@ASK Training
Attitude | Skills | Knowledge

up to 90% SkillsFuture Funding

Balance Fee SkillsFuture Credit, PSEA & UTAP Claimable

Balance Fee SkillsFuture Enterprise Credit Claimable

Eligible for Training Allowance

(SCTP)

ADVANCED CERTIFICATE IN IT INFRASTRUCTURE AND OPERATIONS

(ELIGIBLE FOR FULL-TIME TA)

Course **Synopsis**

The Advanced Certificate in IT Infrastructure and Operations is designed to equip participants with the technical knowledge and practical competencies needed to support, manage, secure, and optimise IT systems and infrastructure in modern organisations. The programme builds a strong foundation in core IT areas, including computer hardware, operating systems, desktop support, networking, cybersecurity, troubleshooting, and IT service management, enabling learners to develop the confidence and skills required for operational IT roles.

As participants progress, they will deepen their expertise in advanced hardware and software troubleshooting, network administration, systems and server administration, cloud computing, and cybersecurity practices, including ethical hacking concepts. The programme also integrates industry relevant certification preparation, including **ITIL 4 Foundation Certification**, **Microsoft Azure Fundamentals**, **Azure Administrator Associate**, **Azure Network Engineer Associate** and **CompTIA Security+(Plus)**, providing participants with pathways to strengthen their professional credentials and industry readiness.

In addition, participants will examine emerging technologies and current industry trends to remain responsive to the evolving digital landscape. Through applied learning activities and a Capstone Project based on a real-world IT project, participants will consolidate their skills in problem-solving, technical support, infrastructure management, and service delivery.

Entry Requirements

Language Proficiency:

- Attained at least WPLN Level 5, OR
- Obtained Grade C6 for GCE O Level English, OR
- Other equivalent qualifications

Academic Qualifications:

- Obtained at least a pass or C6 at GCE O Level in at least 3 subjects, OR
- Candidates with other qualifications will be considered on a case-by-case basis, OR
- Mature candidates (30 years old and above) with at least 8 years of relevant working experience

Course-Specific Prerequisites:
Certain modules within the programme require prior completion of earlier modules. The recommended learning sequence is detailed in the Programme Structure section below. Participants must have completed the specified prerequisite modules before enrolling in advanced-level courses.

Course Code: *TGS-2026063822*

Target **Audience**

This programme is suitable for:

- Individuals seeking to enter the IT sector with no or limited prior experience
- Working professionals looking to formalise their IT knowledge or transition into a technical IT role
- Help desk and desktop support staff seeking to advance into infrastructure or cloud roles
- IT practitioners aiming to broaden their technical competencies across networking, security, and cloud domains
- Mature candidates with relevant work experience who wish to upskill for career progression

Programme **Structure**

The programme comprises 14 modules spanning 380 hours of training, structured across foundational, intermediate, and advanced tiers.

#	Module Title	Hours	Assessment
Foundation			
1	(8hrs) Introduction to Information Technology (IT)	8	Written
2	(24hrs) Understanding Computer Hardware & Peripherals	24	Practical
3	(24hrs) Operating Systems and Desktop Support	24	Practical
4	(24hrs) Network Fundamentals and Troubleshooting	24	Written + Practical
5	(24hrs) Cybersecurity Essentials	24	Written
6	(16hrs) IT Troubleshooting and Problem Solving	16	Written
Intermediate			
7	(24hrs) IT Service Management and Help Desk Operations (ITIL 4 Foundation)	24	Written
8	(32hrs) Advanced Hardware and Software Troubleshooting	32	Written + Practical
9	(48hrs) Systems and Server Administration	48	Written + Practical
10	(40hrs) Cloud Computing	40	Written + Practical
Advanced & Specialisation			
11	(48hrs) Advanced Network Administration	48	Written + Practical
12	(32hrs) Cybersecurity and Ethical Hacking	32	Written + Practical
13	(16hrs) Emerging Technologies and Trends	16	Written
14	(20hrs) Capstone Project: Real-World IT Project	20	Practical + Oral

Total Programme Hours: 380 hours

Assessment **Overview**

Each module is assessed through one or more of the following assessment types, selected to match the knowledge and skills being developed:

- **Written Assessment** — Tests conceptual understanding, terminology, frameworks, and analytical reasoning
- **Practical Assessment** — Evaluates hands-on technical proficiency through task-based exercises in lab or simulated environments
- **Oral Assessment** — Used in the Capstone Project to assess communication, project reasoning, and professional judgement

Programme **Learning Outcomes**

Upon successful completion of all modules, participants will be able to:

- Explain and apply foundational IT concepts including hardware, software, operating systems, and networking principles
- Install, configure, and maintain Windows desktop and server environments, including virtualisation and Active Directory
- Design, configure, and troubleshoot local area networks and enterprise-level Azure cloud networks
- Identify and mitigate cybersecurity threats, conduct vulnerability assessments, and apply ethical hacking methodologies

Programme **Learning Outcomes**

Upon successful completion of all modules, participants will be able to:

- Deploy and manage cloud infrastructure using Microsoft Azure, covering virtual networks, storage, virtual machines, and monitoring tools
- Apply ITIL 4 service management principles to improve IT service delivery and help desk operations
- Evaluate and propose the adoption of emerging technologies, including AI, IoT, RPA, and digital workplace solutions
- Manage IT asset lifecycle and demonstrate responsible IT disposal practices
- Execute a comprehensive real-world IT project, demonstrating project planning, stakeholder communication, and delivery skills
- Prepare for industry-recognised certifications including ITIL 4 Foundation, AZ-900, AZ-104, AZ-700, and CompTIA Security+(Plus)

Industry Certification **Pathways**

This programme is designed to support participants in achieving the following industry certifications upon completion of the relevant modules:

Certification	Supported by Module(s)
ITIL 4 Foundation	(24hrs) IT Service Management and Help Desk Operations
Microsoft Azure Network Engineer Associate (AZ-700)	(48hrs) Advanced Network Administration
Microsoft Azure Fundamentals (AZ-900)	(40hrs) Cloud Computing
Microsoft Azure Administrator Associate (AZ-104)	(40hrs) Cloud Computing
CompTIA Security+(Plus)	(24hrs) Cybersecurity Essentials (32hrs) Cybersecurity and Ethical Hacking

Instructional **Approach**

All modules are delivered using a blended instructional approach designed to build both theoretical understanding and practical competence. Key methods include:

Interactive Lectures and Guided Demonstrations
Trainer-led instruction supported by visual aids, live demonstrations, and worked examples to introduce concepts and connect theory to workplace practice.

Hands-On Lab Sessions
Structured practical activities allow participants to apply skills directly in controlled environments using real hardware, virtual machines, and cloud platforms.

Scenario-Based Learning
Participants engage with realistic workplace situations requiring analysis, decision-making, and problem resolution.

Case Study Discussions
Real-world examples drawn from industry contexts deepen understanding and support evaluation of technical and strategic decisions.

Problem-Based Learning
Participants work collaboratively to diagnose and resolve simulated IT issues, strengthening critical thinking and root-cause analysis skills

Collaborative Learning and Group Discussion
Peer interaction and group work broaden perspectives and reinforce understanding through shared inquiry.

Practical Application and Skills Mastery
Repeated practice across tasks and assessments builds confidence, accuracy, and workplace readiness.

Programme **Outline**

Module 1: (8hrs) Introduction to Information Technology (IT)

- Learning Unit 1: Overview of the IT Industry in Singapore and Job Roles
- Learning Unit 2: Basic Hardware Concepts
- Learning Unit 3: Basic Software Concepts
- Learning Unit 4: IT Overview / Glossary

Module 2: (24hrs) Understanding Computer Hardware & Peripherals

- Learning Unit 1: Introduction to Computer Hardware
- Learning Unit 2: Identifying the Parts and Connectivity
- Learning Unit 3: PC Build-Up / Upgrading
- Learning Unit 4: BIOS and Process Flow of Booting

Module 3: (24hrs) Operating Systems and Desktop Support

- Learning Unit 1: Introduction to Operating System
- Learning Unit 2: Installation and Configuration of Windows OS
- Learning Unit 3: Desktop Support Best Practices
- Learning Unit 4: Virtualised Environment and Hands-on Activity
- Learning Unit 5: Maintenance and Performance Optimisation
- Learning Unit 6: Security and Data Backup

Module 4: (24hrs) Network Fundamentals and Troubleshooting

- Learning Unit 1: Introduction to Computer Networks
- Learning Unit 2: Network Types, Topologies, Protocols, Methodologies
- Learning Unit 3: Setup and Configure Small-Scale Network, and Troubleshoot Connectivity Issues
- Learning Unit 4: Network Simulation Software and Design

Module 5: (24hrs) Cybersecurity Essentials

- Learning Unit 1: Summarising Fundamental Security Concepts
- Learning Unit 2: Comparing Threat Types
- Learning Unit 3: Explaining Appropriate Cryptographic Solutions
- Learning Unit 4: Implement Identity and Access Management
- Learning Unit 5: Maintain Enterprise Campus Network Architecture
- Learning Unit 6: Secure Cloud Network Architecture
- Learning Unit 7: Explain Resiliency and Site Security Concepts

