovation are integral components. The course integrates diverse industry perspectives and aligns data value with human values and ethics to shape future data science practice.

THE MDSI EXPERIENCE

- Analyse, interrogate, visualise and communicate with data to direct and lead organisations at the highest executive level.
- Learn from experienced and renowned academics across UTS, as well as leading industry professionals.
- Develop a human-centred perspective on big data; thinking ethically and systematically about its analysis and use.
- Develop your creative thinking skills and your ability to confront contemporary challenges. Create opportunities and future possibilities through analysis and interpretation of complex data and human concerns.
- Explore real-world projects and actual data sets with coursework and iLab projects. Solve client problems provided by industry partners or design your own data project.
- Develop specialist skills that are in high demand across a range of industries.
Student Testimonials

Pedro Fernandez de Mendonca
International MDSI graduate, 2017

“The MDSI empowered me with current knowledge and strong connections to industry, nourishing my creativity in a supportive multidisciplinary group of colleagues and lecturers. I wanted to extend my studies and become a data scientist, and the MDSI gave me the confidence that what I was learning was up-to-date in an ever-changing industry. I was provided with the necessary skills to succeed as a professional in this growing field. From amazing guest speakers to choosing my own electives, I knew I was receiving the best education available in this novel area of data science and big data.”

Alex Scriven
MDSI Graduate, 2018

“For me, the MDSI program’s innovative teaching practices, tight-knit community and industry connections made it a clear choice for me and, looking back, a life-changing experience. Each course has been built from the ground-up to provide the latest content in blended online and offline modes, at convenient times for postgraduate students and all whilst focussing on real-world, project-based assignments.

Within assignments and the built-in internship programs you are constantly using and developing your knowledge in the real world. Throughout my time I worked on real-world machine learning & analytics projects for a variety of organisations including Transport for NSW, Rio Tinto, The Iconic and many others.

From the MDSI program, I started my own Machine Learning & A.I consultancy (Madlytics) with a fellow MDSI peer. Being so industry-focussed throughout the program has allowed me to have the skills needed to bridge the gap between deeply complex technologies and business stakeholders. It has been a roller-coaster ride so far but I am excited for what the future holds!”

ALEX SCRIVEN, MDSI GRADUATE, 2018

“Within assignments and the built-in internship programs you are constantly using and developing your knowledge in the real world.”

ALEX SCRIVEN, MDSI GRADUATE, 2018
Yogitha Mariyappa  
International MDSI Graduate, 2018

“What sets the MDSI apart from other Master’s degree programs is its transdisciplinary, practice-based approach to learning. There is a large practical component to the program to ensure that students come out of their shells and develop crucial communication skills, collaborating with peers in the community. The Innovation Labs that are part of the MDSI program is also a fantastic opportunity for students to work with live data & solve real-world problems.

Within a month of finishing the degree’s coursework, I had 3 job offers from government, consulting and banking areas - and I hadn’t even started job hunting properly! MDSI helped me prepare well enough that, when opportunity presented itself, I was able to make the most of it. I was at the right place at the right time with the right skills. I currently work as a data scientist for Commonwealth bank of Australia.”

Kelly Tall  
MDSI Graduate, 2018

“The MDSI had a good mixture of practical and critical engagement with the subject matter. I loved that I was allowed to stretch my electives into the design and communications faculties. In my role as a data visualisation designer in a large financial institution, I combine data understanding, with design and communication to bring clarity and understanding for various internal audiences. Concepts that I learnt via the MDSI has helped me work with internal stakeholders to bring clarity to some ambiguous problem spaces. It has taught me to think critically about the data we work with, and not just take it as an objective source of truth.”
“MDSI graduates are valued by employers for their teamworking skills and industry preparedness.”

ASSOCIATE PROFESSOR, THERESA ANDERSON
Master of Data Science and Innovation

ASSOCIATE PROFESSOR THERESA ANDERSON
Master of Data Science and Innovation, Faculty of Transdisciplinary Innovation

“Meeting the challenges of the data explosion faced by so many organisations and institutions requires us to find new ways to work with and think about data. By taking a transdisciplinary approach to the study of data and analytics, the Master of Data Science and Innovation provides opportunities for students to pursue emerging careers in this evolving data landscape.

