Tutorial Letter 101/0/2026

Computer Systems: Fundamental Concepts

COS1521

Year Module

Computer Science: School of Computing

IMPORTANT INFORMATION

Please register on myUnisa, activate your myLife e-mail account and make sure that you have regular access to the myUnisa module website, COS1521-26-Y, as well as your group website.

Note: This is a fully online module. It is, therefore, available only on myUnisa.

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1 INTRODUCTION

Unisa is a comprehensive open distance e-learning (CODeL) higher education institution. Our comprehensive curricula encapsulate a range of offerings, from strictly vocational to strictly academic certificates, diplomas and degrees. Unisa's "openness" and its distance eLearning character result in many students who may not previously have had an opportunity to enrol in higher education registering at the university. Our CODeL character implies that our programmes are carefully planned and structured to ensure success for students, ranging from the under-prepared but with potential to those who are sufficiently prepared.

Teaching and learning in a CODeL context involve multiple modes of delivery, ranging from blended to fully online learning. As a default position, all post-graduate programmes are offered fully online with no printed study materials, while undergraduate programmes are offered using a blended mode of delivery where printed study materials are augmented with online teaching and learning via the learner management system, myUnisa. In some instances, undergraduate programmes are offered fully online as well.

Furthermore, our programmes are aligned with the vision, mission and values of the University. Unisa's commitment to serving humanity and shaping futures – combined with a clear appreciation of our location on the African continent – means that Unisa's graduates have distinctive graduate qualities, which include:

- being independent, resilient, responsible and caring citizens able to fulfil and serve in multiple roles in their immediate and future local, national and global communities
- having a critical understanding of their location on the African continent and taking account of its histories, challenges and potential in relation to globally diverse contexts
- the ability to critically analyse and evaluate the credibility and usefulness of information and data from multiple sources in a globalised world with ever-increasing information and data flows and competing worldviews
- how to apply their discipline-specific knowledges competently, ethically and creatively to solve real-life problems
- an awareness of their own learning and developmental needs and future potential

This module is fully online. Whether a module is offered either as blended (meaning that we use a combination of printed and online material to engage with you) or online (all information is available via the internet), we use myUnisa as our virtual campus. This is an online system that is used to administer, document and deliver educational material to you and support engagement with you. Look out for information from your lecturer as well as other Unisa platforms to determine how to access the virtual myUnisa module site. Information on the tools that will be available to engage with the lecturer and fellow students to support your learning will also be communicated via various platforms.

You are encouraged to log into the module site (COS1521-26-Y) on myUnisa regularly (that is, at least twice per week).

Because this is a fully online module, you will need to use myUnisa to study and complete the learning activities for this module. Visit the website for COS1521-26-Y on myUnisa frequently. You will find the study guide on myUnisa under Official Study Material, as this module does not have a textbook.

We wish you every success with your studies!

2 MODULE OVERVIEW

2.1 Purpose

COS1521 is one of a number of first-level Computer Science modules offered by the School of Computing at Unisa. The purpose of this module is to introduce you to the computer as a system. The module covers hardware concepts such as internal representation of numbers and characters and basic computer architecture, as well as software concepts such as systems software and applications software. It also includes a brief introduction to databases and to systems analysis and design.

Qualifying students can apply the principles of computer systems, hardware and software to solve everyday computing problems through some fundamental introductory knowledge including historical developments, specific skills and underpinning values. This module will support further studies and applications in the sector of Computing, in the fields of Computer Science, Information Systems or Multimedia (either in a BSc, BCom or BA degree). These competencies can contribute to the expansion of the role of computers in the modern data communication world and as a component of an information system in an organisation.

2.2 Outcomes

For this module, you will have to master several outcomes:

Specific outcome 1
Demonstrate how data is represented, manipulated and stored in a computer by means of number systems, Boolean algebra, Karnaugh maps, truth tables and basic logic circuit drawings, in the context of given problem statements.

Specific outcome 2
Demonstrate an understanding of the basic functions of computers, the software development process and units of hardware and software components.

Specific outcome 3
Demonstrate an understanding of the basics of data communications and networks.

Specific outcome 4
Describe data structures and how different databases function.

3 CURRICULUM TRANSFORMATION

Unisa has implemented a transformation charter that places curriculum transformation high on the teaching and learning agenda. Curriculum transformation includes student-centred scholarship, the pedagogical renewal of teaching and assessment practices, the scholarship of teaching and learning, and the infusion of African epistemologies and philosophies. All of these are being phased in at both programme and module levels. As a result of this, you will notice a marked change in the teaching and learning strategy implemented by Unisa, together with the way in which the content is conceptualised in your modules. We encourage you to embrace these changes during your studies at Unisa, responsively and within the framework of transformation.

