



FACT SHEET

Internet-of-Things Developer



Private
Tertiary
Education

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Internet-of-Things Developer

FACULTY OF INFORMATION TECHNOLOGY

Occupational Studies: 2027 Fact Sheet

Programme Title	SAQA ID	Credits	NQF
Occupational Certificate: Internet-of-Things Developer	119262	141	4

Programme description

From smart homes to smart cities, you'll orchestrate devices, sensors, and data like a tech maestro, making everything connected and smart. Your mission? To gather data from the world around us, channel it through the cloud, and transform it into actionable insights that shape the future.

An Internet-of-Things Developer coordinates all components of an Internet-of-Things (IoT) solution that includes sensors, devices, actuators, networks and other infrastructure to aggregate and disseminate data, store the data on the cloud and make it available to the data scientist for decision-making, thus being responsible for the full cycle from data collection to data delivery.

Admission requirements

The minimum entry requirement for this qualification is:

- ▶ NQF level 3 qualification

Mode of study | Duration

Day Classes (full time): 12 Months (5 days/week)

Evening Classes (part time): 12 Months, (2 x evening classes per week, 18:00 - 21:00, Mon & Wed or Tues & Thurs as well as 2 x Saturday classes per month)

Programme outline

Modules

INT411: Introduction to Internet of Things

ICA411: IoT Computing Architecture

IDE411: IoT Development

IDA412: Introduction to Databases

AIT412: Advanced IoT Principles

DTI412: Design Thinking for Innovation

SPECIALISATION - DRONE TECHNOLOGY

Course summary:

This specialisation equips students with the knowledge and practical skills to design, develop, and deploy intelligent drone and IoT-based technologies for real-world applications. Learners gain hands-on experience in embedded systems, autonomous drone operations, wireless communication, sensor integration, artificial intelligence, and smart automation. Through industry-relevant projects and practical laboratories, students develop innovative solutions for sectors such as precision agriculture, environmental monitoring, infrastructure inspection, logistics, disaster management, and smart cities, preparing them for careers in the rapidly growing field of intelligent autonomous systems.

Modules

Semester 1

ASD411: Introduction to Drone Automation and Intelligent Smart Solutions

Semester 2

ASD412: Advanced Drone Automation and Intelligent Smart Solutions

SPECIALISATION - AGRICULTURE TECHNOLOGY

Course summary:

The AgriTech and Smart Farming specialisation prepares students to transform modern agriculture through intelligent technologies, automation, and data-driven decision-making. Students develop practical expertise in Internet of Things (IoT), precision agriculture, artificial intelligence, drone technologies, sensor networks, cloud computing, and agricultural data analytics to design innovative farming solutions. Through hands-on projects and real-world applications, learners create smart irrigation systems, crop and livestock monitoring solutions, automated farming processes, and sustainable agricultural technologies that improve productivity, resource efficiency, and food security. Graduates are equipped for careers in digital agriculture, precision farming, agritech innovation, agricultural automation, and smart farming system development.

Modules

Semester 1

SFF411: Smart Farming Foundations and IoT Technologies

Semester 2

ASF412: Advanced Smart Farming Automation and Precision Agriculture

Teaching and Learning Methodology

A blended teaching and Learning methodology is followed. All theory classes will be conducted Virtually through Lecturer-led interactive teaching on a national basis. A flipped classroom approach will be followed in some sessions. This means that students are introduced to content at home and practice working through it during the applicable session, either the virtual theory sessions or the practical sessions. All students will be allocated to lecturers that are not necessarily based at the campus of enrollment but who will always be subject matter experts. CTU implements a national academic standard and all lecturers have been appointed on the same criteria and use the same academic content in the teaching and learning process. The adherence to a national academic standard is monitored by the Academic Management team at the Head office. Therefore, all students will continue to receive the same quality of education. Students will attend some practical, group, and research sessions on campus or virtually. The same work and time will be spent on both methods, face to

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face and VLIT, with students. Extra practical sessions can be booked with the Campus Operational Manager. Students will be expected to attend the practical, group, and research classes on campus a minimum of two days a week, as per the campus schedule.

