



Diploma in Computer Science (DCS500)

**FACT
SHEET**

Welcome to CIAFS

Diploma in Computer Science

The Diploma in Computer Science is CIAFS's most comprehensive technology credential, designed for serious career changers and aspiring specialists who want depth across the highest-demand domains in modern computing. Across 18 unique courses, students develop expertise in software engineering, artificial intelligence, machine learning, data science, the Internet of Things, and software project management.

Unlike narrow technical bootcamps, the Diploma delivers a coherent specialist curriculum that mirrors the breadth of a first-year bachelor's degree in computer science. Students complete substantial project work in each domain, build a portfolio that demonstrates competence to employers, and graduate with the rare combination of breadth and depth that opens doors to specialist roles.



Modules

* Prescribed textbooks, must be obtained by students at their own cost prior to the commencement of their studies

Module Codes	Description	Credits	Semester
DCS501	Software Project Management	3	1
DCS502	Data Science Fundamentals	3	1
DCS503	Software Architecture	3	1
DCS504	Software Development Life Cycle (SDLC)	3	2
DCS505	Distributed Systems Design	3	2
DCS506	Deep Learning and Neural Networks	3	2
DCS507	Natural Language Processing	3	3
DCS508	Advanced Data Mining	3	3
DCS509	Big Data Technologies	3	3
DCS510	Applied Statistics for Data Science	3	4
DCS511	Data Visualization and Communication	3	4
DCS512	Data Engineering	3	4
DCS513	Computational Thinking and Problem Solving in Data Science	3	5
DCS514	Embedded Systems Programming	3	5
DCS515	Sensors and Actuators	3	5
DCS516	Cloud Computing for IoT	3	6
DCS517	Data Analytics for IoT	3	6
DCS518	Human-Computer Interaction for IoT	3	6



Assessment

- Continuous assessment (assignments, projects, and quizzes)
- Summative assessment (tests and examinations)
- No practical or workplace-based component

Outcomes

Upon completion of the qualification, graduates will be able to:

- Design, build, and deploy enterprise-grade software systems using current architectures and methodologies.
- Apply deep learning, natural language processing, and machine learning to build intelligent applications.
- Engineer end-to-end data pipelines from ingestion through visualization for analytics and decision-support.
- Build connected IoT systems integrating sensors, embedded software, cloud platforms, and analytics.
- Lead software development projects using contemporary project management practices including Agile and DevOps.
- Communicate technical findings and recommendations effectively to executive and technical audiences.

Admission Requirements

- US High School Diploma, GED, or international equivalent (NQF Level 4 or higher)
- Recognition of Prior Learning (RPL) in line with CIAFS institutional policy
- English language proficiency: IELTS 5.5, TOEFL iBT 60, or equivalent for non-native English speakers
- Mature applicants (21+) with relevant work experience welcomed via portfolio review

Purpose of the Qualification

To provide students with:

- Deliver specialist competence across the highest-demand areas of modern computing.
- Build a portfolio of substantial project work that demonstrates capability to employers.
- Position graduates for senior individual contributor roles in software engineering, data science, AI, and IoT.
- Open a direct articulation path into bachelor's degree completion programs.



Articulation Options

Graduates can articulate horizontally or vertically into:

- Bachelor of Science in Computer Science (final-year completion)
- Bachelor of Science in Data Science
- Bachelor of Science in Software Engineering

Career Opportunities

Diploma in Computer Science

Graduates may pursue roles such as:

- Software Engineer
- Data Engineer
- Machine Learning Specialist
- IoT Solutions Developer
- Cloud Solutions Engineer