

Tutorial Letter 101/0/2022

Descriptive Statistics and Probability

STA1501

Year module

Department of Statistics

This tutorial letter contains important information about your module.

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1 INTRODUCTION

Dear Student

We wish to welcome you to STA1501, Descriptive Statistics and Probability and hope that you will find it both interesting and rewarding. We shall do our best to make your study of this module successful. You will be well on your way to success if you start studying very early in the year and resolve to do the assignments properly.

You will receive a number of tutorial letters and announcements online during the year. A tutorial letter and an announcement are our way of communicating with you about teaching, learning and assessment. This means you must read all the tutorial letters and announcements you receive during the year immediately and carefully, as they always contain important and, sometimes, urgent information.

This Tutorial Letter 101 contains important information about the scheme of work, resources, and assignments for this module. We urge you to read it carefully and to keep it at hand when working through the study material, preparing for the assignment(s), preparing for the examination and addressing questions to your lecturers.

In this Tutorial Letter 101, you will find information about the assessment on this module, the prescribed study material and other resources and how to obtain them. Please study this information carefully and make sure that you obtain the prescribed material as soon as possible.

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 STA1501, Descriptive Statistics and Probability on myUnisa frequently. The website for your module is STA1501-2022-Y1. Please note that “fully online” means that no hard copy study material will be sent to you by post or made available to be collected at Unisa campuses. Instead, all the study material will be available online.

To get started, go to the website at <https://my.unisa.ac.za> and log in using your student number and password. Click on "myModules" at the top of the web page and then on "Sites" in the top right corner. In the new window, click on the grey Star icon next to the modules you want displayed on your navigation bar. Close the window in the top right corner. Then select the option "Reload to see your updated favourite sites". Now go to your navigation bar and click on the module you want to open.

We wish you every success with your studies!

2 PURPOSE AND OUTCOMES

The purpose and outcomes of the module are given below.

2.1 Purpose

Students credited with this module will have an informed understanding of exploratory data analysis as used in graphical and tabular techniques; measures of central location, variability, relative standing and linear relationships; and simple sampling procedures. Students should be

able to use probability as a tool to create discrete and continuous probability distributions, used extensively in statistical inference. The contents of this module have important applications in finance and are useful in several management sciences.

2.2 Outcomes

- Qualifying students will be able to:
- Analyse data considering different types of data and how they relate to relevant graphical and tabular presentations e.g. pie charts, bar charts, histograms, stem-and-leaf displays, line charts, scatter diagrams and box-and-whisker plots.
- Analyse data by calculating accurate numerical measures of central location, variability, relative standing and linear relationship.
- Differentiate between simple random sampling, stratified random sampling and cluster sampling and implement a sampling plan for a given research problem with an awareness for the effect of sampling errors.
- Describe the different concepts and laws of probability and apply definitions of joint, marginal and conditional probability.
- Apply the complement, multiplication and addition rules and probability trees for calculation of more complex events and calculate complicated events from the probability of related events.
- Understand the role of probability in decision making and the application in basic statistical inference.
- Describe random variables and the probabilities associated with them in the form of a table, formula or graph and also in terms of its parameters, usually the expected value and the variance.
- Describe different probability distributions as either discrete or continuous and know the parameters of expected value and variance.
- Describe the sampling distribution of the mean and the proportion.
- Construct confidence intervals for population mean and proportion.
- Test hypothesis on one sample mean and proportion.

3 CURRICULUM TRANSFORMATION

Unisa has implemented a transformation charter based on five pillars and eight dimensions. In response to this charter, we have placed curriculum transformation high on the teaching and learning agenda. Curriculum transformation includes the following pillars: 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. These pillars and their principles will be integrated at both programme and module levels as a phased-in approach. You will notice a marked change in the teaching and learning strategy implemented by Unisa, together with how the content is conceptualised in your modules. We encourage you to embrace these changes during your studies at Unisa in a responsive way within the framework of transformation.

4 LECTURER(S) AND CONTACT DETAILS

4.1 Lecturer(s)

Your STA1501 lecturer in 2022 will be Prof. E. Rapoo. You can reach the lecturer via email at rapooe@unisa.ac.za

The phone number of the lecturer is 011 670 9259. There is also an email link to the lecturer from the module's myUnisa page.

[Since sometimes module lecturers change, please go to the module's myUnisa web site to check the latest information and contact details of your module lecturer.]

4.2 Department

You can contact the Department of Statistics as follows:

Telephone number: (011) 670 9255

E-mail: podilsl@unisa.ac.za

4.3 University

To contact the University, follow the instructions on the Contact us page on the Unisa website. Remember to have your student number available whenever you contact the University.

Whenever you contact a lecturer via e-mail, use your student email address to enable the lecturer to help you more effectively.