4 LECTURER(S) AND CONTACT DETAILS

4.1 Lecturer(s)

The primary lecturer for this module is Mr LS Nxumalo
Department: School of Computing
Telephone: 011 670 9126
E-mail: nxumals@unisa.ac.za

4.2 Department

You can contact the School of Computing as follows:

Telephone number: **011 670 9200**

E-mail: **computing@unisa.ac.za**

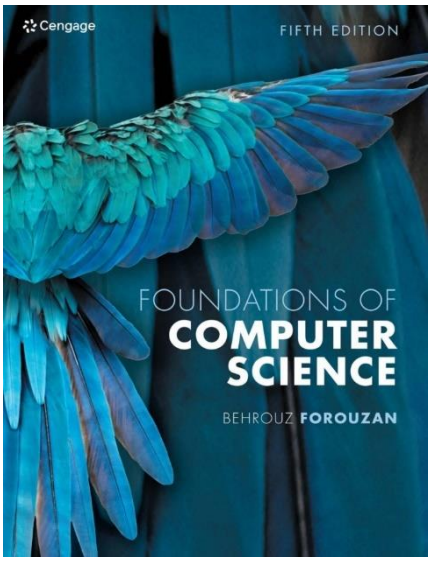
4.3 University

Contact addresses of the various administrative departments appear on the Unisa website: http://www.unisa.ac.za/sites/corporate/default/Contact-us/Student-enquiries.

Please include your student number in all correspondence.

5 RESOURCES

5.1 Prescribed book(s)



Authors: Forouzan, Behrouz
Publisher: Cengage Learning UK
Title: *Foundations of Computer Science*
Edition: 5th
Year: 2023
Print ISBN: 9781473787322, 1473787327
eText ISBN: 9781473787346, 1473787343

The prescribed book is also available to buy as eBook at a cheaper price at the following URL: https://www.vitalsource.com/za/products/foundations-of-computer-science-behrouz-a-forouzan-v9781473787353

The module content is covered in **chapters 1 to 8, 10 to 12 and 14 to 15** of the prescribed book, referred to as **Forouzan** (details are given in section 5.1 of this tutorial letter), and in all the tutorial letters, including Tutorial Letter 102.

The following sections/subsections are excluded from the syllabus: (Note that if you do not use the 5th edition, section numbers and page numbers may differ – so please look at the section headers below to make sure that you exclude the correct section/subsection. We give the page numbers for the 4th edition in brackets).

- **Section 2.3**: Non-positional number systems, pp. 35-36 (4th ed. pp. 31-32)
- Addition and subtraction of reals in floating point format, pp. 90-92 (4th ed. p. 85)
- **In Appendix E**: Product of sums and examples, pp. 583-584 (4th ed. pp. 573-574), plus any further reference to product of sums. The rest of the Appendix is important for the assessments and exam.
- **Section 5.7.3**: Pipelining, pp. 124-125 (4th ed. pp. 114-115)
- **Section 5.7.4**: Parallel processing, p. 127-129 (4th ed. pp. 117-119)
- **Section 5.8**: A simple computer, pp. 129-136 (4th ed. pp. 119-133)

- **Section 8.7**: Recursion, pp. 231-233 (4th ed. pp. 234-236)
- **Section 10.4**: Common concepts, pp. 261-271 (4th ed. Chapter 9, Section 9.4 pp. 257-267)
- **Section 15.5**: Database design, pp. 385-388 (4th ed. Chapter 14, Section 14.5 pp. 381-385)
- **Section 15.6**: Other database models, pp. 389-390 (4th ed. pp. 385-386)

The following chapters in the prescribed book are covered:

Chapter 1: Introduction

Chapter 2: Number Systems

Chapter 3: Data Storage

Chapter 4: Operations on Data

Chapter 5: Computer Organization

Chapter 6: Computer Networks

Chapter 7: Operating Systems

Chapter 8: Algorithms

Chapter 10: Programming Languages

Chapter 11: Software Engineering

Chapter 12: Data Structure

Chapter 14: File Structure

Chapter 15: Databases

We refer to the prescribed book as **Forouzan (or F)** throughout this tutorial letter.

Tutorial Letter 102 contains notes on the study material in the prescribed book. It also contains **supplementary study material**.

The prescribed book is **not** included with your study material, so please obtain a copy of **Forouzan** as soon as possible. Prescribed books can be obtained from the university's official booksellers. You will find a list of official booksellers and their addresses in *Study @ Unisa*.

If you have difficulty in locating your book at one of the official booksellers, please contact the Prescribed Book section at 012-4294152, or e-mail vospresc@unisa.ac.za.

5.2 Recommended book(s)

If you would like to know more about a particular topic, you may consult any of the books listed below. These books are not necessarily included in the study collection in the Unisa Library. The library cannot guarantee that they will be available, nor draw up waiting lists for them.