Increasingly, companies need someone who can make sense of data flows and translate this data into information that can feed innovation. Of course, innovation requires both a technical and creative mindset. Our students develop skills at this key intersection of creativity and technical analysis.

Building a community of co-learning is another important element of the MDSI course. Our MDSI graduates are valued by employers for their team working skills and industry preparedness.”

Career Options

Data experts are in high demand in all manner of industries, from oceanography to health policy work or market research. The MDSI prepares students to work professionally in a variety of emerging fields, including:

- data science
- data analysis
- data art
- data journalism
- mobile behaviour analysis
- data-driven policy work
- advertising and marketing
- online community management

The UTS MDSI provides an additional level of expertise in analytics and data science, targeting professionals who have the desire to lead teams and organisations at the Chief Executive level.
At UTS we’re committed to making connections that count. Industry partnerships and engagement are a core part of the MDSI program, preparing students to tackle complex, real world challenges.

There are two iLabs during the program, which provide students with the opportunity to design investigations utilising contemporary data discovery techniques and large complex data sets. In the final iLab, the study will either be focused on your current work environment, or industry partnerships can be negotiated in an area of interest.

The curriculum uses real-world projects, inviting industry to work with students both formally and informally. A partnership has also been developed with the NSW Data Analytics Centre to integrate data challenges and Hackathons into the curriculum.

BLAIR HUDSON
Analytics Executive, Macquarie Group

“Strong ties between university and industry are so valuable and important in the rapidly changing field of data science. It’s really important for graduates to be equipped with both the skills (especially commercial acumen and communication) to succeed after graduation, as well as interesting project experiences to share with potential employers. As an MDSI partner, I like to think that by engaging students in real-world problems through competitions, projects and discussion that we can develop the data science future leaders our world desperately needs.”

Students at the 2017 Unearthed Sydney hackathon

A team of UTS Master of Data Science and Innovation students won first prize at the 2017 Unearthed Sydney hackathon. The 54-hour long event challenged participants to develop prototype solutions to data challenges in the mining and resource sector.

For more information visit: uts.edu.au/mdsi-hackathon
Course Information

Master of Data Science and Innovation

Course Code: C04372
Duration: 2 years full time, 4 years part time

Course structure:
Students must complete 96 credit points (CP), comprising 56CP core and 40CP optional subjects. Optional subjects can be selected from specified data science related optional subjects and from across the University's disciplines. Enrolment in subjects from other disciplines is dependent on approval from the Course Director and subject coordinator, and usually requires demonstrated ability to meet pre-requisites. This flexible course structure enables students to pursue their own particular interests and career aspirations.

COURSE STRUCTURE
Master of Data Science and Innovation

96CP = 56CP + 40CP
Core Subjects | Optional Subjects
---|---
Data Science for Innovation | 8cp
Statistical Thinking for Data Science | 8cp
Data, Algorithms and Meaning | 8cp
Data Visualisation and Narratives | 8cp
iLab 1 | 12cp
iLab 2 | 12cp

Optional Subjects (choose 40CP from the following list)*

Leaving Data Science Initiatives | 8cp
Data and Decision Making | 8cp
Deep Learning | 8cp
Data Science Practice | 8cp
Elective 1 | 6cp
Elective 2 | 6cp
Elective 3 | 6cp
Elective 4 | 6cp

Total Credit Points 96cp

*Please note the optional subject list is reviewed every year and is subject to change according to student demand.

TEACHING MODE
The MDSI is designed with flexibility in mind. Classes are usually held after 5.30pm during the week and during the day on Saturdays. Students can expect to be on campus on average 6 or 8 times a month during semester and may have obligations during semester breaks.
THE ACADEMIC YEAR
There are three teaching sessions at UTS:
– Autumn Session: March to June
– Spring Session: July to October
– Summer Session: November to February
Most MDSI subjects are only offered in Autumn and Spring Session, but make sure you check out our Summer offerings. Taking available subjects in Summer is a great way to reduce your study load.

