Tutorial Letter 101/0/2025

Introductory Physics A

PHY1507

Year Module

Department of Physics

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, PHY1507-25-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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CONTENTS

Page

1 INTRODUCTION

Dear Student

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

Note that the module is fully 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 your lecturer and fellow students to support your learning will also be communicated via various platforms.

You are encouraged to log into the module site on myUnisa regularly (that is, at least twice per week). The module website code is PHY1507-25-Y].

Because this is a fully online module, you will need to use myUnisa to study and complete the prescribed learning activities. Visit the website for PHY1507 on myUnisa frequently. The website for your module is PHY1507-25-Y.

We wish you every success with your studies!

2 MODULE OVERVIEW

2.1 Purpose

The purpose of this module is to train learners with some background of physical science to gain an insight into the basic principles and theories related to introductory Physics. Student credited with this module will have basic understanding and knowledge of concepts critical to introductory Physics.

2.2 Outcomes

At the end of the academic year, you should be able to:

Specific outcome 1: Understand Measurements and Vectors.

Specific outcome 2: Apply the concepts of Kinematics and Laws of motion.

Specific outcome 3: Understand the concepts of Work, Energy, impulse, and momentum.

Specific outcome 4: Describe Waves, Oscillations, and Elasticity of an object.

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 M Ramantswana:
Department: Physics
Telephone: +27 (0)11 670 9418
E-mail: ramanm@unisa.ac.za

4.2 Department

You can contact the Department of Physics as follows:

Telephone number: +27 (0)11 670 9066
E-mail: physics@unisa.ac.za

4.3 University

University of South Africa
Cnr. Christiaan de Wet Street &
Pioneer Avenue
Florida Park
Roodepoort
1709
Tel: +27(0)11 670 9063

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)

The prescribed textbook is PHYSICS: Technology Update by James S. Walker

5.2 Recommended book(s)

Recommended textbook for this module is Physics for Scientists and Engineers: A Strategic Approach with Modern Physics by Randall D. Knight

Recommended material can be used as additional reading and can be requested online, via the library catalogue.

5.3 Electronic reserves (e-reserves)

At this time, there are no electronic reserves on the Unisa library linked to this module. If any becomes available, you shall be notified via SMS or your *mylife* email.
E-reserves can be downloaded from the library catalogue. More information is available at:
http://libguides.unisa.ac.za/request/request

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 Information Search Librarian's Literature Search Request (on your research topic) service, 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
- Social media channels: Facebook: UnisaLibrary and X 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

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.