Exams and assessments will be based on the prescribed book and the content of Tutorial Letter 102.

CLEMENTS A. *The principles of computer hardware*, 3rd edition. Oxford University Press, Oxford, 2000.

O'BRIEN J.A. *Introduction to information systems*, 8th edition. Irwin, New York, 1996.

HUTCHINSON S.E. and SAWYER S.C. *Computers, communications & information. A user's introduction*, 7th edition. Irwin McGraw-Hill, Boston, 2000.

MARCOVITZ A.B. *Introduction to logic design*. McGraw-Hill Higher Education, New York, 2002.

WILLIAMS B.K. and SAWYER S.C. *Using information technology. A practical introduction to computers & communications*, 5th edition. Irwin McGraw-Hill, Boston, 2003.

CAPRON H.L. and JOHNSON J.A. *Computers. Tools for an information age*, 7th edition. Prentice Hall, Upper Saddle River, New Jersey, 2002.

SHELLY G. and VERMAAT M.E. *Discovering computers 2010. Living in a digital world.* Course Technology, 20 Channel Center Street, Boston, 2010.

Recommended books can be requested online, via the Library catalogue.

5.3 Electronic reserves (e-reserves)

E-reserves can be downloaded from the library webpage. More information is available at: http://oasis.unisa.ac.za/search/r

5.4 Library services and resources

The Unisa Library offers a range of information services and resources. The library has created numerous library guides, available at http://libguides.unisa.ac.za

Recommended guides:

- For brief information on the library, go to https://www.unisa.ac.za/library/libatglance
- For more detailed library information, go to http://www.unisa.ac.za/sites/corporate/default/Library
- Frequently Asked Questions, visit https://www.unisa.ac.za/sites/corporate/default/Library/Frequently-Asked-Questions
- For research support and services such as the Personal Librarian service and the Information Search Librarian's Literature Search Request (on your research topic) service, visit http://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Research-support.
- For library training for undergraduate students, visit https://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Training

- Lending Services https://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Lending-services
- Services for Postgraduate students - https://www.unisa.ac.za/sites/corporate/default/Library/Services-for-Postgraduates
- Support and Services for students with disabilities - https://www.unisa.ac.za/sites/corporate/default/Library/Services-for-students-with-special-needs
- Library Technology Support -https://libguides.unisa.ac.za/techsupport
- Finding and using library resources and tools -http://libguides.unisa.ac.za/Research_skills
- A–Z list of library databases – https://libguides.unisa.ac.za/az.php

Important contact information:

- Technical problems encountered in accessing library online services: Lib-help@unisa.ac.za
- General library-related queries: Library-enquiries@unisa.ac.za
- Queries related to library fines and payments: Library-fines@unisa.ac.za
- Interlibrary loan service for postgraduate students: libr-ill@unisa.ac.za
- Literature Search Service: Lib-search@unisa.ac.za
- Social media channels: Facebook: UnisaLibrary and Twitter: @UnisaLibrary

To view the Library orientation video – please click here : Unisa Library and Information Services Video_1_1 (2).mp4

6 STUDENT SUPPORT SERVICES

6.1 Study @ Unisa publication and myModules

The *Study@Unisa* brochure is available on myUnisa at www.unisa.ac.za/brochures/studies

This brochure contains important information and guidelines for successful studies through Unisa.

If you need assistance concerning the myModules system, you are welcome to use the following contact details:

- Toll-free landline: 0800 00 1870 (Select option 07 for myModules)
- E-mail: mymodule22@unisa.ac.za or myUnisaHelp@unisa.ac.za

You can access and view short videos on topics such as how to view your calendar, how to access module content, how to view announcements for modules, how to submit assessments and how to participate in forum activities by visiting https://dtls-qa.unisa.ac.za/course/view.php?id=32130

Registered Unisa students receive a free myLife e-mail account. Important information, notices and updates are sent exclusively to this account. Please note that it can take up to 24 hours for your account to be activated after you have claimed it.

Please claim your e-mail account immediately after registering at Unisa by following this link**:** **https://www.unisa.ac.za/sites/myunisa/default/Claim-UNISA-Login**

or follow this link to get more information:
https://www.unisa.ac.za/static/myunisa/Content/Announcements/Documents/Claim-myUnisa-myLife-Nov-2017.pdf

Your myLife account is the **only** e-mail account recognised by Unisa for official correspondence with the University and will remain the official primary e-mail address on record at Unisa. You remain responsible for managing this e-mail account.

