Tutorial letter 101/3/2018

Philosophy of Science

PLS2607

Semesters 1 and 2

Department of Philosophy, Practical and Systematic Theology

Discipline of Philosophy

This tutorial letter contains important information about your module.

BARCODE

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1. INTRODUCTION

Dear student,

We are glad to welcome you to the Discipline of Philosophy, Department of Philosophy, Practical and Systematic Theology, and specifically, to the study of this module, *PLS2607: Philosophy of Science.* We hope that you will enjoy the content, but more than that, that it will challenge your understanding of science as you are stretched into Philosophical discourse.

PLS2607: Philosophy of Science is a demanding module, but it is one which will enrich your intellectual life as we live and work daily in scientific contexts. Science is part of life, and so, too, should reflection upon the phenomenon and practice of science, which is what we will attempt to do in this module.

This tutorial letter sets out your programme of study for the semester (Semester 1 and Semester 2, 2018). It is a valuable document providing important information for planning your studies effectively. You should read through this tutorial letter before doing anything else, familiarising yourself with the module outline, the outcomes of the module, how the module is assessed, as well as other technical issues.

With this tutorial letter, you should receive the following additional tutorial matter:

- Tutorial Letter 301 (WYSALLB) and
- Study guide for PLS2607 (Philosophy of Science).

Some of this tutorial matter may not be available when you register. Tutorial matter that is not available when you register will be posted to you as soon as possible. It is also downloadable from the *my*Unisa pages of the module (PLS2607-2018-S1 or PLS2607-2018-S2 [depending upon which semester you are registered for]), under “Official Study Material”.

To adequately cope with the module content, proper planning is essential for successful completion of the module *Philosophy of Science*. The syllabus is divided into a number of topics, each with a central theme. While we do provide you with a study programme, you may find it more useful to create your own study programme better suited to your unique situation. Either way, the use of a study programme is essential and is to be encouraged.

A gentle reminder, however: take heed to organise your study programme in such a way that you have enough time to prepare for the examination.

As with all modules offered by the Discipline of Philosophy at undergraduate level, *Philosophy of Science* has been semesterised, and so the following apply:

- Study periods for Semester 1, 2018 begin with reception of your study material following registration, and conclude with examinations in May/June 2018, while Semester 2, 2018 is examined in October/November 2018.

For the successful completion of *Philosophy of Science*, it would be helpful for you to keep this Tutorial Letter 101 by your side: it is your route map to the obtainment of credit for the module. Of particular importance is the reading required for each study unit (which you will be able to locate in Section 6 of this Tutorial Letter 101. The readings will assist you with the completion of the required assignments, as well as in preparation for the examination.

You should follow the structure and guidelines, as set out in this tutorial letter to cope with the workload.

Assessment for *Philosophy of Science* is done through both formative and summative assessment. You will be assessed formatively through two assignments: a compulsory assignment and a second assignment. It is to your advantage to submit both assignments, as both assignments contribute towards the final mark you will obtain for the examination. Moreover, your assignment mark will determine examination entry.

By working through all the prescribed material, completing the activities, self-tests, as well as your assignments, you will ensure that the syllabus is covered.

During the semester you will receive three follow-up tutorial letters: one after each assignment has been submitted. These are important, for they provide you with explanations of problems. Moreover, they provide information on methodology to be employed in the successful writing of philosophical texts.

myUnisa is used extensively in this module and we encourage you to frequently visit the module site. There you will not only find the official study material (such as the study guide, tutorial letters, etc., in electronic format) but will be able to access *many additional resources* related to the content of the module. Most importantly, however, *myUnisa* provides students with the occasion to engage with us, your lecturers, and with other students on the discussion forums.

We are active on discussion forums, and see these as means to create a “virtual classroom”. It is only by your presence and activity on the forum, however, that we can create a virtual classroom/virtual learning environment.

Please feel that *myUnisa* belongs to you, it is a "place" where you can post any queries, problems, or difficulties which you may be having with module content. We try our best to respond as often as possible.

Do bear in mind that you are also encouraged to submit assignments via *myUnisa*, which will then be marked through the University's *onscreen marking* tool.

Note that before you can make use of *myUnisa*, you are required to register. To register, please visit: http://my.unisa.ac.za, and then click on *"Claim Unisa login"* (which is to be found on the menu on the left hand side of the webpage).

To assist in the future development (and improvement) of this module, you are kindly requested to complete the questionnaire (which you will find as the Addendum at the back of this tutorial letter [pp. 49-50]). Please be as honest as you like in your responses. Once completed, we would be most grateful if you could return the questionnaire to us by post or email (you will find our contact details on both the questionnaire and under Section 3 of this Tutorial Letter).

We hope that you find the information contained in this Tutorial Letter 101 useful.

With best wishes for your studies,

Sincerely,

Prof. Callum D. Scott and **Prof. Pascah Mungwini**

Discipline of Philosophy
Department of Philosophy, Practical and Systematic Theology

Telephone: +27 12 429 6207, Telephone: +27 12 429 6317,
e-mail: scottcd@unisa.ac.za e-mail: mungwp@unisa.ac.za

2. PURPOSE OF AND OUTCOMES FOR THE MODULE

2.1 Purpose

The purpose of the module PLS2607: Philosophy of Science, is to:

- Help you to develop an awareness of Philosophical issues in the academic environment, in this module related to issues in science, and to
- Develop within you appropriate and critical skills which will enable you to defend your views through argumentation in a systematic and organized manner concerning specific Philosophical problems.

While a single module in Philosophy will not equip one with the skills to engage meaningfully and critically in Philosophical discourse and with Philosophical problems, this module will expose you to some of the most important issues in the Philosophy of Science. Through exposure to the content of the module, an understanding of your own metaphysical, ontological, and epistemological positions will become clear. Moreover, you will get to encounter those same positions in the thinking of others.

2.2 Outcomes

The following outcomes will be achieved upon your successful completion of this introductory module in Philosophy of Science:

- You will understand the basic theoretical frameworks and dimensions of Philosophical thinking;
- You will have developed skills to think in integrated and holistic patterns;
- A critical, Philosophical attitude which will give you the skills to assess various Philosophical positions and problems, will have been acquired.
- The following specific skills are intimately tied up with the completion of this module:
  - Analysing the structure of arguments of increasing complexity;
  - Critically evaluating various positions;
  - Constructing counter-arguments to arguments presented;
  - Linking untutored convictions with Philosophical considerations.

3. LECTURER(S) AND CONTACT DETAILS

3.1 Lecturer(s)

Our contact details are:

Prof. Callum D. Scott

Office:	Room 09-61, Theo van Wijk Building, Muckleneuk Campus, Preller Street, Muckleneuk Ridge, Pretoria, SOUTH AFRICA
Postal address:	PO Box 392, UNISA, 0003, SOUTH AFRICA
Telephone:	+27 12 429 6207
e-mail:	scottcd@unisa.ac.za (Please note that I prefer communication via e-mail, as this provides me with time to consider your query and to give an in-depth response.)

Prof. Pascah Mungwini

Office:	Room 09-65, Theo van Wijk Building, Muckleneuk Campus, Preller Street, Muckleneuk Ridge, Pretoria, SOUTH AFRICA
Postal address:	PO Box 392, UNISA, 0003, SOUTH AFRICA
Telephone:	+27 12 429 6317
e-mail:	mungwp@unisa.ac.za

3.2 Contact details of the Discipline of Philosophy, Department of Philosophy, Practical and Systematic Theology

Should you be unable to reach us, or if you desire to contact the Department, you are welcome to contact our administrative officer, **Ms. Petronela Sekhukhune**, at the following contact details:

Office:	Room 09-53, Theo van Wijk Building, Muckleneuk Campus, Preller Street, Muckleneuk Ridge, Pretoria, SOUTH AFRICA
Postal address:	PO Box 392, UNISA, 0003, SOUTH AFRICA
Telephone:	+27 12 429 6888
e-mail:	sekhunp@unisa.ac.za / philosophy@unisa.ac.za

3.3 University

You will find general Unisa contact details in the *"Studies @ Unisa* brochure, and that you should make use of your student number in all correspondence with the University.

4. RESOURCES

4.1 Prescribed books

There is no prescribed text book for this module.

4.2 Recommended books

There is no recommended book for this module.

4.3 Electronic Reserves (e-Reserves)

The following prescribed journal articles and book chapters are available as e-reserves. You are encouraged to obtain them timeously by visiting the website of the Unisa Library (http://oasis.unisa.ac.za):

1. Chalmers, A.F. 2013. "Theories as structures I: Kuhn's paradigms.", pp. 97-120, in: *What is this thing called science?* Fourth Edition. Maidenhead: Open University Press.
2. Gale, G. 1979. "Introduction to Philosophy.", pp. 5-24, in: *Theory of Science: An Introduction to the History, Logic, and Philosophy of Science.* New York, NY: McGraw-Hill Book Company.
3. Klee, R. 1997. "The Positivist Model of Scientific Theories.", pp. 28-39, in: *Introduction to the Philosophy of Science: Cutting Nature at Its Seams.* Oxford: Oxford University Press.
4. Lakatos, I. 1970. "Falsification and the Methodology of Scientific Research Programmes.", pp. 170-196, in: I. Lakatos & A. Musgrave (eds.). *Criticism and the growth of knowledge.* Cambridge: Cambridge University Press.
5. Nozick, R. 2001. "The objectivity and rationality of science.", pp. 287-307, in: J. Fetzer (ed.). *Science, Explanation and Rationality: Aspects of the Philosophy of Carl G. Hempel.* Oxford: Oxford University Press.

6. O'Hear, A. 1989. "Falsification.", pp. 35-53, in: *Introduction to the Philosophy of Science.* Oxford: Clarendon Press.
7. Okere, T.I. 2005. "Is There One Science, Western Science?", *Africa Development / Afrique et Développement,* XXX(3), 20-34.
8. Richardson, S.S. 2010. "Feminist Philosophy of Science: history, contributions and challenges.", *Synthese,* 177(337-362).
9. Tsou, J.Y. 2003. "Reconsidering Feyerabend's 'Anarchism'.", *Perspectives on Science,* 11(2), 208-235.

4.4 Library services and resources information

For brief information go to : http://www.unisa.ac.za/contents/studies/docs/myStudies-at-Unisa2016-brochure.pdf.

For more detailed information, go to the Unisa website: http://www.unisa.ac.za/, click on Library.

For research support and services of Personal Librarians, go to: http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7102.