ADMISSION REQUIREMENTS
All applicants must address all three of the following criteria.
1. Academic qualifications considered:
   – Bachelor degree
   – Graduate diploma
   – Graduate certificate
   – Masters degree
   – Doctoral degree
2. The above qualifications may be in one of the following related disciplines:
   – Mathematical Sciences
   – Information Technology
   – Physics and Astronomy
   – Engineering and related technologies
   – Accounting
   – Banking, Finance and related fields
   – Economics and Econometrics
Applicants with other academic qualifications may be considered on the basis of general and professional qualifications that demonstrate their potential in the Master of Data Science and Innovation.
3. A minimum of three years professional/industry experience

LOCAL APPLICANTS
Submit your online application via the UTS Online Application System at uts.edu.au/pg-admissions
Find out everything you need to know about upcoming MDSI information sessions at uts.edu.au/tdi-events

COURSEWORK APPLICATION CLOSING DATES
If you want to start studying at UTS in either the Autumn or Spring Sessions, you need to apply by:
– Autumn Session: 31 January 2019
– Spring Session: 28 June 2019

INTERNATIONAL APPLICANTS
If you’re an international student, head to uts.edu.au/international to find the course information, fees and application details relevant to you.

NON-AWARD STUDY
Do you want to study a single subject without committing to a full degree? You can! It’s called non-award study and it’s a great way to upgrade your skills or just learn more about something you enjoy. What’s even more exciting is that any subjects you complete may be recognised in future study. To apply, visit uts.ac/non-award-study.

ENGLISH LANGUAGE PROFICIENCY
There are English language proficiency requirements for all courses. These requirements may apply to you, even if you are not an international student.
Visit uts.edu.au/english-language-requirements to find out more.

OFFERS
UTS will begin making postgraduate offers for 2019 from 18 September 2018.

FEES
You can find out more about what your degree will cost at uts.edu.au/tuition-fee-calculator
If you do have to pay a fee and you’re a local student, you may be eligible for FEE-HELP, an Australian Government loan scheme. Using FEE-HELP means you don’t have to pay for your tuition fees up front. More information can be found at uts.edu.au/government-help-schemes
You can choose to repay your FEE-HELP loan simply by notifying your employer who will then withhold your payments through the PAYG tax system. You can also make payments directly to the Australian Taxation Office (ATO).

ALUMNI ADVANTAGE
If you’ve already completed a degree at UTS then you’re eligible for the exclusive Alumni Advantage program, which offers a 10% saving on full fee paying degree programs. Find out if you’re eligible for the Alumni Advantage at alumni.uts.edu.au/advantage

TIMETABLE INFORMATION
Get an idea for what subjects are offered next session by visiting the UTS Timetable Planner: timetable.uts.edu.au

CONTACT US
UTS Student Centre
Let’s talk!
Make an enquiry with our friendly team.
Phone: 1300 ASK UTS (1300 275 887)
Online enquiry: www.ask.uts.edu.au
Web: mdsi.uts.edu.au

Disclaimer: Courses and electives are offered subject to numbers. The information in this brochure is provided for Australian and New Zealand Citizens and Australian Permanent Residents. If you are an international student, please consult the International Course Guide available from UTS International. Information is correct at time of printing (August 2018) and is subject to change without notice. Changes in circumstances after this date may alter the accuracy or currency of the information. UTS reserves the right to alter any matter described in this brochure without notice. Readers are responsible for verifying information that pertains to them by contacting the university.

Images: Toby Burrows, Andy Roberts, Anna Zhu, Andrew Worssam & Unsplash Jannes Glas, Hao Wang
22405 OCT 2018
“I knew I was receiving the best education available in this area of data science and big data”

PEDRO FERNANDEZ DE MENDONCA, MDSI GRADUATE 2017