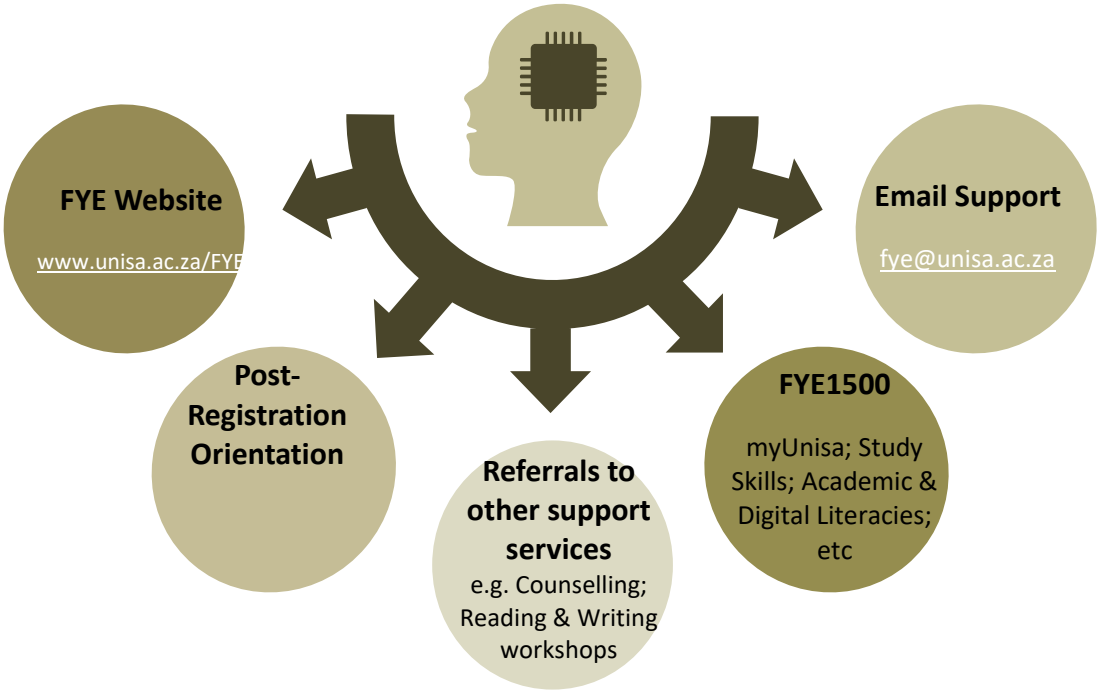
You remain responsible for the management of this e-mail account.

6.2 The Unisa First-Year Experience Programme

Many students find the transition from school education to tertiary education stressful and this is often true for students enrolling at Unisa for the first time. Unisa is a dedicated open distance and e-learning institution and is very different from face-to-face/contact institutions. It is a mega university, and all its programmes are offered through either blended learning or fully online learning. For these reasons, we offer first-time students additional/extended support to help them navigate the Unisa teaching and learning journey seamlessly and with little difficulty and few barriers.

Unisa's First-Year Experience (FYE) Programme has been specially designed to provide you with prompt and helpful information about the services that the institution offers.

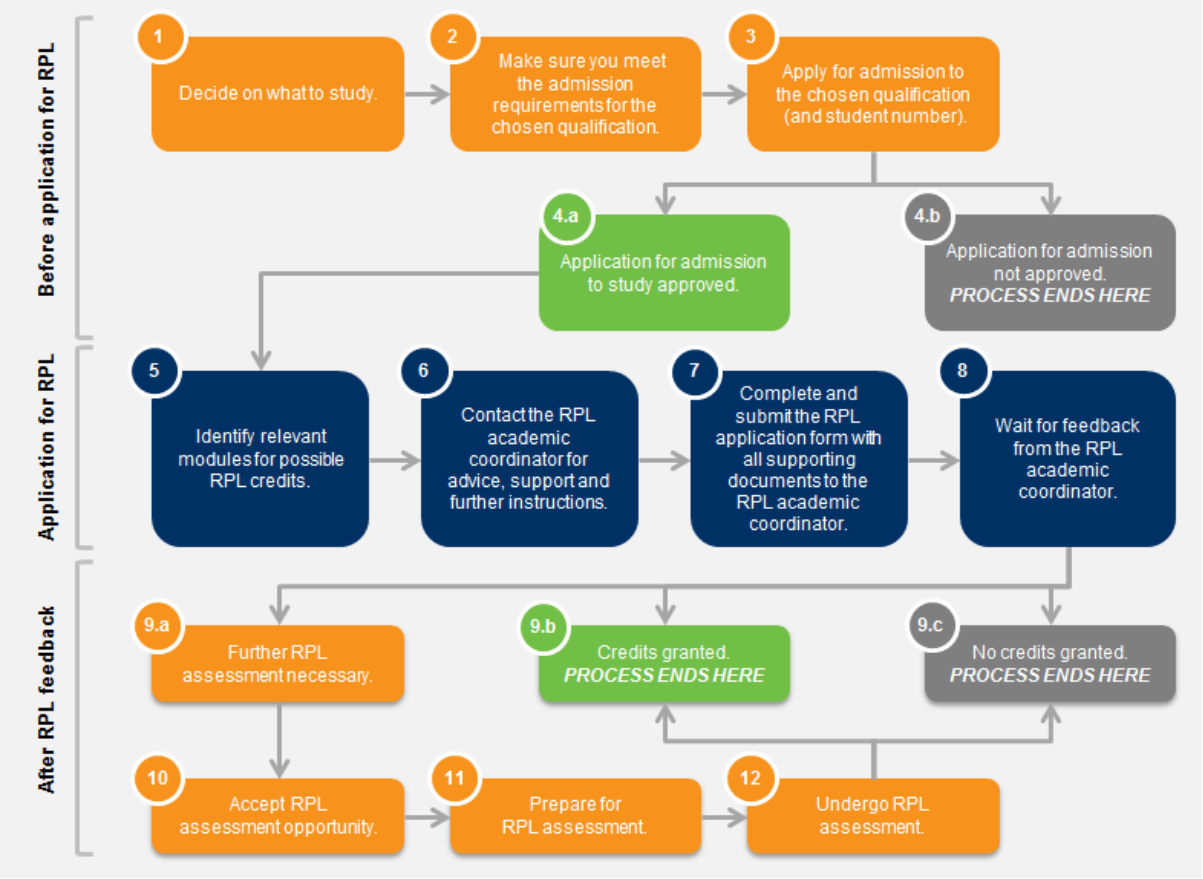
The following FYE services are currently available:



To ensure that you do not miss out on important academic and support communication from the SRU, please check your myLife inbox regularly.

6.3 Using Recognition of Prior Learning (RPL) to apply for module credit within a qualification.

Now that you are a registered student, you are advised to familiarise yourself with the learning outcomes of the module or modules you have chosen. If you have been exposed to those learning outcomes for three years or more – either through work experience or other involvement – you can apply to be exempted from completing assignments and writing examinations. As part of your application for this exemption, you will be required to compile a portfolio of evidence substantiating how your experience is equivalent to the learning outcomes. The diagram below shows the steps involved in obtaining recognition of prior learning (RPL) for module credit. For more information on the process, RPL fees, and the contact details of your college RPL coordinator, visit the Unisa website: www.unisa.ac.za/rpl



6.4 Compulsory Completion of the Academic Integrity Course

Students registered for NQF 5 – 8 programmes are required to complete the Academic Integrity Course annually.

Academic integrity represents our commitment to and demonstration of honest and ethical behaviour in academic settings. Academic integrity is a foundational principle at Unisa, underpinning the quality and credibility of our qualifications. At its core, the Academic Integrity Course is designed to advance values such as discipline, fairness, honesty and commitment, which are important to your success as a student and your future as a professional.

The course can be accessed at: https://mooc.unisa.ac.za/. Use your myLife-credentials to log in.

For new students

If you are a new student enrolling for the first time in 2026, you must complete the full Academic Integrity Course as part of your orientation. This course is designed to instil academic values and equip you with the necessary skills required to uphold integrity throughout your academic journey.

The course comprises five comprehensive study units:

1. Unisa's values and mission on academic integrity principles
2. Defining academic integrity in an open distance learning (ODL) environment
3. Basic skills in academic writing
4. Ethical usage of artificial intelligence
5. Unisa's processes in identifying academic misconduct and detection tools

For returning students

Those of you who completed the Academic Integrity Course in 2025 are required to complete the refresher version of the course in 2026. This course serves to reinforce the principles and practices of academic integrity. While it is a shortened version of your previously completed Academic Integrity Course, it remains compulsory and must be completed within the specified period.

The refresher course aims to:

- Reinforce understanding of academic integrity principles
- Update you on any changes in policies or practices

- Ensure continued commitment to ethical academic conduct

For both new and returning students, it is important to complete the respective versions of the Academic Integrity Course within the specified periods. Unisa remains steadfast in its commitment to fostering a culture of honesty, fairness and responsibility. Non-compliance may lead to academic consequences as outlined in Unisa's Student Rules. For support, contact mymodule22@unisa.ac.za

7 STUDY PLAN

This section provides the list of chapters that are covered in this module. This is only a guideline. We have decided not to include time frames because this will differ from student to student. Students will have to adapt the study plan according to the assessment dates and to suite their schedule. Assessment dates will be provided on the website for COS1521-26-Y on myUnisa. The table below has information for chapters to be completed for COS1521.

