

DESCRIPTION

We are living in a data-driven world. Society needs personnel who can apply critical analytical tools and algorithms to model and explain patterns observed in data using mathematical and statistical techniques. The qualifications will enable the learner to work with data using Microsoft Excel and Python, manage and use data, and apply a variety of statistical learning algorithms such as Logistic Regression, Support Vector Machines, Decision Trees, Boosting Algorithms, Neural Networks, K-Means Clustering and Hierarchical Clustering. The student will furthermore gain knowledge in the domain area of either finance or marketing via the elective module, to enable them to function optimally as data scientists in these fields. Society will significantly benefit from these highly sought-after professionals who can effectively operate in the fourth industrial revolution with the availability of mega data and a continued exponential increase in computing power. These professionals will contribute to society in many ways, from simple and yet essential tasks such as traffic control, customer service, online buying habits, advertising, hospital waiting time, predicting the weather and exchange rate to more advanced tasks such as self-driving cars, fraud detection, energy exploration, robotics, and genetic manipulation. Subsequently, the economy will grow in many ways due to improved efficiency, effectiveness, decisions, productivity, and profitability in all sectors. The purpose of this postgraduate diploma is to enable working professionals to undertake advanced study in data science. Data-driven decisions are at the centre of a range of business functions. As such, the field of data science is at the intersection of business domains, coding, mathematics and statistics. The proposed programme has a strong interdisciplinary character and is relevant to graduates in applied mathematics, finance, computer science, economics and other related disciplines.

The purpose of the Postgraduate Diploma in Data Science is to equip the student with the necessary skills to extract, clean, prepare and pre-process data for feeding into the best-suited algorithm(s), and finally for presenting the data in appropriate visual and written formats. The course provides the student with theoretical knowledge and a practical experience of the most widely used supervised and unsupervised learning algorithms. The student will be taught to present the final information in the format of a fit-for-purpose report, by depicting results in appropriate tables, supported by an interpretation of results. These skills, combined with domain knowledge, will provide the prospective data scientist with the necessary ability to provide practical solutions and future predictions to complex numerical problems in business and any field where data is used extensively.

ADMISSION REQUIREMENTS

- A Bachelor's degree in the fields of mathematics, computer science/IT, data science, engineering, commerce, statistics, or a related field.
- Applicants must submit proof of proficiency in Python (e.g., module description as part of a qualification, certificate, or academic transcript). If such proof is not provided, the applicant will be required to complete an Introduction to Python short course at their own cost and submit proof of successful completion before progressing to 2nd trimester (modules DSA182 and DSB182)..



Scan to learn more:



OTHER ACCESS PATHWAYS



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MATURE AGE EXEMPTION

ARTICULATION POSSIBILITIES

Vertical articulation opportunities external to STADIO include:

- Master of Data Science – University of KZN (SAQA ID: 115522)

Vertical articulation opportunities within STADIO include:

- Master of Management – STADIO (SAQA ID: 117867)

MINIMUM SYSTEM REQUIREMENTS

- Wi-Fi: Reliable broadband Internet access (Wi-Fi is available on all of our campuses, but you may prefer access from home as well).
- Web browser: Edge/Chrome/Safari/Opera/Firefox.
- Computer/Laptop: A current Windows or Apple Mac computer/laptop capable of running the Office 365 software. Office 365 includes Word, Excel, PowerPoint and Outlook.
- PDF Viewer: The free Adobe Acrobat software.
- Scanning documents: Ability to scan and upload documents (typically from your cell phone or smartphone)
- Email/cell phone for notification and communication.
- Communication: A cell phone or smartphone for receiving notifications and communication.

CAREER OPPORTUNITIES

DATA SCIENTIST	MACHINE LEARNING SPECIALIST
DATA ANALYST	SENIOR DATA SCIENTIST
DATA ENGINEER	DATA AND ANALYTICS MANAGER
STATISTICAL LEARNING SPECIALIST	SPECIALIST DATA SCIENTIST
PRINCIPAL DATA SCIENTIST	PYTHON DATA SCIENTIST

CURRICULUM OUTLINE

	1st YEAR	
Compulsory Modules (All)	Working with data	WWD182 (20 credits)
	Introduction to Data Science and Statistics	IDS182 (20 credits)
	Data Science 1	DSA182 (20 credits)
	Data Science 2	DSB182 (20 credits)
	Capstone Project ** Data Science 1 (DSA182) ** Data Science 2 (DSB182)	CAP182 (20 credits)
Elective Modules	Data Science in Finance	DSF182 (20 credits)
	Data Science in Health	DSH182 (20 credits)
	Data Science in Marketing	DSM182 (20 credits)
CREDITS PER YEAR	120	

** Prerequisite modules must be successfully completed before enrolling in a higher-level or more advanced module.