The Library has compiled numerous library guides:

- find recommended reading in the print collection and e-reserves - http://libguides.unisa.ac.za/request/undergrad
- request material - http://libguides.unisa.ac.za/request/request
- postgraduate information services - http://libguides.unisa.ac.za/request/postgrad
- finding , obtaining and using library resources and tools to assist in doing research http://libguides.unisa.ac.za/Research_Skills
- how to contact the Library/find us on social media/frequently asked questions - http://libguides.unisa.ac.za/ask

5. STUDENT SUPPORT SERVICES FOR THE MODULE

5.1 Effective Study:

A study skills book entitled *"Effective Study"* is published by the Bureau for Counselling, Career and Academic Development (BCCAD). It can be obtained from Unisa Press (see contact details below). The publication deals with a variety of topics which are applicable to specific periods during the semester. It also contains a screening questionnaire, which

will indicate to students in which areas they may expect problems and on which areas they should focus.

Van Schoor, W.A., Mill, E.M., & Potgieter, D. 2001. *Effective study.* Pretoria: Unisa Press.

You can order the booklet from Unisa Press. Only prepaid orders will be accepted. An order form appears in the booklet *"Studies @ Unisa* which you have received as part of your study package. You may contact Unisa Press through the following means:

- Telephone enquiries: +27 12 429 3515
- Fax enquiries: +27 12 429 3449
- E-mail enquiries: unisa-press@unisa.ac.za

5.2 Study Groups: contact with other students:

It is advisable to have contact with fellow students. One way to do this is to form study groups. Study groups are an activity for which students take responsibility. The purpose of this initiative is specifically to assist students to get in touch with others registered for the same course, who live in the same area.

The addresses of students in your area may be obtained from the following department:

Directorate: Student Administration and Registration
PO Box 392
UNISA
0003
SOUTH AFRICA

Alternatively, you can simply access the *myUnisa* site for this module. There is a discussion forum dedicated to the establishment of study groups there.

5.3 Tutorial services and work-integrated learning:

The Directorate TSDL (Tutorial Services, Discussion Classes and Work Integrated Learning) is responsible for academic support services.

For more information on the Tutorial Support Programme and How to join the Tutorial Support Programme, please consult the brochure "Studies @ Unisa.

5.4 *my*Unisa:

If you have access to a computer that is linked to the internet, you can quickly access resources and information at the University. The *my*Unisa learning management system is Unisa's online campus that will help you to communicate with your lecturers, with other students and with the administrative departments of Unisa.

To go to the myUnisa website, start at the main Unisa website, http://www.unisa.ac.za, and then click on the 'login to *my*Unisa' link under the myUnisa heading on the screen. This should take you to the *my*Unisa website. You can also go there directly by typing in http://my.unisa.ac.za.

Please consult the brochure *"Studies @ Unisa* which you received with your study material for more information on myUnisa.

Do be aware that this module relies heavily on the use of *my*Unisa for its teaching, and so you are encouraged to register on *my*Unisa, and to frequently visit the website of PLS2607. There are numerous additional resources available online that will assist you in completing this module.

5.5 Free computer and internet access

UNISA has entered into partnerships with establishments (referred to as *Telecentres*) in various locations across South Africa to enable you (as a UNISA student) to obtain free access to computers and the Internet. This access enables you to conduct the following academic related activities: registration; online submission of assignments; engaging in e-tutoring activities; etc. Please note that any other activity outside of these are for your own cost, e.g. printing, photocopying, etc. For more information on the Telecentre nearest to you, please visit www.unisa.ac.za/telecentres.

5.6 Additional information regarding student support services:

For additional information with regard to student support services, please consult *"Studies @ Unisa* brochure.

6. MODULE-SPECIFIC STUDY PLAN

Please refer to the study programme for the semester for which you are registered, i.e. either for Semester 1 **OR** Semester 2, 2018.

It is important to work out a study programme that suits your particular circumstances. Remember to organise your study programme in such a way that you have enough time to prepare for the examination.

To adopt a sensible and realistic study plan, we provide you with an explicit indication of the notional study hours you need to spend on each topic of the study material. The notional study hours attached to this module are 120. Please keep in mind that notional study hours refer to the actual time you actively spend on the study material.

You should spend at least 1½ hours per day to cover all the prescribed material in this module:

- 1.5 hours X 80 days = 120 notional hours.

You can, of course, also work out your own study programme.

FOR ASSIGNMENT QUESTIONS, PLEASE REFER TO SECTIONS 7.4.1 (SEMESTER 1) AND 7.4.2. (SEMESTER 2) OF THIS TUTORIAL LETTER.

STUDY PROGRAMME FOR SEMESTER 1, 2018:

		Suggested schedule:
Study Unit 1: **Introduction to Philosophy of Science**		(1 week: 10 notional hours)
Contents:	• Defining "science" and "Philosophy of Science". • Philosophy of Science's historical development from Natural Philosophy. • The importance of a theory of science. • The nature and aims of Philosophy of Science.	**Monday, 22nd January – Friday, 26th January 2018**

Outcomes: At the end of this study unit, you should be able to:

- Clearly articulate the differences between social and natural science, and Philosophy of Science.
- Explain the history of Philosophy of Science.
- Identify the importance of a theory of science.
- Explain the aims of the Philosophy of Science.

Readings: The following readings are prescribed:

- Study guide, Foreword, Aims, Activities & Assessment, and Study unit 1 (*Introduction to Philosophy of Science*).
- Gale, G. 1979. "Introduction to Philosophy.", pp. 5-24, in: *Theory of Science: An Introduction to the History, Logic, and Philosophy of Science.* New York, NY: McGraw-Hill Book Company. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 1 in the Study guide.

Study Unit 2:
Objectivity and value-free science

(1 week: 10 notional hours)

Monday, 29th January – Friday, 2nd February 2018

Contents:

- The scientist as "objective".
- The process of scientific reasoning.
- Is objectivity possible in science?
- The role of values in the process of scientific theory development.

Outcomes: At the end of this study unit, you should be able to:

- Consider the problem of science presented as objective knowledge.
- Critically establish if a scientist can be objective.

- Ascertain the importance of subjective factors in knowledge creation.
- Explain the importance of values in the practise of science.

Readings: The following readings are prescribed:

- Study guide, Study unit 2 (*Objectivity and value-free science*).
- Nozick, R. 2001. "The objectivity and rationality of science.", pp. 287-307, in: J. Fetzer (ed.). *Science, Explanation and Rationality: Aspects of the Philosophy of Carl G. Hempel.* Oxford: Oxford University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 2 in the Study guide.

Study Unit 3:
The Vienna Circle and Logical Positivism

(2 weeks: 20 notional hours)

Contents:

- Observation, Laws of Nature, and theory in scientific laws.
- The Vienna Circle (Logical Positivism).
- The two-language structure of scientific theories and its critique.
- Synthetic, analytic, *a priori* and *a posteriori* statements.
- Realism and Instrumentalism.

Monday, 5th February – Friday, 16th February 2018

Outcomes: At the end of this study unit, you should be able to:

- Describe the nature of observation and scientific laws.
- Explain critically the Vienna Circle's theory of Logical Positivism.
- Be able to critically evaluate the two-language structure of scientific theories.

- Illustrate and /appraise the conflicting perspectives of realism and instrumentalism.

Readings: The following readings are prescribed:

- Study guide, Study unit 3 (*The Vienna Circle and Logical Positivism*).
- Klee, R. 1997. "The Positivist Model of Scientific Theories.", pp. 28-39, in: *Introduction to the Philosophy of Science: Cutting Nature at Its Seams.* Oxford: Oxford University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 3 in the Study guide.

Study Unit 4:
Induction, Popper and falsificationism

(2 weeks: 20 notional hours)

Monday, 19th February – Friday, 2nd March 2018

Contents:

- The history and process of inductive reasoning (Francis Bacon).
- David Hume's "Problem of Induction" and attempts to counter Hume (including Reichenbach).
- Popperian Falsificationism (hypothetico-deductivism).
- The demarcation of "science".
- A pattern for the testing of hypotheses and their "acceptance".
- Criticism of falsificationism.
- A realist approach to induction.

Outcomes: At the end of this study unit, you should be able to:

- Critically explain and evaluate inductivism and the problems associated with induction.
- Elaborate critically on the attempts to vindicate induction.

- Define and explain Popper's theory of falsificationism.
- Critically explore Popper's theory, including the "demarcation problem".
- Understand the Popperian pattern for the testing and acceptance of an hypothesis.
- Evaluate alternate solutions to the "problem of induction".

Readings: The following readings are prescribed:

- Study guide, Study unit 4 (*Induction, Popper and falsificationism*).
- O'Hear, A. 1989. "Falsification.", pp. 35-53, in: Introduction to the Philosophy of Science. Oxford: Clarendon Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 4 in the Study guide.

Assignment 01 is due on 2nd March 2018. Please do not submit your assignment late.

Study Unit 5:
Kuhn, scientific revolutions and paradigms

(2 weeks: 20 notional hours)

Monday, 5th March – Friday, 16th March 2018

Contents:

- The importance of an historical view of science.
- Kuhn's stages of scientific paradigm development.
- Scientific theory development as change in paradigms.
- Critique of Kuhn's paradigmatic view of science.
- Kuhn's attempt to defend his theory.
- Revolutions in science.

Outcomes: At the end of this study unit, you should be able to:

- Uncover the significance of an historicist approach to science.
- Identify the various Kuhnian stages of the development of paradigms in science.
- Explain the paradigm approach to science of Thomas Kuhn.
- Weigh up Kuhn's view on "scientific" truth and the idea of progress in science through paradigm change.

Readings: The following readings are prescribed:

- Study guide, Study unit 5 (*Kuhn, scientific revolutions & paradigms*).
- Chalmers, A.F. 2013. "Theories as structures I: Kuhn's paradigms.", pp. 97-120, in: *What is this thing called science?* Fourth Edition. Maidenhead: Open University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 5 in the Study guide.

Study Unit 6:
Scientific development & research programmes: Lakatos & Feyerabend

(2 weeks: 20 notional hours)

Monday, 19th March – Friday, 30th March 2018

Contents:

- Historical evolution of scientific theories.
- Lakatos' "Methodology of Scientific Research Programmes" (MSRP).
- Criticism of Lakatos.
- Feyerabend's particular critique of Lakatos in his anarchist theory.

Outcomes: At the end of this study unit, you should be able to:

- Contextualise and critically engage with Lakatos' theory of MSRP.
- Relate Lakatos' approach to those of Popper (falsificationism) and Kuhn (paradigms) in a comparison and contrast manner.
- Outline Feyerabend's anarchist position on scientific theory, truth, etc.