Week	Chapters/Activities
1	Chapter 1: Introduction + work on assessment
2	Chapter 2: Number Systems + work on assessment
3	Chapter 2: Number Systems + work on assessment
4	Chapter 3: Data Storage + work on assessment
5	Chapter 3: Data Storage + work on assessment
6	Chapter 4: Operations on Data + work on assessment
7	Chapter 4: Operations on Data + work on assessment
8	Chapter 5: Computer Organization + work on assessment
9	Chapter 6: Computer Networks + work on assessment
10	Chapter 7: Operating Systems + work on assessment
11	Chapter 7: Operating Systems + work on assessment
12	Chapter 8: Algorithms + work on assessment
13	Chapter 8: Algorithms + work on assessment
14	Chapter 10: Programming Language + work on assessment
15	Chapter 10: Programming Language + work on assessment
16	Chapter 11: Software Engineering + work on assessment
17	Chapter 12: Data Structure + work on assessment
18	Chapter 14: File Structure + work on assessment
19	Chapter 15: Databases + work on assessment

8 HOW TO STUDY ONLINE

8.1 What does it mean to study fully online?

Studying fully online modules differs completely from studying some of your other modules at Unisa.

- All your study material and learning activities for online modules are designed to be delivered online on myUnisa.
- All your assignments must be submitted online. This means that you will do all your activities and submit all your assignments on myUnisa. In other words, you may NOT post your assignments to Unisa using the South African Post Office.
- All communication between you and the University happens online. Lecturers will communicate with you via e-mail and SMS, and will use the Announcements, Discussion Forum, and Questions and Answers options. You can also use all these platforms to ask questions and contact your lecturers.

9 ASSESSMENT

9.1 Assessment criteria

	Specific outcomes	Assessment criteria
1	Specific outcome 1: Demonstrate how data are represented, manipulated and stored in a computer using number systems, Boolean algebra, Karnaugh maps, truth tables and basic logic circuits drawings, in the context of given problem statements.	• Conversions between different number systems (binary, octal, decimal and hexadecimal) • The application of different arithmetic methods in the binary number system • The identification of computer data includes the different internal representations • Explanations include the basic restrictions placed by computer architecture upon numerical computations • The determination of outputs of basic combinational logic circuits for given inputs • Graphical representations of the combinational circuits for given Boolean functions • The simplifications of Boolean functions by implementing appropriate rules/methods • The determination of a Boolean function for a given problem statement using truth tables (at most 4 variables) • Boolean expressions and binary logic that describe the behaviour of logic circuits • The descriptions of the functioning of different types of combinational and sequential logic circuits.
2	Specific outcome 2: Demonstrate an understanding of the basic functions of computers, the software development process and units of hardware and software components.	• Today's computers are described in context of some short historical background, different architectures and ethical scenarios/issues • Descriptions of software engineering and operating systems include the development of software in a historical context • The description of a basic computer includes the three basic hardware subsystems and their interconnecting

	Specific outcomes	Assessment criteria
		functioning • The description of an operating system includes the functioning of its components The descriptions of popular operating systems with references to different popular operating platforms • The definition of an algorithm includes its relation to problem solving • Definitions of the three algorithm constructs include descriptions of their use in algorithms • Descriptions of basic algorithms include their applications • Descriptions of the sorting and searching concepts of algorithms include an understanding of their mechanisms • Descriptions of sub-algorithms include their relations to algorithms • Descriptions of the development process models is software engineering include the concepts of the software life-cycle phases and documentation.
3	Specific outcome 3: Demonstrate an understanding of the basics of data communications and networks.	• Descriptions of physical structures of networks include references to network criteria, physical structures and categories of networks • The description of the Internet includes the TCP/IP protocol suite with reference to the characteristics of its layers and their relationships • Descriptions of Internet applications in the context of client-server communications.
4	Specific outcome 4: Describe data structures and how different databases function.	• Descriptions of data structures include references to the differentiation between different structures • Descriptions of file structures include references to updating and access methods, and categories of directories and of files • Definitions of a database and some traditional database models include the relational database design • The definition of a database management system (DBMS) includes its architecture • Descriptions include the steps in database design.

9.2 Assessment plan

- To complete this module, you will be required to submit 6 assignments.
- All information about when and where to submit your assignments will be made available to you via the myModules site for your module.
- Due dates for assignments, as well as the actual assignments, will be available on the myModules site for this module.
- To gain admission to the examination, you will be required to have a year mark subminimum of 40%.
- The assignment weighting for the module is 20%.

- You will receive examination information via the myModules sites. Please watch out for announcements on how examinations for the modules for which you are registered will be conducted.
- The examination will count 80% towards the final module mark.

