Tutorial Letter 101/0/2026

Visual Programming I

INF1511

Year Module

SOC (Department Information Systems)

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, INF1511-2026-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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Dear Student,

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 e-learning 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.

Multiple modes of delivery are involved in teaching and learning in a CODeL context, ranging from blended to fully online learning. As a default position, all postgraduate programmes are offered fully online with no printed study materials. Undergraduate programmes are offered using a blended mode of delivery where printed study materials are augmented with online teaching and learning via myUnisa, our learning management system. 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
- knowing 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

Note that INF1511 is online (all information is available via the internet), and 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 to support engagement with you. Look out for information from the INF1511 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 INF1511 lecturer and fellow students to support your learning will also be communicated via various platforms. We encourage you to log on to the module site on myUnisa regularly (at least twice a week). The module website is INF1511-26-Y. We wish you every success with your studies!

2. MODULE OVERVIEW

2.1 Purpose

Qualifying students as first-time programmers obtain introductory knowledge, skills, and competencies to apply visual programming concepts, techniques and strategies using problem solving, programming logic, as well as the design techniques of an object-oriented, event-driven language, Python. This module forms part of a B-degree and supports further studies and applications in the sector of Computing, in the fields of Computer Science, Information Systems or Multimedia. The qualifying student can program computers to solve problems in business and society within African, South-African, and global contexts. Students require daily online connectivity and access and programming ability.

2.2 Outcomes

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

Specific outcomes and assessment criteria		
	Specific outcomes	**Assessment criteria**
1	Describe the programming concepts for computing including performing arithmetic operations.	1.1 Python and its features are explained. 1.2 Python is installed on different platforms. 1.3 Python is interacted with through Command Line Mode 1.4 A program is written in Python. 1.5 Comments, continuation lines and printing messages are written. 1.6 Arithmetic operations are performed
2	Implement decision using the if-else statement and typical programming structures.	2.1 The if-else statement is used for decision-making. 2.2 A problem is solved by the application of loops. 2.3 Logical and Membership operators are being used.
3	Implement iteration using loops (FOR and WHILE), and typical programming structures.	3.1 The FOR and WHILE statements are used for iteration. 3.2 A problem is solved by the application of loops. 3.3 Logical and Membership operators are being used.

Specific outcomes and assessment criteria		
	Specific outcomes	**Assessment criteria**
4	Implement sequences using lists, strings, tuples and array structures and the required programming methods.	4.1 Data is stored in a string. 4.2 Arrays are created and displayed in one-and two-dimensional format. 4.3 Tuples and lists are created, and elements are manipulated. 4.4 String methods are implemented. 4.4. Union and intersection operators are applied.
5	Apply the writing and calling of general sub procedures and function procedures.	5.1 Functions and value parameters are applied. 5.2 Variables and sequences are applied. 5.3 Recursion is implemented. 5.4 Modules are imported and exported.
6	Implement the use of classes and operators and the required programming methods.	6.1 Classes are defined. 6.2 Class attributes are applied. 6.3 Class and static methods are implemented. 6.4 Inheritance is explained. 6.5 Polymorphism is compiled.
7	Implement file handling and the relevant exception handling and the required programming methods.	7.1 Exception handling is defined. 7.2 Data maintenance to files is applied
8	Compile a GUI application using implement basic widgets and the required programming methods for a visual programming application.	8.1 The Qt toolkit and PyQt are explained. 8.2 PyQt is installed. 8.3 The GUI application is created through coding. 8.4 Fundamental GUI widgets (input, display and output) are implemented. 8.5 Event handling is implemented.

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 Prof Patricia M Gouws:

Department: Information Systems in the School of Computing

E-mail: gouwspm@unisa.ac.za

4.2 Department

The contact for the Department of Information Systems will be available on the module site.

4.3 University

The 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 and the module code INF1511 in all correspondence.

5. RESOURCES

5.1 Prescribed book(s)

There is no prescribed book for this module. You are encouraged to access Python programming books in the e-resources of Unisa Library.

5.2 Recommended book(s)

There are no recommended books for this module.