Readings: The following readings are prescribed:

- Study guide, Study unit 6 (*Scientific development & research programmes: Lakatos & Feyerabend*).
- Lakatos, I. 1970. "Falsification and the Methodology of Scientific Research Programmes.", pp. 170-196, in: I. Lakatos & A. Musgrave (eds.). *Criticism and the growth of knowledge.* Cambridge: Cambridge University Press. *(This text is available as an e-reserve).*
- Tsou, J.Y. 2003. "Reconsidering Feyerabend's 'Anarchism'.", *Perspectives on Science,* 11(2), 208-235. *(This text is available as an e-reserve).*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 6 in the Study guide.

Study Unit 7:
Socially relevant Philosophy of Science: Feminist & African Philosophy of Science

(2 weeks: 20 notional hours)
Monday, 2nd April – Friday, 13th April 2018

Contents:

- Pluralistic methodologies of Philosophy of Science.
- Feminist Philosophy of Science as bringing Philosophy of Science into social relevance.
- Critique of Feminist Philosophy of Science.

- Further embracement of pluralism in Philosophy of Science by contextualising it to the African environment in African Philosophy of Science.
- Historical understanding of science in relationship to Africa.
- Science conceived as “local knowledge”.

Outcomes: At the end of this study unit, you should be able to:

- Determine the social importance of philosophical reflection on the scientific enterprise.
- Have a critical understanding of gender issues in the practise of science.
- Be aware of prejudices in science.
- Ascertain science’s importance to Africa, its Western bias, and its cultural localisation.
- Critically discuss the relevance of Feminist and African Philosophy of Science to the practise of science, as well as their flaws.
- Provide an overview of the core themes in Philosophy of Science.

Readings: The following readings are prescribed:

- Study guide, Study unit 7 (*Socially relevant Philosophy of Science: Feminist & African Philosophy of Science*).
- Section 7.2. Feminist Philosophy of Science:
  Richardson, S.S. 2010. “Feminist Philosophy of Science: history, contributions and challenges.”, *Synthese*, 177(337-362). *(This text is available as an e-reserve.)*
- Section 7.3. African Philosophy of Science:
  Okere, T.I. 2005. “Is There One *Science, Western Science?”, Africa Development / Afrique et Développement*, XXX(3), 20-34. *(This text is available as an e-reserve.)*
- Study guide’s *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 7 in the Study guide.

Assignment 02 is due on 6th April 2018. Please do not submit your assignment late.

Examination revision

(Notional hours student dependent)

Monday, 16th April – Friday, 27th April 2018

For the revision of the module content in preparation for the examination – depending on your own style of study and progress through the module contents – you need to factor in the amount of time you require in preparation for the examination.

It is important in your examination preparation that you revise all module content, and that you familiarise yourself with the essential theories discussed in each study unit.

Working through the *Point to ponder* blocks as well as the *Reflections* at the end of each study unit of the Study guide could help you in this regard.

Past examination papers are available on *my*Unisa (see under "Official Study Material"). Working through these questions will give you an idea of what you should expect in the examination.
Do note, however, that examination questions will not be repeated from semester to semester.

STUDY PROGRAMME FOR SEMESTER 2, 2018:

Suggested schedule:

Study Unit 1:
Introduction to Philosophy of Science

(1 week: 10 notional hours)

Monday, 2nd July – Friday, 6th July 2018

Contents:

- Defining "science" and "Philosophy of Science".
- Philosophy of Science's historical development from Natural Philosophy.
- The importance of a theory of science.

- The nature and aims of Philosophy of Science.

Outcomes: At the end of this study unit, you should be able to:

- Clearly articulate the differences between social and natural science, and Philosophy of Science.
- Explain the history of Philosophy of Science.
- Identify the importance of a theory of science.
- Explain the aims of the Philosophy of Science.

Readings: The following readings are prescribed:

- Study guide, Foreword, Aims, Activities & Assessment, and Study unit 1 (*Introduction to Philosophy of Science*).
- Gale, G. 1979. "Introduction to Philosophy.", pp. 5-24, in: *Theory of Science: An Introduction to the History, Logic, and Philosophy of Science.* New York, NY: McGraw-Hill Book Company. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 1 in the Study guide.

Study Unit 2:
Objectivity and value-free science

(1 week: 10 notional hours)

Monday, 9th July – Friday, 13th July 2018

Contents:

- The scientist as "objective".
- The process of scientific reasoning.
- Is objectivity possible in science?
- The role of values in the process of scientific theory development.

Outcomes: At the end of this study unit, you should be able to:

- Consider the problem of science presented as objective knowledge.
- Critically establish if a scientist can be objective.
- Ascertain the importance of subjective factors in knowledge creation.
- Explain the importance of values in the practise of science.

Readings: The following readings are prescribed:

- Study guide, Study unit 2 (*Objectivity and value-free science*).
- Nozick, R. 2001. "The objectivity and rationality of science.", pp. 287-307, in: J. Fetzer (ed.). *Science, Explanation and Rationality: Aspects of the Philosophy of Carl G. Hempel.* Oxford: Oxford University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 2 in the Study guide.

Study Unit 3:
The Vienna Circle and Logical Positivism

(2 weeks: 20 notional hours)

Monday, 16th July – Friday, 27th July 2018

Contents:

- Observation, Laws of Nature, and theory in scientific laws.
- The Vienna Circle (Logical Positivism).
- The two-language structure of scientific theories and its critique.
- Synthetic, analytic, *a priori* and *a posteriori* statements.
- Realism and Instrumentalism.

Outcomes: At the end of this study unit, you should be able to:

- Describe the nature of observation and scientific laws.

- Explain critically the Vienna Circle's theory of Logical Positivism.
- Be able to critically evaluate the two-language structure of scientific theories.
- Illustrate and appraise the conflicting perspectives of realism and instrumentalism.

Readings: The following readings are prescribed:

- Study guide, Study unit 3 (*The Vienna Circle and Logical Positivism*).
- Klee, R. 1997. "The Positivist Model of Scientific Theories.", pp. 28-39, in: *Introduction to the Philosophy of Science: Cutting Nature at Its Seams.* Oxford: Oxford University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 3 in the Study guide.

Study Unit 4:
Induction, Popper and falsificationism

(2 weeks: 20 notional hours)

Monday, 30th July – Friday, 10th August 2018

Contents:

- The history and process of inductive reasoning (Francis Bacon).
- David Hume's "Problem of Induction" and attempts to counter Hume (including Reichenbach).
- Popperian Falsificationism (hypothetico-deductivism).
- The demarcation of "science".
- A pattern for the testing of hypotheses and their "acceptance".
- Criticism of falsificationism.
- A realist approach to induction.

Outcomes: At the end of this study unit, you should be able to:

- Critically explain and evaluate inductivism and the problems associated with induction.
- Elaborate critically on the attempts to vindicate induction.
- Define and explain Popper's theory of falsificationism.
- Critically explore Popper's theory, including the "demarcation problem".
- Understand the Popperian pattern for the testing and acceptance of an hypothesis.
- Evaluate alternate solutions to the "problem of induction".

Readings: The following readings are prescribed:

- Study guide, Study unit 4 (*Induction, Popper and falsificationism*).
- O'Hear, A. 1989. "Falsification.", pp. 35-53, in: Introduction to the Philosophy of Science. Oxford: Clarendon Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 4 in the Study guide.

Assignment 01 is due on 3rd August 2018. Please do not submit your assignment late.

Study Unit 5:
Kuhn, scientific revolutions and paradigms

(2 weeks: 20 notional hours)

Monday, 13th August – Friday, 24th August 2018

Contents:

- The importance of an historical view of science.
- Kuhn's stages of scientific paradigm development.
- Scientific theory development as change in paradigms.

- Critique of Kuhn's paradigmatic view of science.
- Kuhn's attempt to defend his theory.
- Revolutions in science.

Outcomes: At the end of this study unit, you should be able to:

- Uncover the significance of an historicist approach to science.
- Identify the various Kuhnian stages of the development of paradigms in science.
- Explain the paradigm approach to science of Thomas Kuhn.
- Weigh up Kuhn's view on "scientific" truth and the idea of progress in science through paradigm change.

Readings: The following readings are prescribed:

- Study guide, Study unit 5 (*Kuhn, scientific revolutions & paradigms*).
- Chalmers, A.F. 2013. "Theories as structures I: Kuhn's paradigms.", pp. 97-120, in: *What is this thing called science?* Fourth Edition. Maidenhead: Open University Press. *(This text is available as an e-reserve.)*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 5 in the Study guide.

Study Unit 6:
Scientific development & research programmes: Lakatos & Feyerabend

(2 weeks: 20 notional hours)

Monday, 27th August – Friday, 7th September 2018

Contents:

- Historical evolution of scientific theories.
- Lakatos' "Methodology of Scientific Research Programmes" (MSRP).
- Criticism of Lakatos.
- Feyerabend's particular critique of Lakatos in his anarchist theory.

Outcomes: At the end of this study unit, you should be able to:

- Contextualise and critically engage with Lakatos' theory of MSRP.
- Relate Lakatos' approach to those of Popper (falsificationism) and Kuhn (paradigms) in a comparison and contrast manner.
- Outline Feyerabend's anarchist position on scientific theory, truth, etc.

Readings: The following readings are prescribed:

- Study guide, Study unit 6 (*Scientific development & research programmes: Lakatos & Feyerabend*).
- Lakatos, I. 1970. "Falsification and the Methodology of Scientific Research Programmes.", pp. 170-196, in: I. Lakatos & A. Musgrave (eds.). *Criticism and the growth of knowledge.* Cambridge: Cambridge University Press. *(This text is available as an e-reserve).*
- Tsou, J.Y. 2003. "Reconsidering Feyerabend's 'Anarchism'.", *Perspectives on Science,* 11(2), 208-235. *(This text is available as an e-reserve).*
- Study guide's *Glossary.*

Self-test: Answer the reflection questions at the end of Study unit 6 in the Study guide.

Assignment 02 is due on 7th September 2018. Please do not submit your assignment late.

Study Unit 7:
Socially relevant Philosophy of Science: Feminist & African Philosophy of Science

(2 weeks: 20 notional hours)
Monday, 10th September – Friday, 21st September 2018

Contents:

- Pluralistic methodologies of Philosophy of Science.
- Feminist Philosophy of Science as bringing Philosophy of Science into social relevance.
- Critique of Feminist Philosophy of Science.
- Further embracement of pluralism in Philosophy of Science by contextualising it to the African environment in African Philosophy of Science.
- Historical understanding of science in relationship to Africa.
- Science conceived as “local knowledge”.

Outcomes: At the end of this study unit, you should be able to:

- Determine the social importance of philosophical reflection on the scientific enterprise.
- Have a critical understanding of gender issues in the practise of science.
- Be aware of prejudices in science.
- Ascertain science’s importance to Africa, its Western bias, and its cultural localisation.
- Critically discuss the relevance of Feminist and African Philosophy of Science to the practise of science, as well as their flaws.
- Provide an overview of the core themes in Philosophy of Science.

