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**INTRODUCTION TO CRITICAL THINKING**

Strathmore University

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In collaboration with:

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# **Preface to PEBL blended learning modules**

Welcome to this blended module **Introduction to Critical Thinking.**

This blended learning module has been developed by several academics under the auspices of the Partnership for Enhanced and Blended Learning (PEBL) project supported by DFID's [SPHEIR programme](https://www.spheir.org.uk/). The project addresses the critical academic staff shortages many East African universities are currently facing and enables universities to share scarce teaching resources through quality assured, credit-bearing degree modules, delivered through blended learning. The course is therefore shared by several universities in Africa and has been quality assured by the Quality Assurance department of Strathmore University, Nairobi, Kenya.

You may have heard of blended learning before. Nevertheless, we found it necessary to explain this rather modern method of learning. *Blended learning (*sometimes called *hybrid* or *mixed-mode learning*) is the use of traditional classroom teaching methods together with the use of online learning for the same students studying the same content in the same course. It is a “thoughtful fusion of face-to-face and online learning experiences” (Garrison & Vaughan, 2008). Classroom instruction time may be augmented by online learning experiences, and online learning can include varying degrees of interaction or just time alone in independent study and learning activities. However, in a quality blended learning experience, the content and activities of both in-person and online learning are integrated with one another and work toward the same learning outcomes with the same content. The various learning experiences are synthesised, complement each other, and are planned or orchestrated to run in parallel. So, as stated in the Study Guide, you will study online but at a certain moment, you will meet us your facilitators in two face-to-face sessions.

This mode of learning has been used all over the world for several years. In Africa many universities have a department/unit responsible for e-Learning and also have at least a Learning Management System (LMS). One of the most common open-source (free of charge) e-learning platform is Moodle. Moodle is being used by universities in East Africa like Makerere University in Uganda, Kenyatta University in Kenya, Strathmore University in Kenya, Open University of Tanzania, University of Rwanda, State University of Zanzibar, to mention but a few. Nagel, Van der Merwe, Bozalek, Ivala, Peté and Vanker (2015) also pointed out that some South African universities also use Moodle. However, there are also commercial platforms like Blackboard which are used by some universities.

Given the increasing number of learners willing to undertake university education and the shortage of institutions of higher learning that can take on all of them as full-time students, blended learning is the key alternative in Africa. Further to this, several individuals are calling for institutions to enable them **to** learn at their own pace as they work or attend to other needs. The same is the request by employers who wish that their workers get new skills but yet continue working. Blended learning is again a solution to this.

Blended learning is therefore very advantageous. It gives greater understanding of material and interest in the module since you will participate in group discussions (interaction with peers) and communication with the tutors online. There is a lot of flexibility since you can access the online platform with blended learning courses whenever and wherever you like. Your soft skills will be boosted since you will be communicating more and more with different kinds of people. Blended learning also motivates one to become a better time manager since most activities (or e-tivities) have deadlines. It also enables you to have a better understanding of the module which will make it possible for you to get good grades. Other advantages of blended learning for students include increased learning skills, greater access to information, improved satisfaction and learning outcomes, and opportunities both to learn with others and to teach others given the opportunity for collaboration at a distance where individual students work together virtually in an intellectual endeavour as a learning practice. The additional types of learning activities improve engagement and can help students achieve higher and more meaningful levels of learning. You will also learn to be virtual citizens as you practice the ability to project yourself socially and academically in an online community of inquiry. Digital learning skills are becoming essential to be a lifelong learner, and blended courses help learners master the skills for using a variety of technologies.

As you take this course, you will also need to use a range of technologies or resources. There may be discussion activities that provide you opportunities to learn from the work of you peers and also share your views as you create your own knowledge. The study guide should provide the detailed learning outcomes, tasks, activities/e-tivities, time plan and learning resources. Contact the tutor(s) if you have any questions

We hope that this module will provide an overview of the most important areas of the subject matter. We focus on fundamental principles and, when possible, demonstrate these principles with real examples. You are advised to also find supplementary material to help you further learn the concepts introduced in this module.

Enjoy the course!

