Learner Guide 2023
Cloud Fundamentals CF412

CTU training solutions | Private Tertiary Education

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How to use the guide:

The guide will provide an overview of the syllabus and will deliver the learning outcomes of the module. It will indicate each major topic that will be covered, as well as the learning outcomes of each topic.

The study guide is NOT a replacement of textbooks and should be used in conjunction with the required textbooks.

At the end of each study unit there will be a summary, followed by a number of self-assessment questions. These questions will assist you to prepare for the tests and exams. The following icons will be used in the study guide:

	Indicates the sections in the prescribed textbook that the student needs to study
	Indicates activities to be completed
	Indicates group activities to be completed
	Indicates exercises to be completed
	Indicates revision questions to be completed
	Indicates projects to be completed

Introduction

Welcome to Cloud Fundamentals - CF412 module. Azure is a cloud computing platform with an ever-expanding set of services to help you build solutions to meet your business goals. Azure services range from simple web services for hosting your business presence in the cloud to running fully virtualized computers for you to run your custom software solutions. Azure provides a wealth of cloud-based services like remote storage, database hosting, and centralized account management. Azure also offers new capabilities like AI and Internet of Things (IoT).

Focus:
The primary focus of this module is to equip you with the essential knowledge and skills required to work with cloud concepts, Azure services, Azure workloads, security and privacy in Azure, as well as Azure pricing and support. You will gain expertise in cloud services and how those services are provided with Microsoft Azure.

Applications:
By mastering Core Web Development, you will be able to create a wide range of cloud applications. These can include but are not limited to:

- Creating a virtual machine in the Azure portal.
- Creating a Web App.
- Deploying Azure Container Instances.
- Creating a virtual network and blob storage.

Knowledge:
During this module, you will acquire a diverse range of skills and knowledge, including:

- Core Azure Services.
- Azure core solutions and management tools.
- Azure general security and network security features.
- Identity, governance, privacy and compliance features in Azure.

Technologies and Standards:
This module will introduce you to a range of industry-standard technologies, including but not limited to:
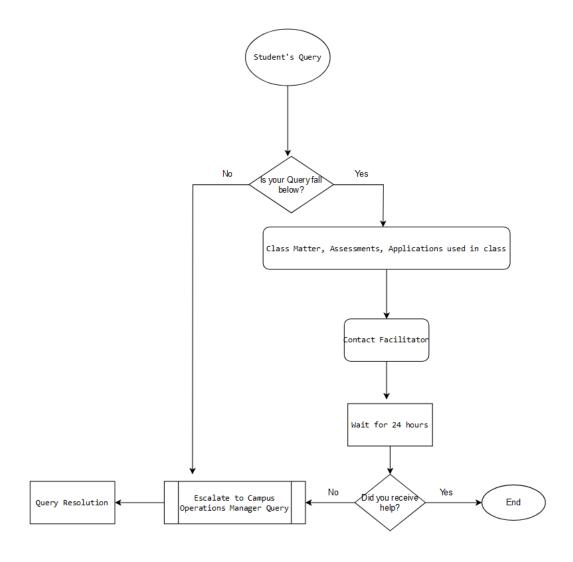
- Azure Cloud Services.

By the end of this module, you will have a solid foundation in cloud services and be well-equipped to pursue advanced topics and specialize in specific areas of interest. Good luck with your studies!

ICT Programming Department Information

The Programming Department is part of the School of Information Technology, which focuses on providing comprehensive and innovative ICT education, training, and research programs to benefit both the industry and society at large. Our department is committed to fostering Passion, Quality, and Professionalism in all aspects of programming and IT education.

Query Resolution Structure:

Flowchart:

- Student's Query
- Is your Query fall below?
  - No → Escalate to Campus Operations Manager Query → Query Resolution
  - Yes → Class Matter, Assessments, Applications used in class
    - → Contact Facilitator
    - → Wait for 24 hours
    - → Did you receive help?
      - No → Escalate to Campus Operations Manager Query
      - Yes → End

The College/Department's contact information per Campus is as follows: (This should be followed when there is a query)

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Purpose of the module

In this module, you'll take an entry-level, end-to-end look at Azure and its capabilities. You'll gain a solid foundation for completing the available learning paths for Azure fundamentals. After completing this module, you'll be able to:

- Describe the basic concepts of cloud computing.
- Determine whether Azure is the right solution for your business needs.
- Differentiate between the different methods of creating an Azure subscription.

Contact Hours and Indicative Student Workload

Proposed Roll Out Strategy	Credits	Total Notional Hours	Number of Weeks	Theory Hours	Practical Hours	Total Contact Sessions Total Hours per week	Formative Assessments (45%): Hours	Summative Assessments (15%): Total Hours
Semester	11	110	13	3	5	10	10	10

Teaching and Learning Methods

Lectures, Flipped Classroom, Webinars, Group and Research, practical classes (role play), and Gamification.

Module Resources

The module introduction with the facilitator will cover:

- Overview of the module, including tasks and activities – expectations
- Timetable
- The Learner Guide
- The Learner Electronic Portfolio of Evidence
- Practical's
- Research
- Group activities
- LABS
- International exams (if applicable)
- Assessments
- The importance of completing all tasks in the EPoE; the neat and orderly submission of evidence in the EPoE; all forms completed and signed
- WIL Component
- The Summative Assessment
- Programme Assessment timetable schedule
- Assessment Policy
- Self-Study time

Please note: Hand out and submission days are clearly indicated on the lesson planner. Students neglecting to submit projects by stated submission days will be penalized as per assessment policy

The semester is divided in sixteen (16) weeks of formal class time. Class sessions are divided into the theoretical, practical, group assignments and research sessions. As part of students' development, there will also be homework as given by the trainer.