Readings: The following readings are prescribed:

- Study guide, Study unit 7 (*Socially relevant Philosophy of Science: Feminist & African Philosophy of Science*).

- Section 7.2. Feminist Philosophy of Science: Richardson, S.S. 2010. "Feminist Philosophy of Science: history, contributions and challenges.", *Synthese*, 177(337-362). *(This text is available as an e-reserve.)*
- Section 7.3. African Philosophy of Science: Okere, T.I. 2005. "Is There One *Science, Western Science?", Africa Development / Afrique et Développement*, XXX(3), 20-34. *(This text is available as an e-reserve.)*
- Study guide's *Glossary*.

Self-test: Answer the reflection questions at the end of Study unit 7 in the Study guide.

Examination revision

(Notional hours student dependent)

Monday, 24th September – Friday, 5th October 2018

For the revision of the module content in preparation for the examination – depending on your own style of study and progress through the module contents – you need to factor in the amount of time you require in preparation for the examination.

It is important in your examination preparation that you revise all module content, and that you familiarise yourself with the essential theories discussed in each study unit.

Working through the *Point to ponder* blocks as well as the *Reflections* at the end of each study unit of the Study guide could help you in this regard.

Past examination papers are available on *my*Unisa (see under "Official Study Material"). Working through these questions will give you an idea of what you should expect in the examination.

Do note, however, that examination questions will not be repeated from semester to semester.

For further information on general time management and planning skills, please consult *"Studies @ Unisa* brochure.

7. ASSESSMENT

7.1 Assessment plan:

7.1.1 General information:

Assignments are seen as part of the learning material for this module. As you do the assignment, study the readings, consult other resources, discuss the work with fellow students or do research, you are actively engaged in learning. Looking at the assessment criteria given for each assignment will help you to understand what is required of you more clearly. Please ensure that you follow instructions provided.

Some students do not read the assignment question. Indeed, many tend to submit essay assignments that are oftentimes summaries of the themes under discussion rather than a particular response to questions posed.

As a NQF 6 level module, students of Philosophy of Science should not follow this trend. Instead, you should be able to interpret assignment questions against the background of study material, and then demonstrate, by reasoning and examples, that you have knowledge and understanding of the theories and problems discussed.

Showing that you can relate the module content to the question, that you can consider critiques provided, and that you can provide your own well-reasoned arguments in response or in support is essential should you wish to obtain a mark above 50%.

Assignments are linked to examination admission for this module, so it is to your best interest that you timeously submit assignments.

There are two assignments for each semester in this module. The submission of the both assignments is COMPULSORY. Failure to submit the first timeously will automatically lead to exclusion from the examinations.

The sub-minimum required for examination entrance – based upon your results in both assignments – is 40%.

The percentage you obtain from the minimum 40% upwards shall be credited to your final examination.

7.1.2 Assignment weights:

The final module mark is comprised of the following components:

Year mark	***Assignment 01***	40% of your year mark (16/40 marks) = 16% of your final module mark.	(**40%** of final module mark)
	+		
	Assignment 02	60% of your year mark (24/40marks) = 24% of your final module mark.	
+			
Examination mark	⟹		(**60%** of your final module mark)
			100%

7.1.3 Plagiarism:

All sources consulted and references used in the assignments must be acknowledged. You will receive Tutorial Letter 301 which explains the reference techniques that are used in the Discipline of Philosophy. Please read this tutorial letter carefully.

An assignment is designed to be a product of your own study and your own thought. It is not intended to be a piece of work which merely reproduces details, information or ideas from a study guide, from books or articles, or from the Internet. If you do this, you commit plagiarism.

“Plagiarism” is: the act of copying word for word without acknowledgment from your tutorial letters and study guides, or from any other sources, such as extracts from books, articles, textbooks, previous tutorial letters, or from the Internet.

You also commit plagiarism if you copy the assignment of another student. We do encourage you to work together and form study groups, but you are expected to prepare and submit your own assignments.

Plagiarism is not permitted because:

- It is an immoral act, because you are stealing another person's words and ideas. It is an act of dishonesty.
- It is an illegal act, because theft of another person's property (in this case, their ideas and their writing) is against the law. The act can therefore be legally punished, and UNISA does so.
- It is a self-defeating act, because your lecturers cannot give you marks for work that is not your own. You disadvantage yourself because your lecturer will not be able to judge whether you have understood the work, and so will be in no position to help you.

Avoiding plagiarism:

All researchers adhere to systems and conventions in which they acknowledge the sources on which they base their ideas and their work. The same is expected of you in the preparation of your assignment work.

The way to avoid committing plagiarism is straightforward. You must acknowledge the information and the ideas you have used in the preparation of your written work. This rule applies both for direct quotations and for ideas used (i.e. those that are written in your own words but which come from someone else). When you acknowledge your sources properly and fully, you will not be guilty of plagiarism.

Unisa's official policy on plagiarism:

The Disciplinary Code for Students is given to all students at registration. Students are advised to study the Code thoroughly. Kindly read the University's Policy on Copyright Infringement and Plagiarism as well.

7.1.4 Assessment of assignments:

In written assignments, markers will comment constructively on your work. Additionally, commentaries on compulsory assignments will be sent to all students in follow-up tutorial letters. You will receive two follow-up tutorial letters, one after each assignment has been submitted.

Please compare the work you have submitted to the commentaries provided in follow-up tutorial letters as this will give you some indication of where your assignment may need attention. Your lecturers' feedback will help you in the completion of your next assignment and in examination revision.

In assessing assignments, markers keep the following as their guidelines:

0-40%	**Unsatisfactory**
	Your understanding of the question needs to be developed and contextualised. You need to study the prescribed material with greater attention. Your approach to the question was not sufficiently critical and analytical. You did not refer to relevant prescribed material. Your essay did not respond at all to the question/topic posed.
41-19%	**Barely satisfactory**
	Although you showed an understanding of the question you did not explain the problem. You did not evaluate the various arguments. You did not refer to relevant prescribed material. You offered no arguments of your own.
50-59%	**Pass/Average**
	You need to practice applying your reasoning skills to specific problems in order to improve your mark.
60-69%	**Above average**
	You have the idea, i.e. you understand the work. You have to explore key points in more detail. You have to show the implications of key points within the context of the question. You should include practical examples to show your understanding of concepts. You should include citations which substantiate your ideas.
70-74%	**GOOD**
	You need to analyse arguments in more detail. You need to exploit the implications of these arguments further. You need to include more citations to expound your views.
75%	**EXCELLENT**

Additionally, the following **specific assessment criteria** are employed in assessing assignment submissions in this module:

- Is there a table of contents?
- Is the assignment in essay format containing an introduction, body, conclusion, and appropriate sub-headings?

- Is there a bibliography in which all sources consulted are listed, written in alphabetical order, and following the prescribed format of the Harvard Referencing System?
- Are all ideas that are not the student's own referenced in the assignment (following the Harvard Referencing System)?
- Has the essay been written in the student's own words, thus avoiding plagiarism?
- Do all the sentences follow in a logical sequence, enabling the essay to make sense to the lecturer?
- Has the assignment been limited to the number of words required?
- Does the essay respond adequately to the topic posed (i.e. has the question been answered by the student)?
- Have all the aspects of the topic been covered by the student's essay?
- Does the essay meet the critical requirements needed in a Philosophical work?

7.2 General assignment numbers:

Assignments are numbered consecutively per module, starting from "01". Please ensure that your assignments are numbered correctly.

7.2.1 Unique assignment numbers:

All assignments have their own **unique assignment numbers**. Please ensure that you include these in all submissions.

The relevant information is included below in section 7.4.

7.2.2 Due dates for assignments:

Ensure that your assignments are submitted on or before the particular due date assigned for this module.

The relevant information on due dates for assignments is included in section 7.4.

7.3 Submission of assignments:

Students may assignments **either** by post **or** electronically via *my*Unisa. Assignments may **not** be submitted by fax or e-mail.

For detailed information on assignments, please refer to *"Studies @ Unisa* brochure which you received with your study package.

To submit an assignment via *my*Unisa:

- Go to *my*Unisa.
- Log in with your student number and password.
- Select the module.
- Click on "Assignments" in the menu on the left-hand side of the screen.
- Click on the assignment number you wish to submit.
- Follow the instructions.

7.4 Assignments:

7.4.1 **First Semester 2018 – Compulsory Assignments**:

Assignment 01	Unique assignment number:	**716239**
	Due date:	2nd March 2018

Instructions:

1. This compulsory assignment consists of **ten multiple-choice questions**.
2. All questions must be answered, by identifying the **one correct** answer.
3. The questions are based upon Study Units 1-3 and the glossary.
4. You may submit your answers on *my*Unisa, or alternatively you can submit a hardcopy on the mark reading sheet provided in your study pack.
5. If using the mark reading sheet, you are to fill in your name, student number, module code, the UNIQUE ASSIGNMENT NUMBER and indicate which semester you are registered for.
6. It is not necessary to submit a signed declaration on plagiarism with a multiple-choice question assignment.

Assignment questions:

1. What does “epistemology” study?

    1) Theories of beauty
    2) Theories of knowledge
    3) Theories of morality
    4) Theories of science (1)

2. What philosophical framework presumes the existence of a mind-independent reality?

    1) Idealism
    2) Materialism
    3) Realism
    4) Instrumentalism (1)

3. *Complete the following sentence making use of one of the options provided below:*

    “A/n _____ argument proceeds from _____ premises, thus making the conclusion absolutely certain.”

    1) valid; certain
    2) deductive; particular
    3) correct; truthful
    4) inductive; particular (1)

4. Link the theory in column A to the philosopher of science that is most associated with it in column B:

Column A	Column B
A1: Falsificationism	B1: Thomas Kuhn
A2: Research programmes	B2: Paul Feyerabend
A3: Paradigms	B3: Imre Lakatos
A4: Anarchism	B4: Karl Popper

1) A1, B2; A2, B4; A3, B3; A4, B1
2) A1, B4; A2, B3, A3, B1; A4, B2
3) A1, B2; A2, B4; A3, B1; A4, B3
4) A1, B3; A2, B2; A3, B1; A4, B4 (1)

5. What classification best captures the discipline of “crystallography”?

1) Natural science
2) Materials science
3) Empirical science
4) Social science (1)

6. Which school of philosophy of science, of the likes of Rudolph Carnap and A.J. Ayer, argued that metaphysics is meaningless?

