

# WSQ - Quantum Computing for Beginners

## About This Course

Embark on an exciting journey into the revolutionary field of quantum computing. Our WSQ Quantum Computing for Beginners course equips you with the foundational knowledge you'll need to understand this complex yet fascinating domain. From quantum bits (qubits) and quantum algorithms to quantum mechanics, you'll gain the skills to comprehend the fundamental theories that are reshaping the world of computing.

Whether you are a seasoned IT professional or a computing enthusiast, this course is designed to make the subject of quantum computing accessible. You'll delve into practical applications and real-world scenarios, demystifying the complexity of quantum systems. By the end of the course, you will have a strong grasp of quantum computing concepts, positioning you at the forefront of this emerging field.

## What You'll Learn

By end of course, learners should be able to:

- LO1: Identify and use appropriate quantum computing platforms for testing quantum gates and algorithms
- LO2: Utilise and conduct quantum gates and logic to derive solutions
- LO3: perform coding and conduct testing of quantum algorithms
- LO4: Diagnose outcomes, propose, and implement changes for quantum computing applications

## Course Certificate

Two e-certificates will be awarded to trainees who have passed the assessment.

### 1. Statement of Achievement

**User Interface Design**  
**ICT-DES-3008-1.1 TSC**  
under Infocomm Skills Framework  
issued by WSG/SSG.

### 2. Certification of Achievement

issued by Tertiary Infotech  
Pte Ltd.

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## Course Outline:

### **Topic 1: Introduction to Quantum Computing**

Key Principles of Quantum Computing  
Quantum Computing Platforms

### **Topic 2: Quantum States and Gates**

Quantum State Vector Representations  
Quantum Circuits and Quantum Gates

### **Topic 3: Quantum Algorithms**

Coding Quantum Algorithms  
Testing Quantum Algorithms

### **Topic 4: Quantum Computing Applications**

Introduction to Quantum Error Correction  
Introduction to Quantum Machine Learning

### **Final Assessment**

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## Course Information

**Course Code:** TGS-2022017591

**Skills Framework:** Computational Modelling ICT-DIT-3001-1.1 TSC  
under Infocomm Skills Framework

**Course Fee (Before Funding):**

\$800.00 (Bef. GST)

\$872.00 (Incl. GST)

**Time:** 9:30am-6:30pm

**Duration:** 16hrs (2 days)

**Registration Link:**

<https://www.tertiarycourses.com.sg/wsq-quantum-computing-for-beginners.html>

## Minimum Entry Requirements

### Knowledge and Skills

- Able to operate using computer functions with minimum Computer Literacy Level 2 based on ICAS Computer Skills Assessment Framework.
- Minimum 3 GCE 'O' Levels Passes including English or WPL Level 5 (Average of Reading, Listening, Speaking & Writing Scores).

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## WSQ Funding

WSQ funding is only applicable to Singaporeans/PRs. Subject to eligibility, the funding support is subjected to funding caps.

**Baseline:** Singaporean/PR age 21 and above

**MCES:** Singaporeans aged 40 years old and above

**SME:** Small and Medium Enterprises.

### SkillsFuture Enterprise Credit (SFEC):

Eligible Singapore-registered companies can claim up to \$10,000.

**Effective for Courses starting from 1 Jan 2024**

Full Fee	GST	Nett Fee after Funding (Inc. GST)	
		Baseline	MCES / SME
\$800	\$72.00	\$472.00	\$312.00

## UTAP Funding

Eligible NTUC members can apply for 50% of the unfunded fee from UTAP, capped at \$250 per year. NTUC members aged 40 and above will get increased funding support from \$250 to \$500.

## Absentee Payroll (AP) Funding

\$4.50 per hour, capped at \$100,000 per enterprise per calendar year.

AP funding will be computed based on the actual number of training hours attended by the trainee.

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## Frequently Asked Questions

### \* What are the prerequisites for WSQ Funding?

1. You need to be a Singaporean Citizen or Permanent Resident, physically based in Singapore.
2. You must successfully complete the programme and pass the assessment in order to be eligible.
3. You must attend at least 75% of the training.

### \* Can I club any other grant with this subsidy?

No, you cannot claim any other grant if you are claiming this subsidy from SSG. You should not be claiming for any other grants, subsidies, or tax concessions, provided unless explicitly permitted.

### \* Do I need to pay the full fee, and then claim the subsidy from WSQ Funding?

The programme works on a Nett fee model, i.e. you only need to pay the difference between the fee, and the funding amount at the time of enrollment. The training provider (TP) will claim the funding amount from SSG on completion of the programme. In case you fail to complete the programme, or if the claim raised by TP is rejected by SSG then you are liable to pay the funding amount to TP.

## Enquiry

**Email:** [enquiry@tertiaryinfotech.com](mailto:enquiry@tertiaryinfotech.com)

**Tel:** +65 6100 0613

**Venue:** 12 Woodlands Square, #07-85/86/87,  
Woods Square Tower 1, Singapore 733715 (Disabled-Friendly)