5 RESOURCES

5.1 Prescribed book(s)

The prescribed book for this module is

G Keller, N Gaciu (2020, 2nd EMEA edition) Statistics for Management and Economics, Cengage Learning.

5.2 Recommended book(s)

This module has no recommended books.

5.3 Electronic reserves (e-reserves)

This module has no e-reserves.

E-reserves can be downloaded from the Library catalogue. More information is available at <https://libguides.unisa.ac.za/request/request>

5.4 Library services and resources

The Unisa Library offers a range of information services and resources:

- For a general Library overview, go to <https://www.unisa.ac.za/sites/corporate/default/Library/About-the-Library>

Library @ a glance

- For detailed Library information, go to <https://www.unisa.ac.za/sites/corporate/default/Library>
- For research support and services (eg personal librarians and literature search services), go to <https://www.unisa.ac.za/sites/corporate/default/Library/Library-services/Research-support>

The Library has created numerous **Library guides** to assist you: <http://libguides.unisa.ac.za>

Recommended guides:

- Request recommended books and access e-reserve material: <https://libguides.unisa.ac.za/request>
- Requesting and finding library material: Postgraduate services: <https://libguides.unisa.ac.za/request/postgrad>
- Finding and using library resources and tools (Research Support): <https://libguides.unisa.ac.za/research-support>
- Frequently asked questions about the library: <https://libguides.unisa.ac.za/ask>
- Services to students living with disabilities: <https://libguides.unisa.ac.za/disability>
- A-Z databases: <https://libguides.unisa.ac.za/az.php>
- Subject-specific guides: <https://libguides.unisa.ac.za/?b=s>
- Information on fines & payments: <https://libguides.unisa.ac.za/request/fines>

Assistance with **technical problems** accessing the Unisa Library or resources: <https://libguides.unisa.ac.za/techsupport>

Lib-help@unisa.ac.za (insert your student number in the subject line please)

General library enquiries can be directed to Library-enquiries@unisa.ac.za

6 STUDENT SUPPORT SERVICES

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

This website has all the tips and information you need to succeed at Unisa.

6.1 First-Year Experience Programme @ Unisa

For many students, the transition from school education to tertiary education is beset with anxiety. This is also true for first-time students to Unisa. Unisa is a dedicated open distance and e-learning institution. Unlike face-to-face/contact institutions, Unisa is somewhat different. It is a mega university and all our programmes are offered through a blended learning mode or fully online learning mode. It is for this reason that we thought it necessary to offer first-time students additional/extended support so that you can seamlessly navigate the Unisa teaching and

learning journey with little difficulty and few barriers. In this regard we offer a specialised student support programme to students entering Unisa for the first time. We refer to this programme as Unisa's First-Year Experience (FYE) Programme. The FYE is designed to provide you with prompt and helpful information about services that the institution offers and how you can access information. The following FYE programmes are currently offered:

- FYE website: All the guides and resources you need to navigate through your first year at Unisa can be accessed using the following link: www.unisa.ac.za/FYE
- FYE e-mails: You will receive regular e-mails to help you stay focused and motivated.
- FYE broadcasts: You will receive e-mails with links to broadcasts on various topics related to your first-year studies (eg videos on how to submit assignments online).
- FYE mailbox: For assistance with queries related to your first year of study, send an e-mail to fye@unisa.ac.za

7 STUDY PLAN

Distance learning is not easy, and you should not underestimate the time and effort involved. Once you have received your study material, please plan how you will approach and complete this module. Consult my Studies @ Unisa for suggestions about general time management and planning skills.

This is a year module offered over 30 weeks and requires at least 120 hours of study time. This means that you will have to study at least 4 hours per week for this module. Here is a suggested schedule that you could use as a guideline for studying this module.

Time	Activities
Registration until end of March	<ul style="list-style-type: none"> • Work through Chapters 1 – 5 • Submit your Assignment 1 in early April
April	<ul style="list-style-type: none"> • Work through Chapter 6 • Submit your Assignment 2 in early May
May	<ul style="list-style-type: none"> • Work through Chapters 7 - 8 • Submit your Assignment 3 in early June
June	<ul style="list-style-type: none"> • Work through Chapters 9 - 10 • Submit your Assignment 4 in early July
July	<ul style="list-style-type: none"> • Work through Chapters 11 - 12 • Submit your Assignment 5 in early August
August	<ul style="list-style-type: none"> • Revision of the entire module • Submit your Assignment 6 in early September

September until examination	<ul style="list-style-type: none"> • Revision and preparation for the Oct/Nov 2022 examination
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8 PRACTICAL WORK

There is no practical work in this module.