5.3 E-reserves

E-reserves can be downloaded from the library webpage. More information on finding e-reserves 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 and has made 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
- For frequently asked questions, go to 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 literature search request (on your research topic) service, offered by the Information

Search Librarian, go to http://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Research-support

- For library training for undergraduate students, go to https://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Training
- For lending services, go to https://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Lending-services
- For services for postgraduate students, go to https://www.unisa.ac.za/sites/corporate/default/Library/Services-for-Postgraduates
- For support and services for students with disabilities, go to https://www.unisa.ac.za/sites/corporate/default/Library/Services-for-students-with-special-needs
- For library technology support, go to https://libguides.unisa.ac.za/techsupport
- For information on finding and using library resources and tools, go to http://libguides.unisa.ac.za/Research_skills
- For an A–Z list of library databases, go to 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
- Services and resources available to clients living with disabilities: lib-disability@unisa.ac.za
- Library book requests from, and book deliveries to Correctional Services: lib-corrections@unisa.ac.za
- Social media channels: Facebook: Unisa Library and X (Twitter): @UnisaLibrary

View Library orientation video, Unisa Library and Information Services Video_1_1 (2).mp4

6. STUDENT SUPPORT SERVICES

6.1 Study @ Unisa publication and myModules

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

It contains important information and guidelines for successful studies through Unisa. If you need assistance with 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

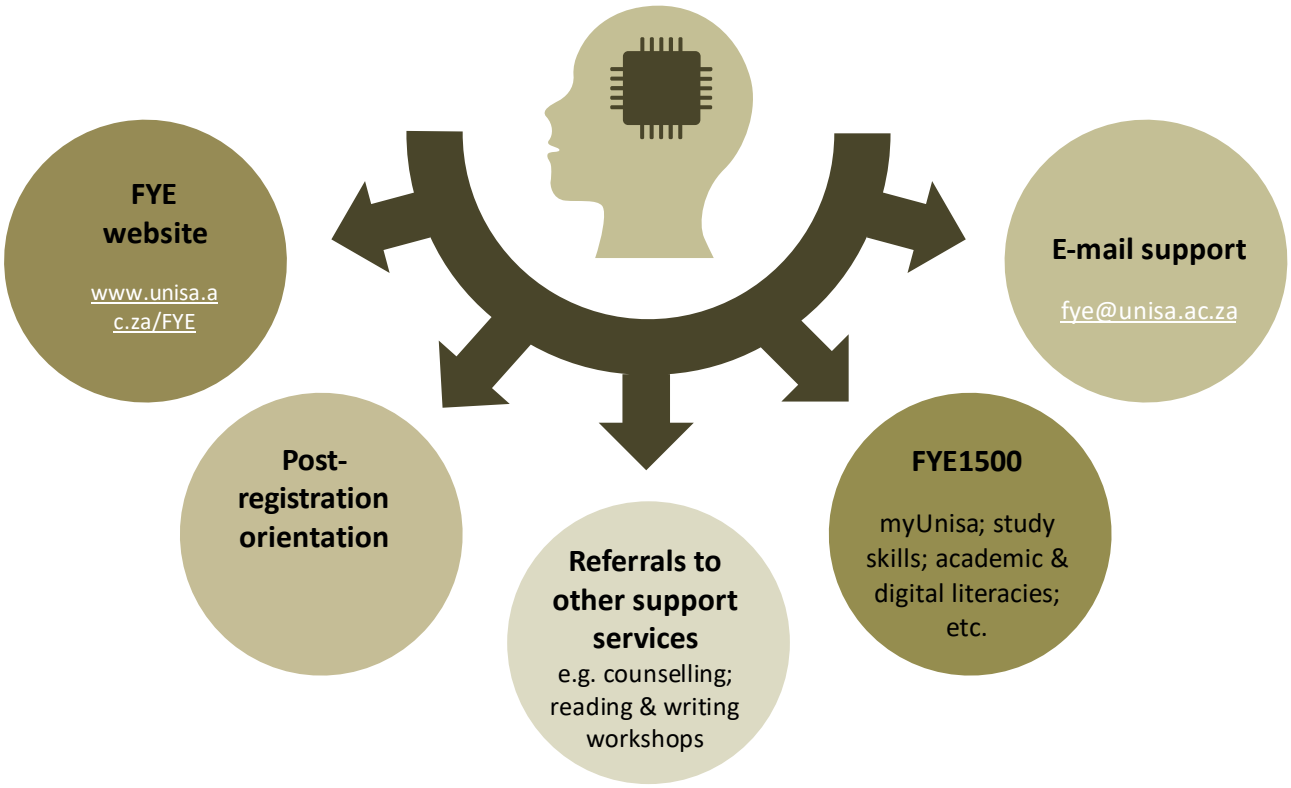
You can access and view short videos on topics such as how to view your calendar, how to access module content, how to view announcements for modules, how to submit assessments and how to participate in forum activities:

- Visit 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 claim your e-mail account immediately after registering at Unisa by following this link: myLifeHelp@unisa.ac.za. Note that it can take up to 24 hours for your account to be activated after you have claimed it.
Your myLife account is the **only** e-mail account recognised by Unisa for official correspondence between you and the University and it will remain your official primary e-mail address on record at Unisa.
You remain responsible for the management of this e-mail account.