Assignment Number	Type	Weight	Chapters Covered
01	Forum	5%	None
02	Quiz	15%	1-5
03	Quiz	15%	6,7,8,10
04	Quiz	15%	11,12,14,15
05	Forum	5%	All chapters
06	Quiz	45%	All chapters

9.3 Assessment due dates

- There are no assessment **due dates** included in this tutorial letter.
- Assessment due dates will be made available to you on the myUnisa landing page for this module. We envisage that the due dates will be available to you upon registration.
- Please start working on your assessments as soon as you register for the module.
- Log on to the myUnisa site for this module to obtain more information on the due dates for the submission of the assessments.

9.4 Submission of assessments/assignments

- Unisa, as a comprehensive open distance e-learning institution (**CODeL**), is moving towards becoming an online institution. You will see, therefore, that all your study material, assessments and engagements with your lecturer and fellow students will take place online. To facilitate this, we use myUnisa as our virtual campus.
- The myUnisa virtual campus offers students access to the **myModules site**, where learning material is available online and where assessments should be completed. Together, myUnisa and myModules form an online system that is used to administer, document, and deliver educational material to students and support engagement between those students and Unisa's academics.
- The myUnisa platform can be accessed via https://my.unisa.ac.za. Click on the myModules 2026 button to access the online sites for the modules that you are registered for.

- The University undertakes to communicate clearly and as frequently as is necessary to ensure that you obtain the greatest benefit from your use of the myModules learning management system. Please access the Announcements on your myModules site regularly, as this is where your lecturer will post important information to be shared with you.

- When you access your myModules site for the module/s you are registered for, you will see a welcome message posted by your lecturer. Below the welcome message you will see the assessment shells for the assessments that you need to complete. Some assessments may be multiple choice, some may be tests and others may be written assessments/assignments, while some may be forum discussions and so on. All assessments must be completed on the assessment shells available on the respective module platforms.

- To complete quiz assessments, please log on to the module site where you need to complete the assessment. Click on the relevant assessment shell (Assessment 1, Assessment 2, etc.). There will be a date recorded there telling you when the assessment will open for you. When the assessment is open, access the quiz online and complete it within the time available to you. Quiz assessment questions are not included in this tutorial letter (Tutorial Letter 101) and are made available online only. You must therefore access and complete the quiz online where it has been created.

- It is not advisable to use a cellphone to complete quizzes and you should please use a desktop computer, tablet or laptop for this task. Students who use cellphones find it difficult to navigate the **Online Assessment** tool on the small screen and often struggle to navigate between questions and successfully complete the quizzes. In addition, cellphones are more vulnerable to dropped internet connections than other devices. **If at all possible, please do not use a cellphone for this assessment type**.

- For written assessments/assignments, please note the due date by which your work must be submitted. Ensure that you follow the guidelines given by your lecturer to complete the assessment/assignment. Click on the submission button on the relevant assessment shell on myModules. You will then be able to upload your written assessment to the myModules site for the modules that you are registered for. Before you finalise the upload, double-check that you have selected the correct file for uploading. Remember, no marks can be allocated for incorrectly submitted assessments/assignments.

9.4.1 Types of assignments and descriptions

All assignments are defined as either optional, mandatory, compulsory, or elective.

- **Elective assignments**
  - If not submitted, the student gets no mark for this item.
  - The best of the required submissions will count.
- **Mandatory assignments**
  - If not submitted, the student gets no mark for this item.
- **Optional assignments** – You are encouraged, as a student, to do optional assignments in order to benefit your learning.

I. **Elective assignments**
   a. The student is given a choice of which assignments within an identified group to submit and only the best result/s, the number of which is specified in advance, will contribute towards the year mark.
   b. Elective assignments must be grouped into an elective group.
   c. For the student to select which assignment to submit, the elective assignments must be grouped together. For such an elective group, relevant information (such as how many of the assignments must be submitted and how many of the assignment marks should be combined into the year mark) will be supplied to you.
   d. The selection criteria define how marks received for assignments in an elective group are to be combined into the year mark. Three different criteria may be used for calculating the year mark:
      - The best mark should be used, or
      - If the student submits fewer than the required number of assignments per group, or no assignment in a group, a mark of 0% will be used.
      - 0% is awarded to all non-submitted or unmarked assessments. A best mark is then calculated from all the qualifying items submitted.

II. **Mandatory assessments/assignments**
   a. Mandatory assessments/assignments contribute to the year mark.
   b. If a student fails to submit a mandatory assignment, no mark is awarded and the year mark is calculated accordingly. The student will therefore forfeit the marks attached to such an assignment when the final mark for the module is calculated.

III. **Optional assessments assignments** – You are encouraged, as a student, to do optional assessments/assignments in order to benefit your learning.