1) Falsificationism
2) Idealism
3) Empiricism
4) Positivism (1)

7. Which of the following does *not* assist a scientific community of practice in its attempt at becoming objective?

1) Peer-reviewed criticism is invited and suggestions for improvement implemented.
2) The determination of a critique is the view of a scientific expert alone.
3) Evidence, methods, etc., related to the scientific theory are critiqued.
4) Objectivity is evaluated by community-approved standards of practice. (1)

8. Which European city is particularly associated with the Logical Positivist movement?

1) Munich
2) London
3) Amsterdam (1)
4) Vienna

9. It is arguable that the 2010 work by Stephen Hawking and Leonard Mlodinow, *The Grand Design*, leans heavily in the direction of which of the following disciplines?

1) Metaphysics
2) Philosophical anthropology
3) Natural Philosophy
4) Ethics (1)

10. Identify the statement that describes scientific theory “verification”.

    1) *“The explanation of phenomena by an operation of the phenomena.”*
    2) *“The definite confirmation of hypotheses as a result of observation.”*
    3) *“The identification of overlaps between theory and observation.”*
    4) *“The endurance of an hypothesis following stringent testing.”* (1)

11. Which discipline is <u>not</u> pseudoscientific?

    1) Cosmology
    2) Palmistry
    3) Numerology
    4) Astrology (1)

12. Which Latin term is best translated as “to know”?

    1) *Metaphysica*
    2) *Studia*
    3) *Episteme*
    4) *Scientia* (1)

13. *Complete the following sentence making use of one of the options provided below:*

    A(n) _____ refers to an assumption upon which a scientific hypothesis is based.

1) Presupposition
2) Theory
3) Hypothesis
4) Fact (1)

14. *Complete the following sentence making use of one of the options provided below:*

"A/n _____ term refers to indirectly observable entities."

1) theoretical
2) observational
3) scientific
4) falsifiable (1)

15. *Complete the following sentence making use of one of the options provided below:*

"_____ is the approach which proposes that complex states of affairs can be reduced to much more simplex articulations."

1) Realism
2) Instrumentalism
3) Materialism (1)
4) Reductionism

16. Which best defines the "problem of demarcation"?

1) The separation of philosophy of science from natural philosophy.

2) The awareness that induction does not result in certain conclusions.
3) The delineation between theoretical and observational terms.
4) The determination of what science and non-science are. (1)

17. *Complete the following sentence making use of one of the options provided below:*

"The Instrumentalists put forth that all scientific theories are _____ approximations and representations of _____."

1) Theoretical; observation statements.
2) Linguistic; sensory experiences.
3) Reasonable; metaphysical realisations. (1)
4) Visual; reasoned explanations.

18. *Complete the following sentence making use of one of the options provided below:*

"Modern, Western science has often been assumed to be free of value and thus without _____, so that it is considered as the best form of knowledge acquisition."

1) Prejudice
2) Truth
3) Objectivity
4) Morality (1)

19. Which of the following refers to "metaphysics"?

1) The scientific study of theories of reality.
2) The scientific study of theories of being.
3) The scientific study of theories of knowledge.
4) The scientific study of methods. (1)

20. What should be undertaken when falsifying an hypothesis?

1) Observations
2) Induction
3) Experiments
4) Verifications (1)

[20]

Assignment 02	Unique assignment number:	**747669**
	Due date:	6th April 2018

Carefully study the following tutorial information which will assist you in the completion of your second assignment:

1. **Plagiarism:**

Every idea that you use in your work which is not your own unique work needs to be referenced such that you do not commit *plagiarism*. This applies as much to direct quotations as it does to paraphrasing. You need to follow the instructions for referencing provided by the Discipline of Philosophy. These can be obtained in the **appendix to this tutorial letter** as well as in the additional resources section of PLS2607's *myUnisa* page or by consultation with the Tutorial Letter 301 (WYSALLB).

Referencing (both within the text of your assignment and in a bibliography) IS NOT OPTIONAL. Be aware that the *University of South Africa* can take action against students who plagiarise.

Moreover, you will be awarded marks for your use of referencing techniques, and will be penalised for a lack of referencing techniques. Please be aware of this.

2. **Keeping to the assignment topic:**

A major problem facing students is not keeping to the assigned topics. It is imperative that this is done, as without maintaining focus on the question asked, the answer provided is irrelevant to the assignment and your assignment result will be poor.

Our suggestion is that when you consider the question, attempt firstly to find out what is being asked of you. Once you adequately understand the topic, direct your research to the relevant information required.

3. **Assignment lengths:**

For **Assignment 02**, please take note of the **length of essays**: keep your assignments to the **word limits specified** – that means **Assignment 02** should be **no longer than 1000 words**. Please indicate the number of words out of which your assignment is comprised. You will be penalised if you exceed this word limit.

4. **A philosophical approach to writing essays:**

This section should assist you in the content-development of your second assignment.

As many registered for this module are not Philosophy majors, a technique for essay writing in the Philosophical manner may be foreign.

Thus, here we explain a simple method to follow when you are asked to *"discuss", "critically discuss"* or *"evaluate"* a topic in the format of an essay for this module.

When given one of the aforementioned instructions (or similar), it is important to bear in mind that you are required to give your critical thoughts on issues as well as to explain particular theories. This does not mean that you should write down any meanderings your mind may take you on. Rather, what you should provide is relevant information that makes logical sense and which can be backed up with evidence.

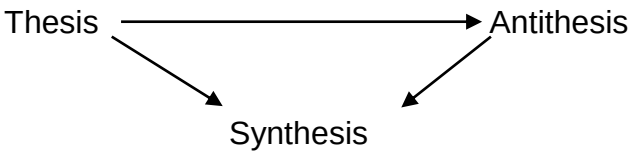
Philosophy is a discipline that occurs best in dialogue: in conversation between people. It is important, therefore – as in a discussion – to examine issues from different perspectives. This is known as developing the *dialectic*, and the specific methodology we wish to make you aware of is the *Hegelian Dialectic*.

Georg Wilhelm Friedrich Hegel (1770-1831) argued that history progresses in a *dialectical manner.*[1] Following his analysis of Hegel's work, Heinrich Moritz Chalybaus exposed the *Hegelian Dialectic*, which proposes that after a *thesis* (a theory/idea) is presented someone else may develop a counter theory, i.e. an *anti-thesis* (Mueller, 1958:413-414). These are then merged into a combinatory theory known as a *synthesis* (Mueller, 1958:413-414). And so the process continues with the *synthesis* becoming the *new thesis*, resulting in a new *anti-thesis* to be created, and so on (Mueller, 1958:413-414).

The Hegelian Dialectic can be illustrated as follows:

[1] Burrell, 1991.

Critical reflection on a "thesis" results in the development of an "anti-thesis"



Dialogue between the ideas of the "thesis" and that of the "anti-thesis" form a new idea, a "syn-thesis".

In developing your essay assignments for Philosophy, you may use the dialectical method, which will enable you to better critically discuss topics in that you will be able to expose and explain a theory (a *"thesis"*), and then to critically evaluate it (generate an *"anti-thesis"*). The combinatory product of this can serve as the conclusion of your essay.

If you have further queries of this methodology, please do not hesitate to contact either of your lecturers (our contact details are included at the end of this tutorial letter).

5. **Assessment criteria used to evaluate essays in Philosophy of Science:**

The following rubric is employed in the assessment of your essays. It is included here, so that you will be able to ascertain what we are looking for when assessing your essays. This "checklist" should assist you in becoming aware of what is expected of you as you write the second and third assignments. It would be prudent for you to work through the rubric employed, such that you can ascertain – prior to submission of your essay – the extent to which your essay conforms to the expectations demanded.

Rating:	1 Inadequate	2 Weak	3 Satisfactory	4 Good	5 Excellent	Marks Possible mark	Marks Mark awarded
INTRODUCTION This section should include the background and context of the problem being discussed, as well as the main argument you will propose. It outlines the plan of your essay.	There is no introduction or the introduction is very weak with no context. No outline of the essay is provided. ☐	The introduction is superficial, lacking in background or context or outline of essay. ☐	An attempt has been made to write an introduction, though it is weak in some aspect. ☐	A sufficient introduction has been written that contains most elements. ☐	An interesting and original introduction has been written that contains all of the essential elements. ☐	10	____
CONTENT The content of your essay should contain: 1) research on and engagement with prescribed readings; 2) definitions of core conceptions; 3) identification of main issues; 4) analysis and discussion of the theories.	The analysis is absent or minimal and unsupported by research. No attempt was made to incorporate information from primary and secondary sources. ☐	There is little interaction between research and analysis. The analysis is merely description of theory. Core concepts have not been defined. There is little to no evidence of prescribed reading having been engaged with. ☐	Some research has been conducted. Analysis tends toward description. The research does not support the analysis. Content is not contextualised. Not all the core concepts are defined. The student has not engaged with the prescribed reading in sufficient depth. ☐	Sufficient research has been done. The essay may at times be unfocused, or make unsubstantiated claims. Information is adequately contextualised. Themes were sufficiently identified and explained. The core concepts have been defined. Support for most points given from reference to sources. ☐	Excellent research: the analysis supports the argument. Information was strongly contextualised. Themes were identified and explained with depth of understanding. The core concepts were excellently defined. Sources were drawn upon to support key points. ☐	30	____
STRUCTURE AND STYLE The structure and style of the essay should be: 1) Systematically organised and integrated; 2) Demonstrate relationships between subsections and themes; 3) Argue logically and coherently.	No evident structure or organization. No transitions between major points. Paper is poorly organised and difficult to read, because it did not flow logically from one part to another. ☐	The structure is unclear, unfocused, disorganized, lacking in unity, transitions abrupt or confusing between sections, and the context unclear. ☐	The organization was adequate. Transitions may be weak, but the essay can be followed. The essay does not demonstrate sufficient appreciation for the reader's need for information, explanation, and context. ☐	Generally clear, although the structure may wander at times. There may be some unclear transitions or lack of coherence, but the essay is sufficiently structured. The argument is mostly easy to follow. ☐	Essay is focused and unified. Excellent transitions between points. Reader's need for information, explanation, and context has been considered. Paper is logical and coherent. ☐	15	____
ARGUMENT The argument you develop should: 1) Form and demonstrate an independent judgement; 2) Account for why a theoretical approach is strong or weak; 3) Be substantiated.	No evidence of a logical argument. Argument not supported with any reasons. There may be no discernible argument ☐	Not much support is given for claims. Evidence has not been related to the key claim. The reasons offered may be irrelevant. ☐	Arguments are inadequate. The reasons given for claims are weak. Argumentative reasoning may be lacking. No evidence for anticipation of a counter argument. ☐	The argument is clear and mostly flows logically. Some counter-arguments acknowledged, but not explored. The argument is reasoned, overall, demonstrating though, and evidence is given. ☐	Arguments are sound, logical and substantiated. Clear reasons of support for claims given. Counter-arguments were anticipated and explored. Essay shows depth and independent thought. ☐	15	____
ACADEMIC WRITING The essay should be written: 1) Clearly; 2) Grammar, sentence structure, spelling etc. should be correct	Essay is difficult to understand because of significant problems with sentence structure, grammar, punctuation, and spelling. Writing lacks clarity. ☐	Several problems with sentence structure, grammar, punctuation, and spelling. Writing could be clearer. ☐	Some problems with sentence structure, grammar, punctuation, and spelling. The reader can detect meaning, but with careful reading. ☐	Sentence structure, grammar, punctuation, and spelling were strong, but still a few errors. Writing is mostly good, but may lack some clarity. ☐	Correct sentence structure, grammar, punctuation, and spelling. Writing is clear, concise and persuasive. ☐	10	____
CONCLUSION The conclusion should demonstrate: 1) What has been done; 2) Declare the significance, value and importance of the topic, view, or thesis you have defended.	The conclusion is insubstantial or non-existent ☐	The conclusion is unsatisfactory. Necessary elements are missing. ☐	The conclusion could be strengthened. Necessary elements could be elaborated upon. ☐	An adequate conclusion was presented. ☐	An excellent conclusion. ☐	10	____
REFERENCING All references, both within the text and within the bibliography should be according to the Harvard method (cf. Tutorial Letter 301).	There are no in text references. There is no bibliography. ☐	There are no/few in text references and an attempted bibliography, but there are essential elements missing. ☐	There are some in text references and an attempted bibliography, but there are important elements missing. ☐	The referencing style, both in text and in the reference list is very good. A few small errors are apparent. ☐	In-text references are perfect. The bibliography is complete, free of errors and reflects the appropriate sources. ☐	10	____
					Total	100	____

