



# Master of Science in Data Science & Computational Intelligence

Riara  
University  
nurturing innovators

SCHOOL OF  
COMPUTING  
SCIENCES

## About the MSC Programme

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The Master of Science in Data Science and Computational Intelligence is grounded in the philosophy of harnessing the power of data and computational methods to drive innovation, solve complex problems, and create positive impacts in various domains. The program aims to develop well-rounded professionals who are not only technically proficient but also ethical leaders, innovative thinkers, and socially responsible contributors to the data science ecosystem.

There is also need for experts to utilize intelligent data generated by humans and machines to innovate solutions that transform society and how humans live and work. These experts are in dire need across the world and more so in Africa where Data Science programmes are still very few compared to projected demand for such experts. Careers which graduates of data science and computational intelligence can get into the following but are not limited to:

- Data Scientist
- Data Engineer
- Artificial Intelligence Project Manager
- Artificial Intelligence Coach
- Artificial Intelligence Solution Architecture
- Data Knowledge Miner
- Data Architect
- Machine Learning Engineer
- Features Engineer
- Robot Programmer

# Admission Requirements for the Programme

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The common regulations for postgraduate programmes of Riara University will apply.

In addition, for eligibility into the Master of Science in Data Science and Computational Intelligence programme, a candidate must be:

- A holder of a Bachelor of Science degree in Computer/Information Technology with at least Second-Class Honours (Upper Division) from Riara University or a Second-Class Honours (Lower Division) with 2 years of working experience in a relevant field;
- A holder of a Bachelor of Science degree in Computer Science/Software Engineering/Computer Engineering / Information Systems / Information Technology/Computer Systems / Internet Security/Business Information Technology / Bachelor of Technology/ Telecommunications, or related fields of at least Second-Class Honours (Upper Division) from a recognized University; or a Second-Class Honours (Lower Division) from a recognized University with 2 years of working experience in a relevant field;
- A holder of a Postgraduate Diploma in Computer Science/Computer Engineering, or related fields.

- A Bachelor's degree in other appropriate disciplines, plus a minimum of five years relevant work experience in an area(s) related Data Science or Computational Intelligence.

## Mode of Delivery of the Programme

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The Master of Science in Data Science and Computational Intelligence shall be delivered through Blended Learning (online and face-face) mode. Online learning will entail synchronous and asynchronous virtual interactions, project development and flipped classroom learning processes. Face-face learning will be administered through in-person class lectures, seminars, student presentations, guest lectures, tutorials and simulations.

The blended learning platform is, particularly ideal for the proposed MSC in Data Science and Computational Intelligence programme, considering that the University expects to admit working-class students from across the region who may not be able to access the campus on a daily basis. In addition, this programme comes at a time when there is increasing integration of information and communication technologies in learning.

The programme envisages a highly structured model to combine online and face-to-face class time ensuring that students maximize their learning time. This model will allow for computer-aided simulations, especially for practical courses.

## Graduation Requirements

In order to qualify for the award of the Master of Science in Data Science and Computational Intelligence, a student shall be required to successfully complete 54 credit hours.

Type of Course	Credit Hours
Core Courses	39
Electives	3
Dissertation	12
<b>Total</b>	<b>54</b>

## List of Course Units

Unit Code	Unit Name	Contact Hours	Credit Hours
<b>Year One Semester 1</b>			
MRDC 911	Fundamentals of Data Science & Computational Intelligence	45	3
MRDC 912	Programming Methodology	45	3
MRDC 913	Advanced Artificial Intelligence	45	3
MRDC 914	Research Methods	45	3
MRDC 915	Big Data Analytics and Business Intelligence	45	3

Unit Code	Unit Name	Contact Hours	Credit Hours
<b>Year One Semester 2</b>			
MRDC 921	Statistical Methods for Data Science 1	45	3
MRDC 922	Data Mining and Warehousing	45	3
MRDC 923	Fuzzy Logic and Evolutionary Computing	45	3
MRDC 924	Advanced Machine Learning	45	3
MRDC 925	Advanced Neural Networks	45	3
<b>Year Two Semester 1</b>			
MRDC 931	Advanced Statistical Methods for Data Science 2	45	3
MRDC 932	Research Seminar for Data Science and Computational Intelligence	45	3
MRDC 933	Critical Analysis for Data Science	45	3
<b>ELECTIVES (Select 1 Course)</b>			
MRDC 934	Secure Data Management and Privacy	45	3
MRDC 935	Visual Analytics		
<b>Year Two SEMESTER 2</b>			
MRDC 944	Dissertation	180	12

## Fees

The unit cost is Kshs 23,750, excluding statutory charges. The total fee payable depends on the number of modules taken per semester.

**DISCLAIMER:** Every effort has been made to ensure that information contained in this prospectus is accurate at the time of publication. However, Riara University reserves the right to make changes to the matters covered from time to time, both before and after a candidate's admission.

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