9 ASSESSMENT

9.1 Assessment criteria

The outcomes of this module are given in section 2.2 of this tutorial letter. These outcomes describe what you should be able to do in order to successfully complete this module. Assignments and an examination are ways we use to assess whether you have reached the outcomes. The criteria we use to assess your work can be summarized as follows:

- You must apply the correct and appropriate formulas, presentations, methods, rules, laws, values from the tables, and so on, as required by the question(s).
- Applying of formulae, methods etc must be done correctly.
- Results, statistical test, computer printouts, etc must be interpreted correctly when asked to do so.
- Calculations must be correct and accurate.
- You should show all the intermediate steps in all your calculations and proofs.
- Marks will not be given for correct answers without coherent intermediate steps.

9.2 Assessment plan

- To complete this module, you will be required to submit six assignments.
- All information on when and where to submit your assignments will be made available to you via the myUnisa site for your module.
- The exact due dates for assignments are available on the myUnisa site for this module. The actual assignment questions will also be made available on the myUnisa site for the module.
- To gain admission to the examination, you must achieve a year mark of at least 40%.
- Assignment 1 to 5 are written assignments, while Assignment 5 is an online multiple choice assignment, similar to the format of the examination.
- Your final mark will consist of your year mark (calculated from your assignment marks) and your examination mark. The year mark will count for 30% and the examination will count for 70% of the final module mark.
- Your year mark is the average of your four best assignment marks out of the six assignments.
- The examination will be an online timed multiple-choice examination.

9.3 Assignment due dates

- There are no exact assignment due dates included in this tutorial letter. The approximate due dates of the assignments are as follows:

Assignment no.	Due on:
1	First week of April
2	First week of May
3	First week of June
4	First week of July
5	First week of August
6	First week of September

- The exact assignment due dates will be made available to you on the landing page of myUnisa for this module upon registration.
- Log on to the myUnisa site for this module to obtain more information on the due dates for the submission of the assignments

9.4 UNISA learning management system

- Modules offered by Unisa are either *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*). In all cases of online engagement, we use myUnisa as our virtual campus.
- From 2022, the myUnisa virtual campus will be offered via a new learning management system. 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.
- The University undertakes to communicate as clearly and as frequently as is necessary to ensure optimum advantage in the use of the new learning management system.
- Additional information on the use of the myUnisa site for the module, as well as features to engage and communicate with your lecturer and other students will also be made available via the online site for the module.
- Therefore, log on to the myUnisa site for your module to gain more information on where to complete and/or upload your assignments and how to communicate with your lecturer.

9.5 Submission of assignments

As indicated in section 9.2, you need to complete sufficiently many of the assignments to get a 40% year mark for the module, or you will not be allowed to write your examination. The assignment questions will be posted in myUnisa under “Additional Resources” during the year.

9.6 Other assessment methods

All the other assessment methods in this module are by self-assessment. To find out whether you are on the right track, you can do exercises in the study guide or text book and compare your answers with the given ones. You will also be provided with assignment questions from previous years with their solutions to give you further chances to practice.

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) and for communication from the University.

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 which involves several dishonest academic activities, such as the following:

- Cutting and pasting from any source without acknowledging the source.
- Not including or using incorrect references.
- Paraphrasing without acknowledging the original source of the information.

10.2 Cheating

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

- Completing assessments on behalf of another student, copying from another student during an assessment or allowing a student to copy from you.
- Using social media (eg WhatsApp, Telegram) or other platforms to disseminate assessment information.
Submitting corrupt or irrelevant files.
- Buying completed answers from “tutors” or internet sites (contract cheating).

10.3 More information about plagiarism can be downloaded on the link below

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

11 STUDENT WITH DISABILITY

The Advocacy and Resource Centre for Student with Disability (ARCSWiD) provides an opportunity for staff to interact with new and returning students with disabilities.

If you are a student with a disability and would like additional support or need additional time for assessments, you are invited to contact your lecturer.

12 FREQUENTLY ASKED QUESTIONS

- Lecturers are not allowed to accept directly emailed assignments and exam scripts. You must submit your assignments and exam on time through the correct platforms.
- Lecturers are not allowed to give students the “exam scope”. The module syllabus is the “exam scope”. Your assignments are good indicators of the final exam coverage, the format of the exam questions, and the degree of difficulty of the exam questions.
- The Study @ Unisa brochure contains the most relevant study information. Please refer to this brochure for any other questions.

13 SOURCES CONSULTED

No books or other sources were consulted in preparing this tutorial letter.

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14 IN CLOSING

Remember that there are no “short cuts” to studying and understanding statistics. You need to be dedicated, work consistently and practise, practise and practise some more! We trust that you will find a depth of knowledge in STA1501 that you can apply in many aspects of your life. Be positive, determined and eager to learn and you will be successful. 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 learning the material, and trust that you will complete the module successfully.

Prof E Rapoo