# BACHELOR OF COMPUTER SCIENCE IN ARTIFICIAL INTELLIGENCE (AI)

**REGENESYS**
CORPORATE EDUCATION

## Programme Overview

The primary purpose of the Bachelor of Computer Science in Artificial Intelligence degree is to provide a well-rounded, broad education that equips graduates with the knowledge base, theory and methodology for developing artificial intelligence-driven software solutions, as well as to enable them to demonstrate initiative and responsibility in an academic or professional context. It will prepare the student for a position involving the design, development and implementation of AI-driven software. It will also provide a strong understanding of the interplay of ethical issues, technical problems, and aesthetic values in the development of computing systems. The programme will also prepare the student for entry into a postgraduate programme in computer science or a related field.

## First Year Module

- Introduction to Computer Science
- Introduction to Linear Algebra
- Introduction to Artificial Intelligence I
- Academic Literacy for Science
- Philosophy
- Calculus
- Object Oriented Programming
- Emotional and Spiritual Intelligence
- Elementary Statistics for Science Students
- Psychology

## Second Year Module

- Foundations of Data Science
- Software Engineering and Professional Practice
- Fundamentals of Data Structures and Algorithms
- Discrete Mathematics Structure
- Fundamentals of Management
- Reasoning and Agents
- Computer and Information Security
- Speech and Audio Processing
- Artificial Intelligence II
- Strategic Management of Technological Innovation

## Third Year Module

- Artificial Intelligence III
- Informatics – Big Data
- Research Methods in AI
- Software Testing
- Financial Management
- Vision and Robotics
- Automated Reasoning
- Applied Machine Learning
- System Design Project
- Project Management

## Entry Requirements

A National Senior Certificate (NSC) (Bachelor endorsement) with at least 50% in English and Mathematics or a Senior Certificate (SC) with matriculation exemption or qualify for the exemption from the Matriculation Board with at least a D symbol on HG, or a C symbol on SG in English and Mathematics.

In addition to these formal academic admission requirements, applicants should have a computer or laptop as well as internet access to access their programme material, participate in online discussions, and access e-mails. The minimum requirements for a computer or laptop to access the programme are:

- An Intel core i5 processor or equivalent;
- A 500GB/1TB HDD;
- 4GB RAM;
- Windows 8 Pro (or the equivalent, or newer);
- USB ports (or Bluetooth or Ethernet);
- Headphones with a microphone;
- A webcam; and
- A broadband internet connection with a minimum speed of 2Mbps (LAN, fibre-optic cable, T1/T2 or ADSL).

Aside from the minimum admission criteria for the programme, the Academic Committee, chaired by the Academic Dean, may determine the final decision for acceptance into the programme. As an alternative admission, RPL will be applicable to 10% of the total cohort.

## Programme Structure

- NQF level 7 qualification, with 360 credits.
- This qualification is offered over a period of 3 years full-time, and 5 years part-time.