Overall impression:

Assignment topic:

Write an essay on the following topic, ensuring that you keep to the instructions provided below:

"The only valid knowledge is that of empirically-based, objective Western science."

From the perspective of African Philosophy, critically explore this statement. Ensure that you state whether you agree or disagree with the statement, providing reasons for your standpoint.

[100 marks]

Instructions:

Ensure that you keep to the following instructions for the writing of the assignment (you will be penalised for not complying to them):

1. Your essay must be written in correct essay format, including an introduction, body, and conclusion.
2. Indicate the number of words your essay comprises, ensuring that it does not exceed the limit imposed of 1000 words.
3. Every idea used – not only direct quotations – must be referenced correctly both in the text of your essay and in a bibliography, according to the prescribed format, namely the Harvard Referencing Method (for more information please consult Tutorial Letter 301 [WYSALLB]).
4. In addition to using the study guide, you are required to make use of at least two other sources (e.g. journal articles, books, online sources, etc.).
5. Kindly do not use Wikipedia.

6. If you need to consult a Philosophical encyclopaedia, make use of the Stanford Encyclopedia of Philosophy (http://plato.stanford.edu) or the Internet Encyclopedia of Philosophy (http://www.iep.utm.edu).
7. Pay careful attention that your essay is written in the "philosophical method" as outlined in Tutorial Letter 201.

7.4.2. **Second Semester 2018 – Compulsory Assignments**:

Assignment 01	Unique assignment number:	**650915**
	Due date:	3rd August 2018

Instructions:

1. This compulsory assignment consists of **ten multiple-choice questions**.
2. All questions must be answered, by identifying the **one correct** answer.
3. The questions are based upon Study Units 1-3 and the glossary.
4. You may submit your answers on *my*Unisa, or alternatively you can submit a hardcopy on the mark reading sheet provided in your study pack.
5. If using the mark reading sheet, you are to fill in your name, student number, module code, the UNIQUE ASSIGNMENT NUMBER and indicate which semester you are registered for.
6. It is not necessary to submit a signed declaration on plagiarism with a multiple-choice question assignment.

Assignment questions:

1. *Complete the following sentence making use of one of the options provided below:*

   The ideological movement that seeks to place women and men as equals in every way is labelled as _____.

   1) Non-racism
   2) Feminism
   3) Humanism
   4) Chauvinism (1)

2. What type of argument proceeds from particular experiences and premises to a universal conclusion, which enables the production of new theories?

   1) Valid
   2) Induction
   3) Sound
   4) Deduction (1)

3. What does “corroboration” refer to?

   1) The confirmation of a theory as true.
   2) The proving of an hypothesis as false.
   3) The accurate comparison of theory to test.
   4) The survival of an hypothesis from testing. (1)

4. Prior to the eighteenth century CE, what included both philosophy and science as we currently understand them?

1) Natural Philosophy
2) Philosophical anthropology
3) Systematic Theology
4) Counselling Psychology (1)

5. Which of the following scholars was not a scientist?

1) Bruno
2) Copernicus
3) Kant
4) Galileo (1)

6. Which of the following is not a human and/or social science?

1) Political Science
2) Experimental Physics
3) Social Work
4) Constitutional Law (1)

7. Which philosophy of science regards empirical, scientific theories as providing researchers with certain, objective and universally true theories?

1) Hypothetico-deductivism
2) Positivism
3) Instrumentalism
4) Falsificationism (1)

8. Identify the best definition from the options provided below for “epistemology”.

1) The philosophical sub-discipline wherein theories of the supernatural are investigated.

2) The philosophical sub-discipline wherein theories of reality are investigated.
3) The philosophical sub-discipline wherein theories of knowledge are investigated.
4) The philosophical sub-discipline wherein theories of being are investigated. (1)

9. *Complete the following sentence making use of one of the options provided below:*

"During the mid-twentieth century, Michel Foucault and Jean-François Lyotard focused upon _____, whilst Richard Rorty and Jürgen Habermas contributed to philosophical _____."

1) hermeneutics; postmodernity
2) hermeneutics; epistemology
3) epistemology; hermeneutics
4) postmodernity; hermeneutics (1)

10. Identify the philosophical approach which argues that scientific theories are explanations which best fit sensory observations.

1) Realism
2) Instrumentalism
3) Materialism
4) Idealism (1)

11. From the options provided below, identify which phrase best denotes "methodology".

1) The study of scientific arguments.
2) The study of theories of reality.

3) The study of theories of knowledge.
4) The study of scientific processes. (1)

12. Who argued the following?

"… [T]*he hallmark of scientific behaviour is a certain scepticism even towards one's most cherished theories."*

1) Plato
2) Imre Lakatos
3) Paul Feyerabend
4) Blaise Pascal (1)

13. If a scientist believes that she is objective in her research, she presupposes that…

1) … her positions are determined solely by facts.
2) … scientific theories do not require empirical evidence.
3) … reality can be encountered without any hindrance.
4) … her scientific theories are self-determined. (1)

14. Identify the means by which scientists are aided in being "objective" in their research.

1) Engaging in scientific research individually.
2) Basing research upon an accepted ideology.

3) Attempting to ameliorate emotion from research.
4) Not acknowledging social influences on science. (1)

15. Which of the following options refers to the philosophical discipline which has as its focus the study of theories of being?

1) Ontology
2) Metaphysics
3) Epistemology
4) Ethics (1)

16. Where does scientific inquiry have its origins according to the hypothetico-deductivists?

1) In problems.
2) In assumptions.
3) In theories.
4) In observations. (1)

17. Name the human pursuit that attempts to systematically construct and develop knowledge.

1) Epistemology.
2) Philosophy.
3) Science.
4) Technology. (1)

18. Which philosopher was part of the social turn in the philosophy of science?

1) Rudolph Carnap
2) Paul Feyerabend

3) C.S. Peirce
4) Jacques Maritain (1)

19. Name the approach to scientific theories which identifies these as having at their core, basic scientific assumptions, which is then surrounded by a "protective belt" of replaceable auxiliary hypotheses.

    1) A research paradigm.
    2) A research programme.
    3) A falsified theory.
    4) A scientific explanation. (1)

20. *Complete the following sentence making use of one of the options provided below:*

    "An hypothesis that has the single goal of preventing a theory from falsification is called _____."

    1) Corroborated
    2) Verified
    3) Scientific
    4) Ad hoc (1)

[20]

Assignment 02	Unique assignment number:	**741611**
	Due date:	7th September 2018

Carefully study the following tutorial information which will assist you in the completion of your second assignment:

1. **Plagiarism:**

Every idea that you use in your work which is not your own unique work needs to be referenced such that you do not commit *plagiarism*. This applies as much to direct quotations as it does to paraphrasing. You need to follow the instructions for referencing provided by the Discipline of Philosophy. These can be obtained in the **appendix to this tutorial letter** as well as in the additional resources section of PLS2607's *myUnisa* page or by consultation with the Tutorial Letter 301 (WYSALLB).

Referencing (both within the text of your assignment and in a bibliography) IS NOT OPTIONAL. Be aware that the *University of South Africa* can take action against students who plagiarise.

Moreover, you will be awarded marks for your use of referencing techniques, and will be penalised for a lack of referencing techniques. Please be aware of this.

2. **Keeping to the assignment topic:**

A major problem facing students is not keeping to the assigned topics. It is imperative that this is done, as without maintaining focus on the question asked, the answer provided is irrelevant to the assignment and your assignment result will be poor.

Our suggestion is that when you consider the question, attempt firstly to find out what is being asked of you. Once you adequately understand the topic, direct your research to the relevant information required.

3. **Assignment lengths:**

For **Assignment 02**, please take note of the **length of essays**: keep your assignments to the **word limits specified** – that means **Assignment 02** should be **no longer than 1000 words**. Please indicate the number of words out of which your assignment is comprised. You will be penalised if you exceed this word limit.

4. A philosophical approach to writing essays:

This section should assist you in the content-development of your second assignment.

As many registered for this module are not Philosophy majors, a technique for essay writing in the Philosophical manner may be foreign. Thus, here we explain a simple method to follow when you are asked to *"discuss", "critically discuss"* or *"evaluate"* a topic in the format of an essay for this module.

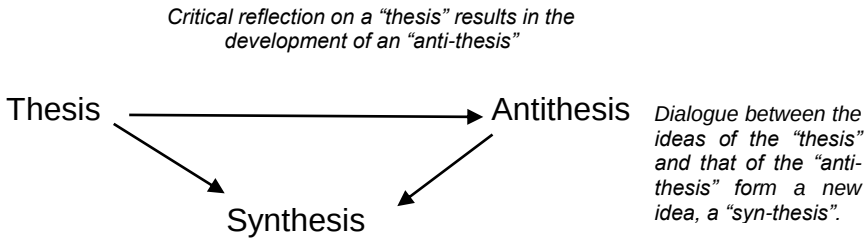
When given one of the aforementioned instructions (or similar), it is important to bear in mind that you are required to give your critical thoughts on issues as well as to explain particular theories. This does not mean that you should write down any meanderings your mind may take you on. Rather, what you should provide is relevant information that makes logical sense and which can be backed up with evidence.