6.2 The Unisa First-Year Experience Programme

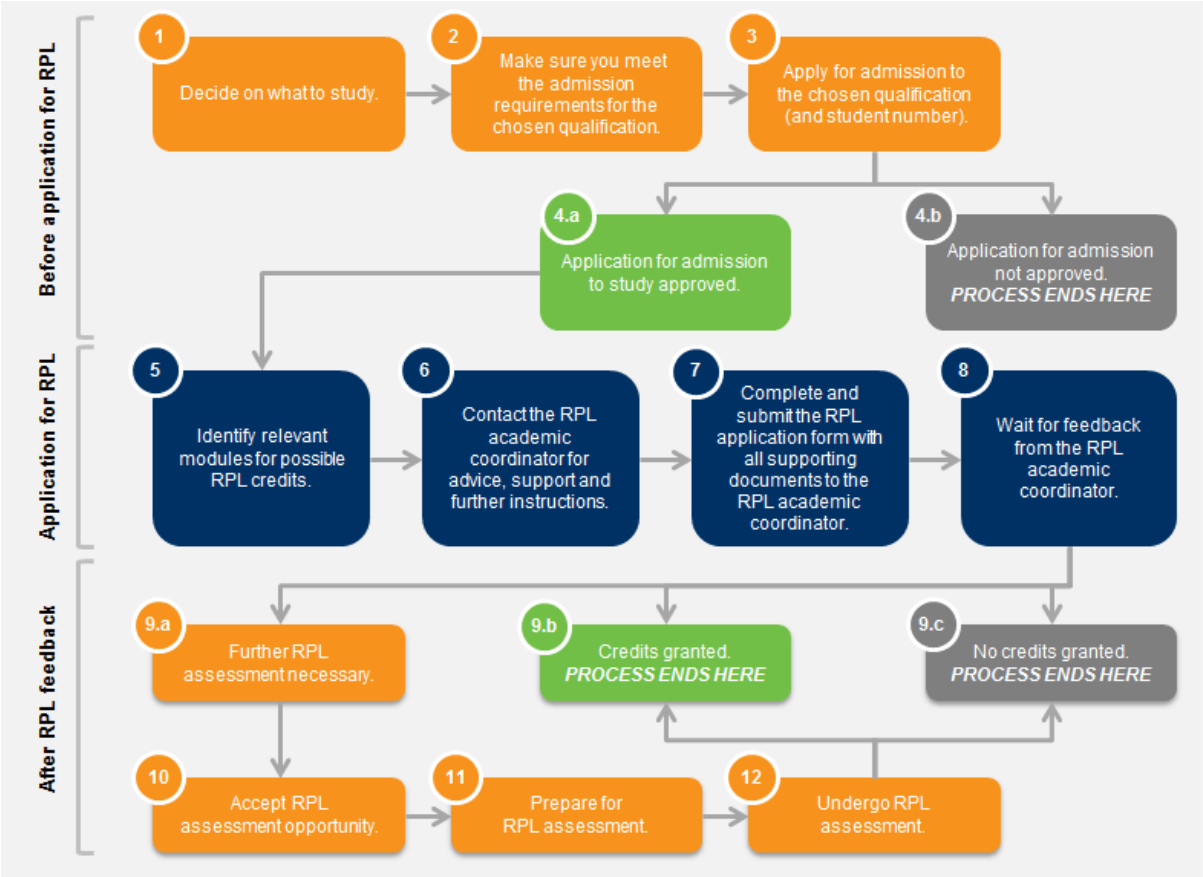
Many students find the transition from school education to tertiary education stressful and this is often true for students enrolling at Unisa for the first time. Unisa is a dedicated open distance and e-learning institution and is very different from face-to-face/contact institutions. It is a mega university, 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 don't 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

There is a proposed study plan to pace your studies through 2026. This will be presented during the introductory session in March 2026.

The date, time and link for this session is available on the INF1511 module site.

8. HOW TO STUDY ONLINE

- **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 or email.
- **All communication between you and the University happens online.** Lecturers will communicate with you via e-mail, and use the **Announcements,** the **Discussion Forums** and the **Questions and Answers** tools. You can also use these platforms to ask questions and contact your lecturers.