# **Why Critical Thinking?**

As a human being you could imagine yourself surviving in a fictional society where you never had to employ clear and rational thinking, perhaps by using brute force on others. However, in the modern society you live in, you cannot easily compete, thrive and function normally without at least some critical thinking skills.

Your ancestors lived in a simple society with a uniform, basic and communal village lifestyle. In such a lifestyle it was possible to subsist productively with only a few people such as elders and the chief making the most important life choices and decisions for everyone. Such decisions may have included the choice of rituals and ceremonies of communal life, the careers of individual tribesmen, whether to wage war on another community or not, and even who gets to marry whom. If those decisions were never the product of clear and rational thinking by the elders and the chief, then no doubt many problems would arise, including the serious threat of a total wipe-out of the tribe due to an ill-thought out war.

Today's society is far more sophisticated and diverse than the society of your ancestors. There are not only more options, some of the options are complex, some are outright false or are based on false premises, and most importantly these options are more often presented to you as an individual rather than to the community. Critical thinking skills are the indispensable tools you need to help you navigate through these options successfully, accepting some, rejecting others, and making good decisions.

During your life as an undergraduate student you will find critical thinking necessary for your study, research, and discussions with peers and professors. Your critical thinking skills will be apparent in your methods, presentations and your assignments. This module will help you understand what critical thinking is, identify the vital skills that comprise critical thinking and acquire them. You will need these skills not only to show you the paths through university but also throughout the rest of your successful professional life.

This module was developed by Strathmore University for purposes of blended learning. The content is based on a series of eight *Articles* that anchor critical thinking on the purpose of a university and the philosophical nature of man.

# **How to Learn with this Module**

The mode of learning in this module emphasizes collaboration and feedback. The module is designed in such a way that the lecturer can restructure any of the activities for face-to-face learning. It is possible that the lecturer will make a presentation based on the topic and this may supplement all or part of the ***Individual – start*** activity described below. The lecturer may also reassign the submission of ***Buddy Pair*** activity as your face-to-face class presentation in front of the whole class.

The learning activities detailed below require that after an initial look at the study resources, you will work with a buddy who is a fellow student in your class. The buddy will be assigned to you by the lecturer. Your pair work will receive feedback from others in the class. You will also be required to give feedback to others. The topic assessment is individual.

**Types of learning activities**

***Individual - start***

You begin every topic by working alone reading the Topic Article and watching the videos if any. Each topic generally takes two weeks so you should complete all your reading in the first three days. You should make summarized notes of your reading to share later with your buddy.

***Buddy Pair***

You will have a study buddy assigned to you in this course. You will have opportunity to discuss ideas with your buddy, helping each other to understand the topic. This should take you to the end of the first week. You will need to upload a summary of your pair work, or some other specified submission, on to the link given to the online class discussion forum. Your summaries should be very short, at most 400 words and will be visible to everybody in the class after the submission deadline.

***Group/Class***

It is useful to learn from the work of other people in the class. You will often be required to make comments on the Buddy-Pair posts of your classmates. Your classmates expect positive comments that help them improve on their work. Some of your comments may be assessed and scored at the discretion of the lecturer.

***Assessment***

There is an assessment at the end of each topic. Assessments are generally individual work. Your submission of the assessment will only be visible to the lecturer and yourself. After the feedback from the lecturer you can resubmit (once) for scoring and any final feedback.

**The Topics**

The module has seven topics (Topic 1 – 7) plus one optional topic (Topic 8). Each topic takes an average of two weeks to complete and is designed for undergraduate first year students. The length of the course is 14 weeks but can be completed earlier as some topics are shorter.

Topic 1 makes the connection between your current context - the university -and critical thinking. Topics 2, 3 and 4 introduce the important concepts of philosophy, knowledge and truth as they relate to critical thinking. These form the anchors of critical thinking and will equip you with the necessary mental framework for critical thinking.

In Topic 5 and 6 you will learn the nature and application of critical thinking in terms of the elements of thought and the methodical formal process known as logic. Topic 7 illustrates one important application of critical thinking that you need first in university but also later as an educated person – the scientific method. The controversy of faith and reason, Topic 8, is not a core part of this module but it is a topical discussion and a consequence of having a critical mind that is ready to engage all types of intellectual discourse.