Philosophy is a discipline that occurs best in dialogue: in conversation between people. It is important, therefore – as in a discussion – to examine issues from different perspectives. This is known as developing the *dialectic*, and the specific methodology we wish to make you aware of is the *Hegelian Dialectic*.

Georg Wilhelm Friedrich Hegel (1770-1831) argued that history progresses in a *dialectical manner.*[2] Following his analysis of Hegel's work, Heinrich Moritz Chalybaus exposed the *Hegelian Dialectic*, which proposes that after a *thesis* (a theory/idea) is presented someone else may develop a counter theory, i.e. an *anti-thesis* (Mueller, 1958:413-414). These are then merged into a combinatory theory known as a *synthesis* (Mueller, 1958:413-414). And so the process continues with the *synthesis* becoming the *new thesis*, resulting in a new *anti-thesis* to be created, and so on (Mueller, 1958:413-414).

[2] Burrell, 1991.

The Hegelian Dialectic can be illustrated as follows:



In developing your essay assignments for Philosophy, you may use the dialectical method, which will enable you to better critically discuss topics in that you will be able to expose and explain a theory (a *"thesis"*), and then to critically evaluate it (generate an *"anti-thesis"*). The combinatory product of this can serve as the conclusion of your essay.

If you have further queries of this methodology, please do not hesitate to contact either of your lecturers (our contact details are included at the end of this tutorial letter).

5. Assessment criteria used to evaluate essays in Philosophy of Science:

The following rubric is employed in the assessment of your essays. It is included here, so that you will be able to ascertain what we are looking for when assessing your essays. This "checklist" should assist you in becoming aware of what is expected of you as you write the second and third assignments. It would be prudent for you to work through the rubric employed, such that you can ascertain – prior to submission of your essay – the extent to which your essay conforms to the expectations demanded.

Rating:	1 Inadequate	2 Weak	3 Satisfactory	4 Good	5 Excellent	Marks Possible mark	Marks Mark awarded
INTRODUCTION This section should include the background and context of the problem being discussed, as well as the main argument you will propose. It outlines the plan of your essay.	There is no introduction or the introduction is very weak with no context. No outline of the essay is provided. ☐	The introduction is superficial, lacking in background or context or outline of essay. ☐	An attempt has been made to write an introduction, though it is weak in some aspect. ☐	A sufficient introduction has been written that contains most elements. ☐	An interesting and original introduction has been written that contains all of the essential elements. ☐	10	____
CONTENT The content of your essay should contain: 1) research on and engagement with prescribed readings; 2) definitions of core conceptions; 3) identification of main issues; 4) analysis and discussion of the theories.	The analysis is absent or minimal and unsupported by research. No attempt was made to incorporate information from primary and secondary sources. ☐	There is little interaction between research and analysis. The analysis is merely description of theory. Core concepts have not been defined. There is little to no evidence of prescribed reading having been engaged with. ☐	Some research has been conducted. Analysis tends toward description. The research does not support the analysis. Content is not contextualised. Not all the core concepts are defined. The student has not engaged with the prescribed reading in sufficient depth. ☐	Sufficient research has been done. The essay may at times be unfocused, or make unsubstantiated claims. Information is adequately contextualised. Themes were sufficiently identified and explained. The core concepts have been defined. Support for most points given from reference to sources. ☐	Excellent research: the analysis supports the argument. Information was strongly contextualised. Themes were identified and explained with depth of understanding. The core concepts were excellently defined. Sources were drawn upon to support key points. ☐	30	____
STRUCTURE AND STYLE The structure and style of the essay should be: 1) Systematically organised and integrated; 2) Demonstrate relationships between subsections and themes; 3) Argue logically and coherently.	No evident structure or organization. No transitions between major points. Paper is poorly organised and difficult to read, because it did not flow logically from one part to another. ☐	The structure is unclear, unfocused, disorganized, lacking in unity, transitions abrupt or confusing between sections, and the context unclear. ☐	The organization was adequate. Transitions may be weak, but the essay can be followed. The essay does not demonstrate sufficient appreciation for the reader's need for information, explanation, and context. ☐	Generally clear, although the structure may wander at times. There may be some unclear transitions or lack of coherence, but the essay is sufficiently structured. The argument is mostly easy to follow. ☐	Essay is focused and unified. Excellent transitions between points. Reader's need for information, explanation, and context has been considered. Paper is logical and coherent. ☐	15	____
ARGUMENT The argument you develop should: 1) Form and demonstrate an independent judgement; 2) Account for why a theoretical approach is strong or weak; 3) Be substantiated.	No evidence of a logical argument. Argument not supported with any reasons. There may be no discernible argument ☐	Not much support is given for claims. Evidence has not been related to the key claim. The reasons offered may be irrelevant. ☐	Arguments are inadequate. The reasons given for claims are weak. Argumentative reasoning may be lacking. No evidence for anticipation of a counter argument. ☐	The argument is clear and mostly flows logically. Some counter-arguments acknowledged, but not explored. The argument is reasoned, overall, demonstrating though, and evidence is given. ☐	Arguments are sound, logical and substantiated. Clear reasons of support for claims given. Counter-arguments were anticipated and explored. Essay shows depth and independent thought. ☐	15	____
ACADEMIC WRITING The essay should be written: 1) Clearly; 2) Grammar, sentence structure, spelling etc. should be correct	Essay is difficult to understand because of significant problems with sentence structure, grammar, punctuation, and spelling. Writing lacks clarity. ☐	Several problems with sentence structure, grammar, punctuation, and spelling. Writing could be clearer. ☐	Some problems with sentence structure, grammar, punctuation, and spelling. The reader can detect meaning, but with careful reading. ☐	Sentence structure, grammar, punctuation, and spelling were strong, but still a few errors. Writing is mostly good, but may lack some clarity. ☐	Correct sentence structure, grammar, punctuation, and spelling. Writing is clear, concise and persuasive. ☐	10	____
CONCLUSION The conclusion should demonstrate: 1) What has been done; 2) Declare the significance, value and importance of the topic, view, or thesis you have defended.	The conclusion is insubstantial or non-existent ☐	The conclusion is unsatisfactory. Necessary elements are missing. ☐	The conclusion could be strengthened. Necessary elements could be elaborated upon. ☐	An adequate conclusion was presented. ☐	An excellent conclusion. ☐	10	____
REFERENCING All references, both within the text and within the bibliography should be according to the Harvard method (cf. Tutorial Letter 301).	There are no in text references. There is no bibliography. ☐	There are no/few in text references and an attempted bibliography, but there are essential elements missing. ☐	There are some in text references and an attempted bibliography, but there are important elements missing. ☐	The referencing style, both in text and in the reference list is very good. A few small errors are apparent. ☐	In-text references are perfect. The bibliography is complete, free of errors and reflects the appropriate sources. ☐	10	____
					Total	100	____

Overall impression:

Assignment topic:

Write an essay on the following topic, ensuring that you keep to the instructions provided below:

In a debate with the former Anglican Archbishop of Canterbury, Dr. Rowan Williams, the famed "New Atheist", Prof. Richard Dawkins stated:

"I think the probability of a supernatural creator existing is very, very low" (*The Telegraph*, 24th February 2012).

Critically exploring Karl Popper's delineation of "science", explain why he would classify this quotation as "non-science". Do you agree? Provide reasons for your answer.

[100 marks]

Instructions:

Ensure that you keep to the following instructions for the writing of the assignment (you will be penalised for not complying to them):

1. Your essay must be written in correct essay format, including an introduction, body, and conclusion.
2. Indicate the number of words your essay comprises, ensuring that it does not exceed the limit imposed of 1000 words.
3. Every idea used – not only direct quotations – must be referenced correctly both in the text of your essay and in a bibliography, according to the prescribed format, namely the Harvard Referencing Method (for more information please consult Tutorial Letter 301 [WYSALLB]).

4. In addition to using the study guide, you are required to make use of at least two other sources (e.g. journal articles, books, online sources, etc.).
5. Kindly do not use Wikipedia.
6. If you need to consult a Philosophical encyclopaedia, make use of the Stanford Encyclopedia of Philosophy (http://plato.stanford.edu) or the Internet Encyclopedia of Philosophy (http://www.iep.utm.edu).
7. Pay careful attention that your essay is written in the "philosophical method" as outlined in Tutorial Letter 201.

8. EXAMINATION

8.1. Examination periods:

This module is completed in a single semester period.

If you are registered for the first semester, you will write the examination in May/June 2018 and the supplementary examination will be written in October/November 2018. If you are registered for the second semester you will write the examination in October/ November 2018 and the supplementary examination will be written in May/June 2018.

During the semester, the Examination Section will provide you with information regarding the examination in general, examination venues, examination dates and times.

8.2. Format of the examination:

Your examination will be two hours in length. It will consist of four possible examination questions, of which you should answer any two. Examination questions are to be written in essay format. You must obtain 50% in order to pass the examination.

The examination questions will be grounded in the content of the module, however, they will require your own critical reflection.

8.3. Comments on writing the examination:

During the examination, you must take time to read through the entire examination paper before deciding which questions to answer. (It may help to jot down a few of the main points you think should appear in each answer.) You should keep some time reserved to read through your answers prior to submitting.

The examination requires exposition of parts of the relevant study material. This exposition should be followed by a critical discussion of certain aspects or implications of the topics considered. Where possible, illustrate the point you are trying to make by means of examples or solid reasoning. Since examples occurring in tutorial letters and articles are helpful aids in coming to grips with and subsequently remembering key concepts, your use of them demonstrates your grasp of the point at issue. Make absolutely sure that you are answering the question and are not merely summarising a part of the study material!

For some idea of the questions you may be asked, re-frame study unit or section headings from your Study Guide and from your prescribed text in the form of questions.

The range of questions will more or less cover all the study material for the paper.

9. FREQUENTLY ASKED QUESTIONS

"*Studies @ Unisa* brochure contains an A-Z guide of the most relevant study information. Please refer to this document for questions you may have.

10. IN CLOSING

Please feel free to contact either Prof. Mungwini or myself if you experience problems with the content of the module.

Sincerely,

Prof. Callum D. Scott
Associate Professor of Philosophy,
Department of Philosophy, Practical and Systematic Theology

11. ADDENDUM: REFERENCING FOR ASSIGNMENTS AND OTHER RESEARCH WORKS

Please use the information contained in this appendix for the successful completion of your second assignment (refer to p. 41 for the assignment questions for Semester 1 and p. 54 for Semester 2).

