

Higher Certificate in Computer Science (HCCS500)

**FACT
SHEET**

Welcome to CIAFS

Higher Certificate in Computer Science

The Higher Certificate in Computer Science gives aspiring technology professionals a fast, focused path into one of the world's most in-demand career fields. Through six foundational courses, students develop hands-on competence in programming, computer architecture, database design, web development, and artificial intelligence, the same building blocks that power modern technology companies and the digital economy.

Designed for career changers, recent high school graduates, and junior IT staff seeking to formalize their skills, this qualification delivers the essential technical literacy that employers expect from entry-level technology roles. The program balances theoretical grounding with practical, project-based learning so students can contribute meaningfully on their first day on the job.



Modules

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

Module Codes	Description	Credits	Semester
HCCS501	Introduction to Computer Science	3	1
HCCS502	Introduction to Java Programming	3	1
HCCS503	Computer Organization and Architecture	3	1
HCCS504	Web Development	3	2
HCCS505	Database Systems	3	2
HCCS506	Artificial Intelligence	3	2



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:

- Demonstrate competence in fundamental programming concepts using Java and object-oriented principles.
- Apply database design principles to model, build, and query relational databases.
- Build interactive websites using current web development languages and frameworks.
- Explain the operation of modern computer hardware and how software interacts with it.
- Identify practical applications of artificial intelligence and apply foundational AI techniques to real problems.
- Communicate technical solutions clearly to both technical and non-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:

- A structured introduction to the core disciplines of computer science.
- Hands-on competence in programming, databases, and web development that employers can verify on day one.
- Foundational fluency in artificial intelligence so graduates enter the workforce with current, market-ready skills.
- A clear progression pathway into specialized advanced certificates and into degree programs.



Articulation Options

Graduates can articulate horizontally or vertically into:

- Advanced Certificate in Computer Science
- Certificate in Cybersecurity (cross-track entry)
- Associate degree programs in Computer Science or Information Technology

Career Opportunities

Graduates may pursue roles such as:

- Junior Programmer
- Web Developer Trainee
- Database Administrator Trainee
- Junior IT Support Specialist
- Technical Support Analyst