Programme **Outline**

Module 6: (16hrs) IT Troubleshooting and Problem Solving

- Learning Unit 1: Introduction to Troubleshooting Process and Identifying Common IT Issues
- Learning Unit 2: Problem Analysis and Diagnosis
- Learning Unit 3: Hardware and Software Troubleshooting
- Learning Unit 4: Network Troubleshooting
- Learning Unit 5: Application Troubleshooting
- Learning Unit 6: Security Troubleshooting

Module 7: (24hrs) IT Service Management and Help Desk Operations (ITIL 4 Foundation)

- Learning Unit 1: Key Concepts of Service Management
- Learning Unit 2: Key Concepts of ITIL 4
- Learning Unit 3: The Guiding Principles
- Learning Unit 4: ITIL 4 Management Practices

Module 8: (32hrs) Advanced Hardware and Software Troubleshooting

- Learning Unit 1: Introduction to Advanced Troubleshooting
- Learning Unit 2: Advanced Hardware Troubleshooting Techniques
- Learning Unit 3: Advanced Software Troubleshooting Techniques
- Learning Unit 4: Diagnosis and Resolution of Complex Technical Problems
- Learning Unit 5: Overview of IT Asset Management (ITAM)

Module 9: (48hrs) Systems and Server Administration

- Learning Unit 1: Introduction to Microsoft Server Environment
- Learning Unit 2: Server Installation
- Learning Unit 3: Deployment of Active Directory Domain Service (ADDS)
- Learning Unit 4: Deployment of DNS and DHCP
- Learning Unit 5: Deployment of Disks, File System and Storage Space
- Learning Unit 6: Deployment of Remote Access Services
- Learning Unit 7: Hyper-V in Windows Server
- Learning Unit 8: High Availability and Disaster Recovery

Module 10: (40hrs) Cloud Computing

- Learning Unit 1: Introduction to Cloud Computing
- Learning Unit 2: Introduction to Cloud Virtual Network
- Learning Unit 3: Introduction to Cloud Storage
- Learning Unit 4: Introduction to Cloud Virtual Machines
- Learning Unit 5: Introduction to Cloud Monitoring

Programme **Outline**

Module 11: (48hrs) Advanced Network Administration

- Learning Unit 1: Azure Networking Fundamentals
- Learning Unit 2: Hybrid Connectivity and Security
- Learning Unit 3: Load Balancing and Application Delivery
- Learning Unit 4: Monitoring, Troubleshooting and Monitoring Workflow
- Learning Unit 5: Advanced Routing and Multi-Region Design

Module 12: (32hrs) Cybersecurity and Ethical Hacking

- Learning Unit 1: Explain Vulnerability Management
- Learning Unit 2: Evaluate Network Security Capabilities
- Learning Unit 3: Assess Endpoint Security Capabilities
- Learning Unit 4: Enhance Application Security Capabilities
- Learning Unit 5: Explain Alerting and Monitoring Concepts
- Learning Unit 6: Analyse Indicators of Malicious Activity
- Learning Unit 7: Summarise Security Governance Concepts
- Learning Unit 8: Explain Risk Management Processes
- Learning Unit 9: Summarise Data Protection and Compliance Concepts

Module 13: (16hrs) Emerging Technologies and Trends

- Learning Unit 1: What are Emerging Technologies
- Learning Unit 2: How to Approach Emerging Technologies
- Learning Unit 3: Exploration of Emerging Technologies in IT
- Learning Unit 4: Exploration of Digital Workplace Technologies
- Learning Unit 5: Scenario-Based Case Study

Module 14: (20hrs) Capstone Project: Real-World IT Project

- Learning Unit 1: Scope Capstone Project
- Learning Unit 2: Documentation of Project
- Learning Unit 3: Performing Work and Managing Stakeholder Communication
- Learning Unit 4: Delivering the Outcomes to the Stakeholders
- Learning Unit 5: Reviewing Work Performed for Capstone