Each Topic is divided into four parts:

1. **Introduction**: A short description of the topic.
2. **Learning Outcomes**: These indicate to you what you should expect to gain from studying through the topic.
3. **Online Resources**: There is one Article per topic, which gives you all the basic content you need for this topic. Make sure to read through the Article carefully and thoroughly. It is advisable to download and keep the article to read later offline or even print it out. Most topics also have some video clips available publicly on YouTube. Your lecturer may have additional materials for you.
4. **Activity (e-tivity)**: Before attempting the assessment there are three types of learning activities which you need to complete in order to successfully complete each topic. These activities are of three types as described above: ***Individual – start, Buddy-pair,*** and ***Group/class***. Be sure to complete all the activities unless otherwise instructed by the lecturer.
5. **Assessment**: This section checks how you are achieving the learning outcomes. Scores from the assessment form part of your final evaluation as per the policy of your university so be sure to complete all the assessments and upload your answers through the links that appear online.

# **TOPIC 1 - Critical Thinking and the University**

**1.1 Introduction**

Critical thinking is said to be a defining characteristic of a university graduate. Universities have evolved from mere teaching of knowledge to areas of research and community service. This topic is intended to introduce you to the basic definition of critical thinking. A study of the historical evolution of the university will help you understand the important role expected of the university in developing critical thinking skills. Such skills are the foundation of strategic thinking, creative thinking, good judgement and good decision making. The detailed content is [Topic 1 Article](https://drive.google.com/open?id=1mdtY4UpiJfqTzvbiqh60cu9arEYeibzR).

**1.2 Learning outcomes**

At the end of this topic you should be able to:

1.2.1 define critical thinking

1.2.2 explain role of a university in society from historical and modern perspectives

1.2.3 demonstrate an understanding of the need for critical thinking within a university

**1.3 Online Resources**

* [Topic 1 Article](https://drive.google.com/open?id=1mdtY4UpiJfqTzvbiqh60cu9arEYeibzR)
* [Video 1.3.1 Critical Student (5 min)](https://youtu.be/YVLjziA5U2o)

**1.4 Activity (e-tivity)**

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| --- | --- | --- |
| **Individual – Start** (about 60 min) | **1.4.1** | Read [Topic 1 Article](https://drive.google.com/open?id=1mdtY4UpiJfqTzvbiqh60cu9arEYeibzR) and make short notes of your own. Later you will share and explain your notes with your buddy.  |
| **1.4.2**  | Watch [Video 1.3.1](https://youtu.be/YVLjziA5U2o). Write in about 50 words what the video is about. Keep your notes for later reference. |

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| **Buddy - Pair**(about 60 min) | **1.4.3** | Discuss your notes from e-tivity 1.4.1 and 1.4.2 and make a joint summary having the most important points of the topic in not more than 400 words. |

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| **Group/Class**(about 60 min) | **1.4.3** | Read 3 or more summaries of submissions by others in your class. Make at least one useful comment in the class forum under any of the Buddy-Pair submission. Your comment should have at least one positive aspect and another that helps improvement of your classmates’ submission.  |

**1.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| --- | --- | --- |
| **Individual Assessment**(about 90 min for both 1.5.1 and 1.5.2) | **1.5.1** | Following on your Buddy Pair work and after reading the submissions of the rest of your classmates, write in your own words, in ten sentences and in the order of importance the 10 key ideas of this topic.  |
| **1.5.2** | In what ways is your university similar to and different from the model described by (a) Wilhelm Van Humboldt (1767-1835) and (b) John Henry Newman (1907)? (700 words max)(c) Beginning with its mission and vision explain how critical thinking is important in the activities of your university that contribute towards its overall aims. (1000 words max) |