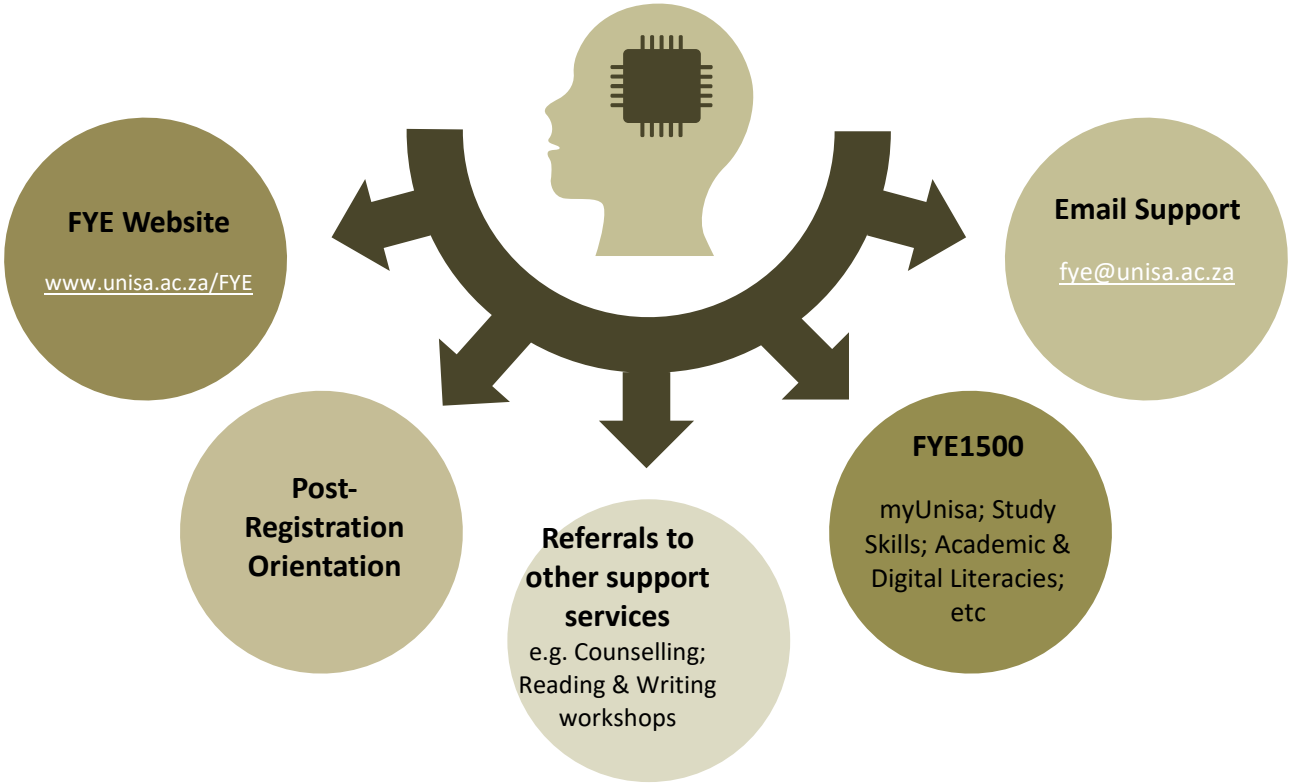
You remain responsible for the management of this e-mail account.

6.1 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.

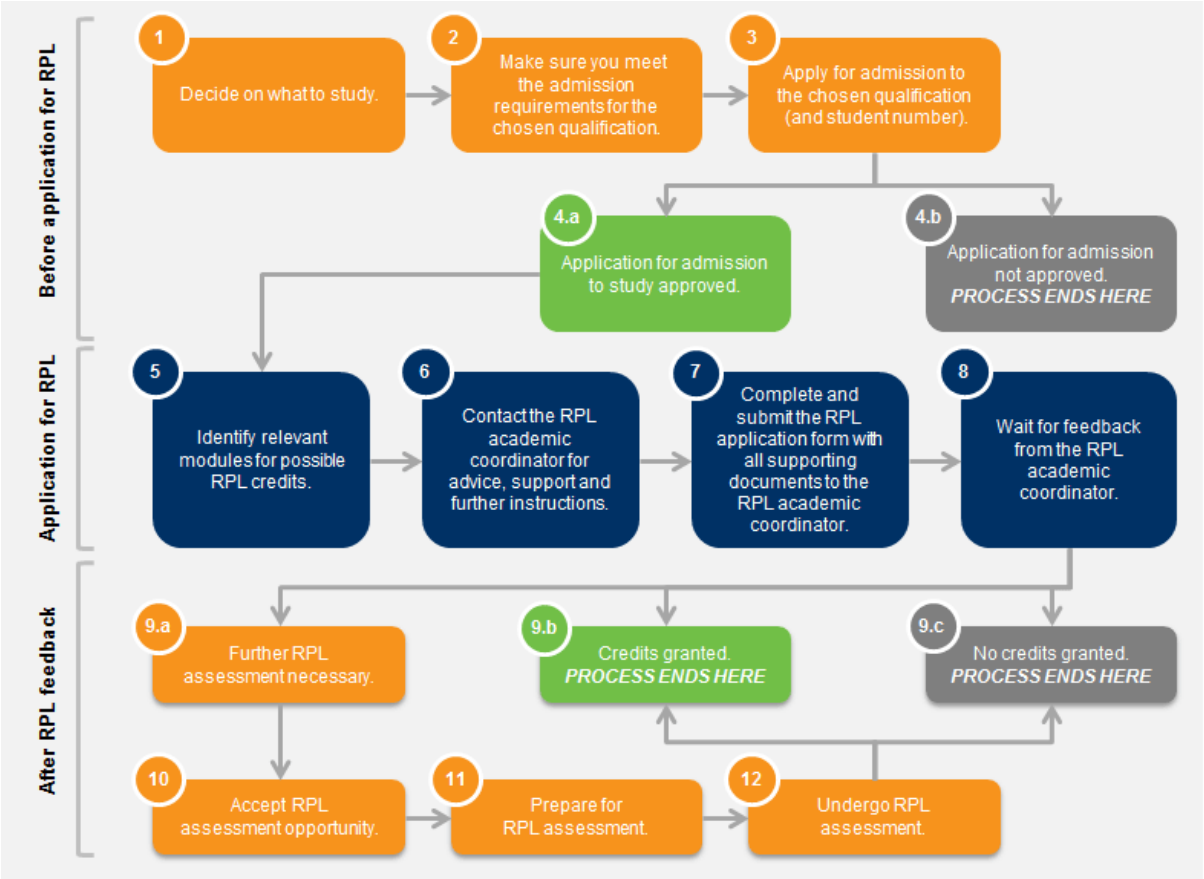
The following FYE services are currently available:



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

6.2 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



7. STUDY PLAN

The following study plan should be used for the 2025 academic year:

Chapter 1,2, and 3	To be covered by 31 March 2025
Chapter 4, 5, and 6	To be completed by 31 May 2025
Chapter 7, 8, and 9	To be completed by 14 July 2025
Chapter 10, 13, and 14	To be completed by 31 August 2025

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	Understands measurements and Vectors.	• Physical Quantity of an object and SI units' concepts are illustrated. • Coordinate systems are described, and their applications are discussed. • Vectors and Scalars are distinguished. • Components of a vectors and unit vectors are illustrated.
	Specific outcomes	**Assessment criteria**
2	Apply the concepts of Kinematics and Laws of motion.	• Motion of an object is described. • The position, speed and velocity of an object are determined. Motion in two dimensions is illustrated. • Newton's Laws of motion are applied. • Circular motion of an object is described and applied. • Concepts of rotational motion are illustrated.
3	Understand the concepts of Work, Energy, impulse, and momentum.	• The work energy theory concept is illustrated. • The principle of energy conservation is illustrated. Forms of energy and their sources are described. • The principle of linear momentum is applied.

4	Describe Waves, Oscillations and Elasticity of an object.	• Different waves are classified and described. • Reflection and refraction of waves are described. • Constructive and destructive interference of waves are described. Sources of sound and Doppler Effect are discussed. • The concepts of Hooke's law are illustrated. • Motion of a particle undergoing simple harmonic motion is described.

9.2 Assessment plan

- To complete this module, you will be required to submit four (4) 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 submit two (2) assignment/s.
- 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.

Assessment number	**Method of assessment**	**Outcomes covered in assessment**	**Weigh contribution of assessment**
1	Essay type Questions	Understands measurements and Vectors.	**25 %**
2	MCQ quiz	Apply the concepts of Kinematics and Laws of motion.	**25 %**
3	Essay type Questions	Understand the concepts of Work, Energy, impulse, and momentum.	**25 %**

4	MCQ quiz	Describe Waves, Oscillations and Elasticity of an object.	**25 %**

9.3 Assessment/assignment due dates

- There are no assessment/assignment **due dates** 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 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/assignments.

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 2025 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 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 4 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 will be made available to you on myModules for this module. We envisage that the due dates will be available to you upon registration. Written assignments will be posted on your module site.

9.6 Other assessment methods

There are no other assessments for this module.

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).

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 M Ramantswana on ramanm@unisa.ac.za) to discuss the assistance that you need.

12. FREQUENTLY ASKED QUESTIONS

For any other study, information, see the brochure My Studies @ Unisa.

13. SOURCES CONSULTED

Tutorial Letter 101 for PHY1507 (2022)

Tutorial Letter 101 for PHY1507 (2023)

14. IN CLOSING

We hope that this tutorial letter will greatly help you in planning and managing your studies.

15. ADDENDUM

No addendum