11.1 Introduction:

This is a very brief summary of how to reference when writing assignments in the form of essays. It has been developed for use within the Discipline of Philosophy, but could be used for other disciplines, too. The method of referencing which I have employed here is commonly deemed as *"The Harvard Method"*, although some minor modifications have been made.

11.2 What is Plagiarism?

- *"**Plagiarism**"* is the ***"… wrongful attempt to pass off another's literary or musical work as one's own; act of copying without permission or acknowledgement."*** (Garmonsway, 1991:551).

- Plagiarism is committed when one does not reference the use of other's intellectual property in one's academic work, either in the text of your work or in the *List of Sources/Bibliography*. This means that what is presented is made to appear as one's own original work, rather than as the work of another. Thus, references need to be provided for every idea which is not one's own original work, both within the text of your research work and in a *List of Sources/Bibliography*. Additionally, it must be noted that references are not only provided for ideas that have been quoted directly, but for all ideas used!

- At the University of South Africa plagiarism is a punishable offence, which if followed through by the University can lead to suspension of the student.

11.3 How do I reference in text?

All ideas which are not your own and have been used within the text of your research work must be referenced, i.e. acknowledged, within the body of your work. This includes **indirect references** as well as **quotations.**

Take note of the following instructional points:

11.3.1 *If you make use of an article from a written source:*

11.3.1.1 If you refer to the author(s) in your sentence:

- Sentence (which includes the surname(s) of the author) (Year:Page).
- Example:
  - According to Swimme & Berry, the individual who is separate *"… from the wider community of being is emptiness..."* (1992:268).[3] [4]

11.3.1.2 If you do not refer to the author(s) in the sentence:

- Sentence (Author's/authors' surname(s), Year:Page).
- Example:
  - Apart from the broader community, the individual is empty (Swimme & Berry, 1992:268).[5]

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[3] When one quotes part of a sentence, an *ellipses* (i.e. "...") is used. Ellipses demonstrate that text of a sentence – before or after that which has been quoted – has been omitted. In the example above, text from the sentence before and after that which was quoted has been omitted, and hence ellipses have been used before and after the quote. If one omits only the latter part of a sentence, the ellipsis is positioned at the end of the quote, before the inverted commas. While if it is the former part of the sentence which has been omitted the ellipsis is positioned at the beginning of the quote after the inverted commas.

[4] Take note that direct quotations are placed in inverted commas (i.e. "..."), and are always typed in *italics*. A general rule of thumb is that when a quotation is more than two lines in length, it is best to create a new paragraph for the quotation, which is indented from the body of the text. For how to do this, please refer to 3.2.1. in this text.

[5] Should you make use of a source which was written by two authors, the surnames of both are placed in the in-text reference as the example above indicates. If the source is by more than two authors, the surname of the first listed author is named with the Latin words *"et al"* (translated as *"and others"*) placed afterwards. For example, if one uses an idea from Page 235 in a 2008 book edited by John Brown, Sipho Ngwenya, and Harold Zimmerman, one would cite this reference in text as follows: (Brown *et al*, 2008:235). *"Et al"* may also be used also in the text of your sentence. For example: *"According to Brown* et al*..."* (2008:235). Logically, one would not then include the surname of the author(s) in one's reference at the end of the sentence as the surname(s) had already been stated within the sentence.

11.3.2 ***If you are using an article from a website:***

11.3.2.1 <u>If you refer to the author(s) in the sentence, you should reference as follows</u>:

- Sentence (including author's/authors' surname(s)) (year).
- Example:
  - Chaput describes "science" very succinctly when he says:

> *"'Scientia' … traces itself back to the Latin verb* scire *(to know) and the Latin noun* scientia *(knowledge). Science … is knowledge covering general truths or the operation of general laws – especially as obtained, tested and refined through the scientific method."* (1998).

11.3.2.2 <u>If you do not mention the author in the text</u>:

- Sentence (Author's/authors' surname(s), year).
- Example:
  - Logically it follows then that prior to truth's origin and after truth's demise, truth does not exist (Anselm, 2000).

11.3.3 ***If you make use of more than one reference in your text from the same page, consecutively:***

- Rather than re-using the reference, the Latin word *"ibidem"* (abbreviated to *"ibid."*) may be employed as your reference. *"Ibidem"* is translated from the Latin as *"the same place"*.
- Example:
  - According to Tarnas, *"All else can be questioned, but not the irreducible fact of the thinkers self-awareness."* (2000:277). While Descartes proved the existence of his own thought, he never succeeded in proving the existence of anything else (not even his own body!), or the existence of God, which he tried so hard to do. Tarnas concludes that the consequence of Descartes' *cogito* was that there was *"… an essential hierarchy and division in the world."* (ibid.).

- TAKE NOTE:
  "Ibid." may only be used when the in-text reference preceding the reference for which you wish to use *"ibid."* has been used for the preceding reference.

11.3.4 ***Every sentence which contains an idea that is not your own, MUST BE REFERENCED, or plagiarism will have been committed.***

11.4 How do I develop a List of Sources/Bibliography:

A *List of Sources* (also known as a *Bibliography*) is a collection of all the works you have used to develop your research work. It is always placed at the end of the work following the conclusion.
All research works are obliged to have such a list to formally acknowledge from where ideas used have been obtained. In addition to providing this information, your *List of Sources/Bibliography* has to follow a specific format, which is explained below.

Please take note that the sources referenced in the *List of Sources/Bibliography* need to be in alphabetical order, according to the surname of the author (or first author mentioned in the case of a work developed by more than one individual).

Books should be referenced as follows:

11.4.1 ***Books with ONE author:***

- Surname of author, Initials of author. Year of Publication. *Book Title (typed in italics)*. Place of Publication: Publishing House.[6]
- Example:
  - O'Murchu, D. 2003. *Evolutionary Faith: Rediscovering God in Our Great Story.* Maryknoll: Orbis Books.

[6] Please take note: If you have not typed your List of Sources/Bibliography, then the title of the work cited needs to be underlined rather than placed in italics.

11.4.2 ***Books with TWO authors:***

- Surname of Author 1, Initials of Author 1 & Surname of Author 2, Initials of Author 2. Year of Publication. *Book Title (typed in italics).* Place of Publication: Publishing House.
- Example:
  - Swimme, B. & Berry, T.M. 1992. *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era: A Celebration of the Unfolding of the Cosmos*. San Francisco: HarperSanFrancisco.

11.4.3 ***Books with MORE THAN TWO authors:***

- Surname of Author 1, Initials of Author 1, Surname of Author 2, Initials of Author 2 & Surname of Author 3, Initials of Author 3. Year of Publication. *Book Title (typed in italics).* Place of Publication: Publishing House.
- Example:
  - Belenky, M., McVicker Clinchy, B., Rule Goldberger, N. & Mattuck Tarule, J. 1997. *Women's ways of knowing: The development of self, voice, and mind (10th anniversary edition).* New York: Basic Books.

11.4.4 ***Books with ONE editor:***

- Surname of Editor, Initials of Editor. (ed.). Year of Publication. *Book title (typed in italics).* Place of Publication: Publishing House.
- Example:
  - Murove, M.F. (ed.). 2009. *African Ethics: An Anthology of Comparative and Applied Ethics.* Scottsville: University of KwaZulu-Natal Press.

11.4.5 ***Books with TWO editors:***

- Surname of Editor 1, Initials of Editor 1 & Surname of Editor 2, Initials of Editor 2. (eds.). Year of Publication. *Book title (typed in italics).* Place of Publication: Publishing House.
- Example:
  - Goodin, R.E. & Pettit, P. (eds.). 2006. *Contemporary Political Philosophy: An Antholology (Second Edition).* Malden, MA: Blackwell Publishing.

11.4.6 ***Books with MORE THAN TWO editors:***

- Surname of Editor 1, Initials of Editor 1, Surname of Editor 2, Initials of Editor 2 & Surname of Editor 3, Initials of Editor 3. (eds.). Year of Publication. *Book title (typed in italics).* Place of Publication: Publishing House.
- Example:
  - McGrew, T., Alspector-Kelly, M. & Allhof, F. 2009. *Philosophy of Science: An historical anthology.* Chichester: Wiley-Blackwell.

11.4.7 ***Composite works***[7]***:***

- Surname of Author, Initials of Author. Year Published. Title of the work, page number beginning – page number end, in: Initials of editor, surname of editor (ed.), *Name of the composite work (typed in italics).* Place of Publication: Publishing House.
- Example:
  - Ramose, M.B. 2009. Ecology *through* Ubuntu, in *African Ethics: An Anthology of Comparative and Applied Ethics*, pp. 308-313, in: M.F. Murove (ed.). Scottsville: University of KwaZulu-Natal Press.

11.4.8 ***Unpublished works:***

- Surname of Author, Initials of Author. Year Created. *Title of Unpublished Article (typed in italics)*. Unpublished.

[7] A composite work is a collection of original research by various authors, which are collected together to form a volume. When using such a work, the practice is to cite each work from the composite work which you have used, individually.

- Example:
  - O'Mahony, D.F. 2002. *A Spirituality to Accompany Sustainable Development.* Unpublished.

11.4.9 ***Sources retrieved from the Internet:***

- Surname of Author, Initials of Author. Year of Publication.[8] *Title (typed in italics)*. Place of Publication (if available): Publisher (if available). Retrieved (date of retrieval) day, month, year, from the World Wide Web: URL.
- Example:
  - Stoeger, W.R. 2004. *Cosmology.* Retrieved 23 January 2007, from the World Wide: http://www.disf.org/en/Voci/44.asp.

11.4.10 ***Journal/Periodical Articles:***

- Surname of Author, Initials of Author. Year of Publication. Title of the Article. *Title of Journal (typed in italics),* Volume number(number): page numbers upon which article is found within the journal.
- Example:
  - Nussbaum, M.C. 1988. Non-Relative Virtues: An Aristotelian Approach. *Midwest Studies in Philosophy*, XIII(1988):32-53.

List of Sources:[9]

- Burger, M. 1992. *Reference techniques.* Pretoria: UNISA Press.
- Garmonsway, G.W. 1991. *The Penguin Concise English Dictionary: The One-volume Reference Book of the English Language.* London: Bloomsbury Books.
- Jowett, A. 2001. *Referencing using the Harvard Method.* Retrieved 20 October 2009, from the World Wide Web: http://www.nhgs.co.uk/technology/harvard.pdf.

[8] If no year of publication can be located, it suffices to indicate that there is "no date", by the abbreviation "n.d.".

[9] Take note that this List of Sources also serves as an example of how to compile such a list.