# **TOPIC 2 - The Critical Thinking concept – its relationship with Philosophy**

**2.1 Introduction**

Thinking is part of human nature. Philosophers have described humans as rational beings. The word 'rational' is related to 'reason' and 'logic.' Since these are terms we easily associate with thinking, a philosophical understanding of a human being contributes in grasping the deeper human basis of critical thinking and justifying the concepts of critical thinking. This topic discusses the philosophical roots of critical thinking beginning with the relevant history of philosophical thought, the principles and branches of philosophy, then it explains the philosophical meaning of a human person and associated concepts and ends with a description of the human brain. The detailed content is [Topic 2 Article](https://drive.google.com/open?id=13X5Xj5YX2kePzsr9gS4B8_VEAVCPJeDZ)

* 1. **Learning Outcomes**

At the end of this topic you should be able to:

* + 1. demonstrate an understanding of the basics of philosophy in relation to critical thinking

**2.3 Online Resources**

* [Topic 2 Article](https://drive.google.com/open?id=13X5Xj5YX2kePzsr9gS4B8_VEAVCPJeDZ)

**2.4 Activity (e-tivity)**

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| **Individual – Start** (about 60 min) | **2.4.1** | Read [Topic 2 Article](https://drive.google.com/open?id=13X5Xj5YX2kePzsr9gS4B8_VEAVCPJeDZ) and make short notes of your own. Later you will share and explain your notes with your buddy.  |

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| **Buddy - Pair**(about 60 min) | **2.4.2** | Discuss your notes from e-tivity 2.4.1 and write a joint 400-word answer to the question “Why is philosophy important for critical thinking.” |

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| **Group/Class**(about 60 min) | **2.4.3** | Read 3 or more submissions by others in your class. Make at least one useful comment in the class forum under any of the Buddy-Pair submission. Your comment should have at least one positive aspect and another that helps improvement of your classmates’ submission.  |

**2.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| --- | --- | --- |
| **Individual Assessment**(about 90 min for both 2.5.1 and 2.5.2) | **2.5.1** | Using the Socratic method write a list of Q&A’s that could be used to teach a younger person any simple concept of your choice. (Not more than 50 sentences) |
| **2.5.2** | Following on your Buddy Pair work and after reading other forum posts from classmates, write in your own words, an expanded version of the importance of philosophy in critical thinking. (1000 words max.) |

# **TOPIC 3 - Knowledge**

**3.1 Introduction**

*Knowledge is power* is a commonly used phrase today. What is the meaning of knowledge and what does it mean when a person says they know something? Human beings seek knowledge for themselves as individuals but also for the wider benefit of society. In modern times there have emerged nations whose economies are not based on traditional capital but on knowledge. One way to begin to grasp the meaning of knowledge is to focus on the opposite concept: ignorance. As ignorance is the lack of something, knowledge is the possession of it, a product of the critical thinking process. In this topic you will delve into the philosophical understanding of knowledge. The detailed content is [Topic 3 Article](https://drive.google.com/open?id=1iwaGWlg7zJyF_jsu4BD6Jq9tXYW2d8sN).

**3.2 Learning Outcomes**

At the end of this topic you should be able to:

3.2.1 explain how knowledge is applied daily in different spheres of life

3.2.2. differentiate between practical knowledge from speculative knowledge and relate the two.

3.2.3. explain how knowledge is derived from sensitive knowledge, conceptual knowledge and consciousness.

3.2.4 apply concept maps in given contexts.

**3.3 Online Resources**

* [Topic 3 Article](https://drive.google.com/open?id=1iwaGWlg7zJyF_jsu4BD6Jq9tXYW2d8sN)

**3.4 Activities**

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| **Individual – Start** (about 60 min) | **3.4.1** | Read [Topic 3 Article](https://drive.google.com/open?id=1iwaGWlg7zJyF_jsu4BD6Jq9tXYW2d8sN) and make short notes of your own. Later you will share and explain your notes with your buddy.  |
| **Buddy - Pair**(about 60 min) | **3.4.2** | Discuss your notes from e-tivity 3.4.1 and write a joint 400-word joint summary of [Topic 3 Article](https://drive.google.com/open?id=1iwaGWlg7zJyF_jsu4BD6Jq9tXYW2d8sN) |

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| **Group/Class**(about 60 min) | **3.4.3** | Read 3 or more submissions by others in your class. Make at least one useful comment in the class forum under any of the Buddy-Pair submission. Your comment should have at least one positive aspect and another that helps improvement of your classmates’ submission.  |

**3.5 Assessment**

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| --- | --- | --- |
| **Individual Assessment**(about 90 min) | **3.5.1** | Create one or several concept maps that cover Article 3 showing all the key ideas and links that you consider important. |

# **TOPIC 4 - Truth**

**4.1 Introduction**

*'They reckon up several sorts of pleasure, which they call true ones; some belong to the body and others to the mind. The pleasures of the mind lie in knowledge, and in that delight which the contemplation of truth carries with it; to which they add the joyful reflections on a well-spent life, and the assure hopes of a future happiness* (Moore, 1516).