Prescribed Resources

Prescribed reading:

- Title: Microsoft Azure Fundamentals, First Edition
  ISBN: 9780135732199

Recommended Additional Resources

- Exam Ref AZ-900 Microsoft Azure Fundamentals
  9780136877189

Textbook(s)

- Title: Microsoft Azure Fundamentals Certification and Beyond
  ISBN: 9781801073301

Video(s)

- [Microsoft Azure Fundamentals](#)
- [AZ-900 Microsoft Azure Fundamentals Exam Quick Prep](#)
- [Microsoft AZ-900 Certification Course: Azure Fundamentals](#)

Software

- A valid Azure account (To be provided to you in class by the facilitator – [Free account](#))

Webinars

- N/A

Assessment Details

The students will need a pass mark of 80% on the Prelim exam to qualify for admission to the international certification exams.

Formative assessment breakdown

Formative 1	Formative 2	Formative 3
Weighting: 33%	Weighting: 33%	Weighting: 34%
Open Book	Open Book	Group Activities
Theory and Practical	Theory and Practical	Theory and Practical

Summative assessment:

Theory and Practical exam
50%

Formative assessments (50%) + Summative assessment (50%) = Final mark

Assessment Preparation Guidelines

	Format of the Assessment	Resources required	Learning Units covered
Formative Assessment 1:	Theory and Practical oriented	COLCampus and O'Reilly Textbook	Unit 1: Understand cloud concepts Unit 2: Understand core Azure services Unit 3: Understand Core solutions and management tools
Formative Assessment 2:	Theory and Practical oriented	COLCampus and O'Reilly Textbook	Unit 4: Understand General security and networking features Unit 5: Understand security, privacy, compliance, and trust Unit 6: Understand Azure pricing and support
Summative Exam	Theory and Practical oriented	COLCampus and O'Reilly Textbook	From Unit 1 to Unit 6

Assessment Release and Submission Week

Formative assessment:	Release Week	Submission Week
Formative Assessment 1	Week 1	Week 5
Formative Assessment 2	Week 6	Week 9

Formative Assessment 3	Week 10	Week 11

Summative assessment:	Release Week	Submission Week
Summative Assessment	Week 17	Week 18

Please note – There are two (2) steps in the submission process.
- Step 1: Required evidence in the specified formats are submitted on COL Campus to the designated assignment description.
- Step 2: Complete and submit document of authenticity for every formative and summative assessment submitted.

Assessment Strategy

The following assessment activities are applicable to each module:
- Knowledge assessments
- Practical / Research Assignments
- CCFOs (Critical Cross Field Outcomes) / Simulated case studies
- Work Integrated Logbooks

Progression

Students need to achieve a minimum final mark of 70%, to be deemed competent. A final mark of less than 70%, deems a student to fail and the student will be required to repeat the module in the following academic year.

Weekly Planner

Week	Learning Units to be covered	Resources required	Class activity
Week 1 to Week 6	Unit 1: Understand cloud concepts Unit 2: Understand core Azure services Unit 3: Understand core Solutions management	COLCampus and Prescribed Textbook (O'Reilly)	Group Activities on COLCampus (GA1 and GA2)
Week 7 to Week 12	Unit 4: Understand General security and networking features Unit 5: Understand security, privacy, compliance, and trust Unit 6: Understand Azure pricing and support	COLCampus and Prescribed Textbook (O'Reilly)	Group Activities on COLCampus (GA3 and GA4)

Week 13 to Week 16	From Unit 1 to Unit 6	COLCampus and Prescribed Textbook (O'Reilly)	Revision and Summative

Module Content

LU 1	**Understand cloud concepts**
	Learning Objectives: • Describe the benefits and considerations of using cloud services • Describe the differences between Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS) • Describe the differences between public, private, and hybrid cloud models
LU 2	**Understand core Azure services**
	Learning Objectives: • Understand the core Azure architectural components • Describe some of the core products available in Azure • Describe some of the solutions available on Azure • Understand Azure management tools
LU 3	**Understand Core solutions and management tools**
	Learning Objectives: • Choose the best Azure IoT service • Choose the best AI service • Choose the best Azure serverless technology • Choose the best tools with DevOps and GitHub • Choose the best management tools • Choose the best Azure monitoring service
LU 4	**Understand General security and networking features**
	Learning Objectives: • Security Tools and Features • Secure Network Connectivity
LU 5	**Understand security, privacy, compliance, and trust**

	Learning Objectives:
	• Understand securing network connectivity in Azure • Describe core Azure Identity services • Describe security tools and features of Azure • Describe Azure governance methodologies • Understand monitoring and reporting options in Azure • Understand privacy, compliance, and data protection standards in Azure
LU 6	***Understand Azure pricing and support***
	Learning Objectives: • Understand Azure subscriptions • Understand planning and management of costs • Understand the support options available in Azure • Describe Azure service level agreements • Understand service lifecycle in Azure

To foster collaboration and diverse perspectives, **each group must consist of a minimum of three students**. This will ensure a dynamic team capable of tackling the challenges and complexities of web development.

• Each group must have a unique name.

Formative 1: Overview

The formative 1 for the CF412 module will test your research capabilities in relation to Azure cloud services.

          Your facilitator must be a consultant to assist you, not do the work but guide you as a group, you are more than welcome to be innovative and go above what is required should you feel so.

Bibliography

Cheshire, J., 2019. *Exam Ref AZ-900 Microsoft Azure Fundamentals.* First Edition ed. s.l.:Pearson Education.

Steve Miles, P. D. T., 2021. *Microsoft Azure Fundamentals Certification and Beyond.* Birmingham: Packt Publishing.

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