9.5 The assessments/assignments

As indicated in section 9.2, you need to complete at least 1 assessment for this module. Assessments 1 to 3 test your knowledge of the content as specified in the Study plan document in the Additional Resources folder. Assessment 4 will test your knowledge on ALL the prescribed content. It will contain the same number of questions and will be of the same format as the examination. Therefore, you should allow yourself enough time to complete this assessment.

There are no assessments included in this tutorial letter. Assessments and due dates will be made available to you on myModules for this module. We envisage that the due dates will be available to you upon registration.

9.6 Other assessment methods

Tutorial letters 102 and 103 under Additional Resources contain additional self-assessment exercises that you must work through. Your e-tutor will also put self-assessment quizzes on myModules for you.

9.7 The examination

Examination information and details on the format of the examination will be made available to you online via the myUnisa site. Look out for information that will be shared with you by your lecturer and e-tutors (where relevant), as well as for communication from the University.

9.7.1 Invigilation/proctoring

Since 2020, Unisa has conducted all its assessments online. Given the stringent requirements imposed by professional bodies, as well as increased solicitation of Unisa's students by third parties to unlawfully assist them with the completion of assignments and examinations, the University is obliged to assure the integrity of its assessment integrity by using various proctoring tools: Turnitin, Moodle Proctoring, the Invigilator App and IRIS. These tools authenticate the student's identity and flag suspicious behaviour to assure the credibility of their responses during assessments. The description below is for your benefit as you may encounter any or all of these in your registered modules:

Turnitin is plagiarism software that facilitates checks for originality in students' submissions against internal and external sources. Turnitin assists in identifying academic fraud and ghost writing. Students are expected to submit **typed** responses when using the Turnitin software.

The **Moodle Proctoring tool** is facial recognition software that authenticates students' identities during their Quiz assessments. This tool requires access to a student's **mobile or laptop camera**. Students must ensure that their cameras are activated in their browser settings prior to starting their assessments.

The Invigilator App is a mobile application-based service that verifies the identity of an assessment participant. The Invigilator app detects student dishonesty-by-proxy and ensures that the assessment participant is the student registered for the module concerned. This invigilation tool requires students to download the app from the Google Play Store (Android devices), the Huawei AppGallery (Huawei devices) or the Apple App Store (Apple devices) on their **camera-enabled** mobile devices prior to their assessment.

The **IRIS Invigilation** software verifies the identity of a student during assessment and provides for both manual and automated facial verification. It can record and review a student's assessment session and it flags suspicious behaviour by the student for review by an academic administrator. The IRIS software requires installation on students' **webcam-enabled laptop devices**. *IRIS invigilation software is used for all CSET online examinations/tests*. *It is the responsibility of students to ensure the software is working properly before the examination session, and attendance of training.*

Students who are identified and flagged for suspicious or dishonest behaviour arising from the invigilation and proctoring reports will be referred to the disciplinary office for formal proceedings.

Please note:

Students must refer to their module assessment information on their myModule sites to determine which proctoring or invigilation tool will be used for their formative and summative assessments.

10 ACADEMIC DISHONESTY

10.1 Plagiarism

Plagiarism is the act of taking the words, ideas and thoughts of others and presenting them as your own. It is a form of theft. Plagiarism includes the following forms of academic dishonesty:

- Copying and pasting from any source without acknowledging that source.
- Not including references or deliberately inserting incorrect bibliographic information.
- Paraphrasing without acknowledging the source of the information.

10.2 Cheating

Cheating includes, but is not limited to, the following:

- Completing assessments on behalf of another student, copying the work of another student during an assessment, or allowing another student to copy your work.
- Using social media (e.g. WhatsApp, Telegram) or other platforms to disseminate assessment information.
- Submitting corrupt or irrelevant files. (This matter is addressed in the examination guidelines.)
- Buying completed answers from so-called “tutors” or internet sites (contract cheating).

For more information about plagiarism, follow the link below:

https://www.unisa.ac.za/sites/myunisa/default/Study-@-Unisa/Student-values-and-rules

11 STUDENTS LIVING WITH DISABILITIES

The Advocacy and Resource Centre for Students with Disabilities (ARCSWiD) provides an opportunity for staff to interact with first-time and returning students with disabilities.

If you are a student with a disability and would like additional support, or if you need additional time for assignments/assessments, you are invited to contact [Mr LS Nxumalo (nxumalos@unisa.ac.za)] to discuss the assistance that you need.

12 FREQUENTLY ASKED QUESTIONS

A list of frequently answered questions will be saved under Additional resources on the myModules platform.

13 IN CLOSING

Do not hesitate to contact us by e-mail if you are experiencing problems with the content of this tutorial letter or with any academic aspect of the module.

We wish you a fascinating and satisfying journey through the learning material, and trust that you will complete the module successfully.

Enjoy the journey!