This topic introduces the student to Truth and its connection to critical thinking. It seeks to encourage the student to deepen their thinking. The concept of truth is one of the most basic concepts in logic. A lot of controversies exist in philosophy about the nature of truth. However, for the purpose of this topic, we are going to adopt Aristotle’s definition:

To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true. (Metaphysics, 1011b25)

Truth is a matter of correspondence to reality. If you say, “Nairobi is in Kenya,” then your statement is true since Nairobi is indeed in Kenya. Whereas if you say “Nairobi is in Colombia” your statement will be false since this is not the case. When a statement is true, we say that it has T (truth) as its truth-value. On the other hand, when a statement is false, we say that its truth-value is F (falsehood). If a statement is neither true nor false, then we say it lacks a truth-value. The detailed content is [Topic 4 Article](https://drive.google.com/open?id=1r4_0-mbqAuXUXsilYdWfh87tiH0wTRJ-).

**4.2 Learning Outcomes**

At the end of this topic you should be able to:

4.2.1 define truth and explain its properties and ‘types’

4.2.2 explain how truth can be arrived at

4.2.3 explain the concept of validity in relation to truth

**4.3 Online Resources**

* [Topic 4 Article](https://drive.google.com/open?id=1r4_0-mbqAuXUXsilYdWfh87tiH0wTRJ-)
* [Video 4.3.1 Truth and Validity (7 min)](https://www.youtube.com/watch?v=pCGnyaa5E5g)

**4.4 Activity (e-tivity)**

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| **Individual – Start** (about 60 min) | **4.4.1** | Read [Topic 4 Article](https://drive.google.com/open?id=1r4_0-mbqAuXUXsilYdWfh87tiH0wTRJ-) and make short notes of your own. Later you will share and explain your notes with your buddy.  |
| **4.4.2**  | Watch [Video 4.3.1](https://www.youtube.com/watch?v=pCGnyaa5E5g). Write in about 50 words what the video is about. Keep your notes for later reference. |

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| --- | --- | --- |
| **Buddy - Pair**(about 60 min) | **4.4.3** | Discuss your notes from e-tivity 4.4.1 and 4.4.2 and make a joint summary having the most important points of the topic in not more than 400 words. |

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| **Group/Class**(about 60 min) | **4.4.4** | Read 3 or more summaries of submissions by others in your class. Make at least one useful comment in the class forum under any of the Buddy-Pair submission. Your comment should have at least one positive aspect and another that helps improvement of your classmates’ submission.  |

**4.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| --- | --- | --- |
| **Individual Assessment**(about 90 min) | **4.5.1** | Using the process of abstraction, explain a truth you learned recently in your social life or any recent experience (1000 words max)  |
| **4.5.2** | Considering the feedback you got from Assessment 3.5.1 in Topic 3, create a concept map for “Truth” using the concepts you have learned from this topic. |

# **TOPIC 5 - The Nature of Critical Thinking**

**5.1 Introduction**

This topic gives an overall view of the elements of thought (see diagram below), traits that a critical thinker needs to develop, which includes the six modes of thinking and possible obstacles that might arise during the process of critical thinking. The detailed content is [Topic 5 Article](https://drive.google.com/open?id=1ELtcx0rxRk5ASEJZeOMV8HyUFjhkm7oW).