9. ASSESSMENT

9.1 Assessment criteria

Each of the 8 units of INF1511 has a theory MCQ quiz (for self-assessment), a discussion session (to review the examples and learning materials), and a practical MCQ quiz based on the examples reviewed during the discussion session (for the unit assessment assignment).

9.2 Assessment plan

- To complete this module, you will be required attempt ALL EIGHT assignments (one per learning unit), AND achieve a minimum 40% as your year mark.
- 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 assignments themselves, will be available on the myModules site for this module.
- To gain admission to the examination, you will be required to achieve a minimum 40% as your year mark.
- The assignment weighting for the module is 30%.
- 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 70% towards the final module mark.

Assessment number	Method of assessment	Outcomes covered in assessment	Weigh contribution of assessment
Practical Assignments (one assignment for each of the 8 learning units)	MCQ Random Selection Linear and Timed, limited attempts, based on discussion of unit examples.	Each of the unit outcomes as detailed above and presented during unit discussion session.	See Tutorial Letter 102 for details. Total 30% of year mark
Self -Assessment Theory (one quiz per learning unit)	MCQ Random Selection Linear and Timed, limited attempts, based on discussion of unit examples.	Each of the unit outcomes as detailed above and presented during unit discussion session.	See Tutorial Letter 102 for details. Optional.
Summative assessment	30 MCQ Random Selection questions Linear and Timed (60 minutes), only 1 attempt with IRIS proctoring. Details of work breakdown will be shared soonest.	All 8 learning units.	70% of the year mark.

9.3 Assessment/assignment due dates

- No assessment/assignment **due dates** are included in this tutorial letter.
- Assessment/assignment 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 on registration.
- Please start working on your assessments as soon as the assessment becomes available.
- 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 CODeL institution, 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 you 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 you and to support engagement between you 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 get the most out of using myUnisa. Please access the Announcements on your myModules site regularly, as this is where we will post important information.
- 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 or written assessments/assignments, others 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. 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 type of assessment**.
- For written assessments/assignments, please note the due date by which your work must be submitted. Ensure that you follow the guidelines given 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 awarded for incorrectly submitted assessments/assignments.

Types of assignments and descriptions

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

- **Elective assignments**
  - If you do not submit this assignment, you get no mark for it.
  - Only the best results of the required submissions will count towards your year mark.

- **Mandatory assignments**
  - The mark for this assignment contributes to the year mark.
  - If you do not submit a mandatory assignment, no mark is awarded and the year mark is calculated accordingly. You will therefore forfeit the marks attached to this assignment when the final mark for the module is calculated.

- **Compulsory assignments**
  - If you do not submit a compulsory assignment, the result on your academic record will be *absent.*

- **Optional assignments**
  - You are encouraged to do optional assignments to benefit your learning.

9.5 The assessments/assignments

As indicated in section 9.2, you need to complete 1 assessments/assignments for this module. Details of the tasks set will appear on the assessments/assignments themselves. There are no assignments included in this tutorial letter. Assignments and due dates are published on the module site.

9.6 Other assessment methods

The module uses theory self-assessments (one for each unit) and discussion of additional examples.

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 from your lecturer and e-tutors (where relevant), as well as for communication from the University.

9.8 Invigilation/proctoring

Since 2020, Unisa has been conducting 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 by using various proctoring tools: Turnitin, Moodle Proctoring, The Invigilator app and IRIS. These tools authenticate your identity and flag suspicious behaviour to assure the credibility of your 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 your submissions against internal and external sources. Turnitin assists in identifying academic fraud and ghostwriting. You are expected to submit **typed** responses when using the Turnitin software.

The **Moodle Proctoring** tool is facial recognition software that authenticates your identity during your quiz assessments. This tool requires access to your **mobile or laptop camera**. You must ensure that your camera is activated in your browser settings prior to starting your assessments.

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

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 your assessment session and it flags suspicious behaviour for review by an academic administrator. IRIS software requires installation on your **webcam-enabled laptop device**.

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:

Refer to your module assessment information on the myModules sites to determine which proctoring or invigilation tool will be used for your formative and summative assessments. Also note that one of the formative assessments will require the use of IRIS. This will be discussed in the introductory session.

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
- 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, contact the lecturer of INF1511 module to discuss the assistance that you need.

12. FREQUENTLY ASKED QUESTIONS

The questions and answers will be presented on the INF1511 module site.

13. SOURCES CONSULTED

None.

14. IN CLOSING

We wish you well in your studies. Please participate in class discussions.

Kindly Prof PM Gouws

ANNEXURE: GLOSSARY OF TERMS

There is a complete glossary of terms on the INF1511 module site.