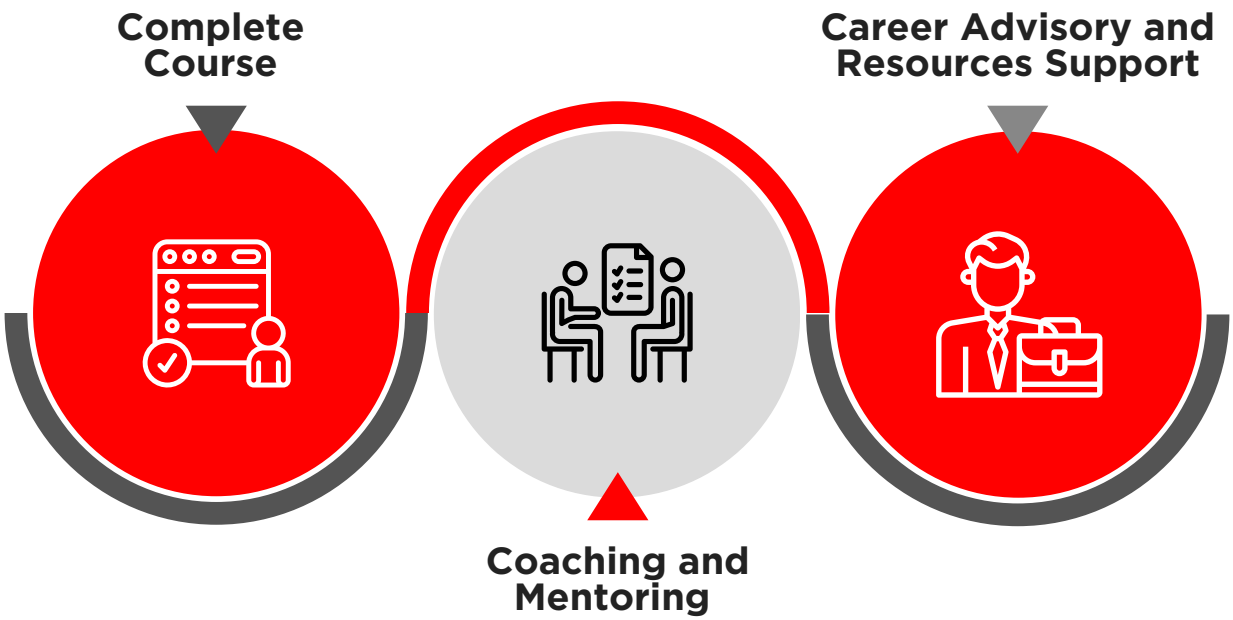
Why Learn **From Us**

You will acquire extensive knowledge from highly experienced industry practitioners who develop and deliver top quality course content through experiential hands-on learning methodologies. What you can expect:

- **Real world hands-on projects**
- **Comprehensive, up-to-date curriculum and courseware**
- **Post-course coaching and mentorship**
- **Career Advisory and Resources Support Programme**

@ASK TRAINING	OTHER INSTITUTES
Instructors are subject matter experts	Instructors may not have sufficient subject matter expertise
Courseware is up-to-date	Courseware may be outdated
Training is hands-on with real world project-based assignments	Curriculum and lesson plan may be unstructured and lack engagement
Career Advisory and Resources Support Programme	Training may be loaded with lectures without opportunity to practice concepts taught
	No career services offered

Post Course **Support**



Programme **Fee**

S$17,821.50
(inclusive of 9% GST)

PROGRAMME FEE AFTER ELIGIBLE SSG SUBSIDIES:

From S$2,076.45

(inclusive of 9% GST) after 90% SSG Subsidies

Self-Sponsored	Course Fee before Subsidy and GST	Eligible Funding	Nett Fees Payable incl. 9% GST
Singapore Citizens ⩾ **40 years old**	S$16,350.00	90% SkillsFuture Funding	S$2,076.45
Singapore Citizens, PRs or LTVP+ Holders ⩾ **21 years old**		70% SkillsFuture Funding	S$5,346.45

SkillsFuture Credits can be used on top of existing subsidies

Company-Sponsored	Course Fee before Subsidy and GST	Eligible Funding	Nett Fees Payable incl. 9% GST
Small-to-Medium Enterprise (SME) Singaporean Citizens, PRs or LTVP+ Holders ⩾ 21 years old	S$16,350.00	90% SkillsFuture Funding	S$2,076.45
Non-SME Singaporean Citizens, PRs or LTVP+ Holders ⩾ 21 years old		70% SkillsFuture Funding	S$5,346.45
Non-SME Singaporean Citizens ⩾ 40 years old		90% SkillsFuture Funding	S$2,076.45

Singapore Citizens 21 years old and above who meet special criteria* may be eligible for Additional Course Fee Funding Support (AFS) of 95% Subsidy. AFS is only eligible for SkillsFuture Career Transition Programme applicants.

Contact Us

+ 65 64846723
+ 65 94303852
information@asktraining.com.sg
https://asktraining.com.sg/

Follow Us

@ask.training.sg
ASK Training
@ASK Training
@ask_training

Find Us

8 Jurong Town Hall Road
#27-01 The JTC Summit
Singapore 609434

10 Anson Road
#06-11 Inernational Plaza
Singapore 079903