**5.2 Learning Outcomes**

At the end of this topic, you should be able to:

* + 1. Explain the elements of thought and reasoning
		2. Explain essential intellectual traits and barriers to critical thinking
		3. Apply the six-hat approach in their day-to-day activities

**5.3 Online resources**

* [Topic 5 Article](https://drive.google.com/open?id=1ELtcx0rxRk5ASEJZeOMV8HyUFjhkm7oW)
* [Video 5.3.1 (13 min)](https://www.youtube.com/watch?v=J0yEAE5owWw)

**5.4 Activity (e-tivity)**

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| **Individual – Start** (about 60 min) | **5.4.1** | Read [Topic 5 Article](https://drive.google.com/open?id=1ELtcx0rxRk5ASEJZeOMV8HyUFjhkm7oW) and watch [Video 5.3.1](https://www.youtube.com/watch?v=J0yEAE5owWw). Make short notes of your own.  |

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| **Buddy - Pair**(about 60 min) | **5.4.2** | Reflect about yourself as a critical thinker and making reference to your notes in 5.4.1 discuss with your buddy what traits and biases you think you have and how to overcome them. Make short notes of your discussion. Do NOT post your notes on the class forum, you will need them for Assessment 5.5.1. |

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| **Group/Class**(about 60 min) | **5.4.3** | Post on the Group/class forum an example of a statement or argument you recently came across or heard that shows poor critical thinking. Explain why it is an example of poor critical thinking. Comment on any other of your classmates’ forum posts. |

**5.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| **Individual Assessment**(about 120 min) | **5.5.1** | Submit the notes of your discussion in 5.4.1. (1000 words max)  |
| **5.5.2** | In no more than 400 words, analyse this argument: **Do not trust Anne because she is a lawyer.** In your analysis, refer to the Table Hindrances due to basic human limitations which appears in Article 5 |
| **5.5.3** | Write very brief answers to this quiz:1. If the conclusion of a valid argument is false, why must one of the premises be false?
2. Give examples (one each) of a valid argument that is: (i) Good (ii) Bad
3. What does it mean to say an argument is strong?
4. Give examples (one each) of a strong argument that is: (i) Good (ii) Bad
5. State the guide to repairing arguments.
6. List the circumstances in which we shouldn’t repair an argument.
7. What does it mean to say that someone is mistaking the person for the argument?
8. Give an example of a rumor or gossip you heard in your personal life recently and that you believed. Did you have a good reason to believe it? Why?
9. Shouldn’t you trust an encyclopedia over your own experience? Explain
 |

# **TOPIC 6 - Logic (Thinking about Thinking)**

 **6.1 Introduction**

Broadly speaking, logic is a system of proof and inference. In this topic you will learn the different types of logic, the role of language in thinking, the logic of judgement and reasoning, and how to identify false arguments. Man, unlike other animals, does not act purely on instinct. He is *homo sapiens*, thinking man and his thinking follows an ordered process using his intellect. The order that man employs in the thinking process is important not in forming his ideas and is often eventually reflected in man’s actions. The detailed content is  [Topic 6 Article](https://drive.google.com/open?id=1JFMTn5qIa90iq6LtLQBYjbg7I1wFMJYU).

**6.2 Learning outcomes**

At the end of this topic you should be able to:

6.2.1 Explain material and formal logic.

6.2.2 Identify and explain common fallacies

6.2.3 Apply logic in different contexts

**6.3 Online resources**

* [Topic 6 Article](https://drive.google.com/open?id=1JFMTn5qIa90iq6LtLQBYjbg7I1wFMJYU)
* Videos

6.3.1 [Fundamentals: Necessary and Sufficient Conditions](https://www.youtube.com/watch?v=5LqNm9d2__I) (3 min)

6.3.2 [Fundamentals: Deductive Arguments](https://www.youtube.com/watch?v=3jvQrpVQaYM) (6 min)

6.3.3 [Fundamentals: Abductive Arguments](https://www.youtube.com/watch?v=vflZuk-_Hz4) (6 min)

6.3.4 [Non-Sequitur & Appeal to the Authority](https://www.youtube.com/watch?v=4uIFHfkbu6M) (5 min)

6.3.5 [Fallacies: Appeal to the People](https://www.youtube.com/watch?v=aF6EHTtyYqw) (5 min)