Textbooks and e-guides

A list of prescribed textbooks will be provided in your e-guides. Students will receive an electronic version of the academic guides (e-guides) for this programme on the Teaching and Learning platform. Access is available to an electronic library of textbooks on O'Reilly, and it is included in the fees. Refer to the [Device Specifications and Stationery List](#) document for more information.

Technology hardware, software and data requirements

Because CTU is embracing the future of education - education beyond the classroom - it is compulsory for students to have their own laptop with the necessary specifications to speed up their journey to success.

Student Support

Student support sessions with the facilitator will also take place on a one-on-one basis either virtually or physically at the campus per appointment or per the academic schedule.

External Summative Assessment and Certification

In order to qualify for the external summative assessment, learners must have a copy of a completed and signed Statement of Work Experience as well as proof of successful completion of the Knowledge Modules and Practical Skills Modules.

Upon completion of this course, students will be awarded an **Occupational Certificate: Internet of Things from the QCTO**.

International Certifications

Included in price

Semester 1

- ▶ AWS Certified Cloud Practitioner (AWS-CO2)

Semester 2

- ▶ 700-821 IOTSE Cisco IoT Essentials for System Engineers

Students own account

- ▶ FC0-U61
- ▶ DP-900 Microsoft Azure Data Fundamentals
- ▶ ITPC_Python

Career fields

Students can be employed in the following career fields:

- ▶ IoT Deployment Specialist
- ▶ IoT Developer
- ▶ IoT Data Scientist

- ▶ AWS Cloud Practitioner
- ▶ Microsoft Azure IoT Developer

SPECIALISATION - DRONE TECHNOLOGY

Students can be employed in the following career fields:

- ▶ Embedded Systems & IoT Developer
- ▶ AI & Machine Learning Technician
- ▶ Drone & IoT Solutions Developer
- ▶ Autonomous Systems Engineer

SPECIALISATION - AGRICULTURE TECHNOLOGY

Students can be employed in the following career fields:

- ▶ Smart Irrigation Technician
- ▶ Agricultural Data Analyst
- ▶ Precision Irrigation Specialist
- ▶ Remote Sensing

What is EISA?

The External Integrated Summative Assessment (EISA) is an integral and critical component of the QCTO's quality assurance system. It is a single national assessment leading to the awarding of an Occupational Certificate. EISA ensures that the assessment of occupational qualifications, part qualifications and trades is standardised, consistent and credible.

For learners to qualify for entry to EISA, they must provide proof of completion of all required knowledge, practical and work experience modules as stipulated in the qualification. The statement of results obtained from the Skills Development Provider serves as proof that the candidate has satisfied all the requirements to be admitted to sit for EISA.

Pricing*

Programme	Registration Fees	Tuition fee
Internet-of-Things Developer (Including one specialisation)	R9 000	Contact a CTU campus/consultant for the latest fee information and payment options.

* Excludes external fees and identified textbooks if applicable.

Payment

Visit our website to view the payment method.

[Payment Methods.](#)

[APPLY for Student Loan HERE!](#)

Additional costs

Students must make provision for additional items such as textbooks, stationery, supplementary examinations, research costs and printing, field trips etc.

Disclaimer

The content of this fact sheet is subject to change without notification due to market trends in the industry, legislation and/or programme version updates. Refer to website for the latest version of the prospectus. CTU Training Solutions (PTY) Ltd, reserves the right to change the programme content without prior notice. Additional international exams may be written but are not included in the programme fee. Minimum student (capacity) group sizes will fall into the Virtual Instructor-Led programme commencing in the months of February & July of each year.

I (Name of student):..... hereby acknowledge that I understand the information stated in this document and fully comprehend the specifics explained above pertaining to this qualification.

Student signature:.....

Signature of legal guardian:.....

Name of legal guardian:.....

Consultant signature:.....

Name of sales consultant:.....

Date:.....

*** Please note the original signed copy should be kept on the student record file.**

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