**6.4 Activity (e-tivity)**

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| **Individual – Start** (about 60 min) | **6.4.1** | (a) Read [Topic 6 Article](https://drive.google.com/open?id=1JFMTn5qIa90iq6LtLQBYjbg7I1wFMJYU) and the 6.3.1 – 6.3.5 Videos (links above). Make short notes of your own. (b) Write down briefly one thing from the Article or Videos that you didn’t know before and that struck or surprised you, or one thing that is very interesting to you, and briefly explain why it surprised or is interesting to you |

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| **Buddy - Pair**(about 60 min) | **6.4.2** | Discuss your notes with your buddy and write out joint notes on a Word document (about 700 words). |

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| **Group/Class**(about 60 min) | **6.4.3** | Post to the forum your answer to 6.4.1 (b) and upload an attachment of your joint notes from 6.4.2. Read the notes of at least two other buddy-pairs. On the forum make a comment to at least one other buddy-pair’s post as feedback either to their notes or their answer to 6.4.1.  |

**6.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| **Individual Assessment**(about 120 min) | **6.5.1** | Write down real-life examples of at least 10 different types of fallacies that you have encountered. Briefly explain what type of fallacy it is and why. (1000 words max)  |
| **6.5.2** | Write very brief answers to this quiz:1. Why can't we require that every claim be backed up? Refer to your notes on the video [6.3.1](https://www.youtube.com/watch?v=5LqNm9d2__I)  before responding to this question.
2. If the conclusion of a valid argument is false, why must one of the premises be false? Refer to your notes on the videos [6.3.2](https://www.youtube.com/watch?v=3jvQrpVQaYM) and [6.3.3](https://www.youtube.com/watch?v=vflZuk-_Hz4) before responding to this question.
3. Give an example of a rumor or gossip you heard in your personal life recently and that you believed. Did you have a good reason to believe it? Why? Refer to your notes on the videos [6.3.2](https://www.youtube.com/watch?v=3jvQrpVQaYM) and [6.3.3](https://www.youtube.com/watch?v=vflZuk-_Hz4) before responding to this question.
4. Shouldn't you trust an encyclopedia over your own experience? Explain. Refer to your notes on the video [6.3.4](https://www.youtube.com/watch?v=4uIFHfkbu6M) and [6.3.5](https://www.youtube.com/watch?v=aF6EHTtyYqw) before responding to this question.
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# **TOPIC 7 - The application of critical thinking within universities – the scientific approach**

**7.1 Introduction**

In Topic 1 you learned the connection between thinking and the university. In Topic 6 you have learned how to make correct inferences based on good premises and avoid fallacious arguments. When applied to the academic context, the proper study of a particular issue requires a thorough and exhaustive examination of that issue. The aim sometimes is to develop new knowledge, develop a new insight, shape procedures, understand and influence. The process is a methodical application of critical thinking and is called the scientific approach. Apart from minimizing the influence of bias or prejudice it gives the scientist confidence that they are sticking to facts. In this Topic you will learn about the scientific approach and practice applying it in studying a real-life problem. The detailed content is [Topic 7 Article](https://drive.google.com/open?id=1X9f090QKh53oN_BUCfnTQk6sjlklX9_n).

**7.2 Learning Outcomes**

At the end of this topic you should be able to:

* + 1. Explain the scientific approach

7.2.2 Apply the scientific approach to a real-life problem

**7.3 Online Resources**

* [Topic 7 Article](https://drive.google.com/open?id=1X9f090QKh53oN_BUCfnTQk6sjlklX9_n)

**7.4 Activity (e-tivity)**

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| **Individual – Start** (about 60 min) | **7.4.1** | Read the Topic 7 Article. Make short notes to summarize the Article. Think about a real-life problem you would want to research on to resolve it, very briefly note down the idea, why and how you would research and resolve it |

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| **Buddy - Pair**(about 60 min) | **7.4.2** | (a) Discuss your notes with your buddy and your research idea, giving helpful feedback to your buddy. Write down a joint notes Word document. (b) Review your research idea and modify if necessary, taking into account your buddy’s feedback. |

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| **Group/Class**(about 60 min) | **7.4.3** | Post to the forum your answer to 7.4.2 (b) and upload an attachment of your joint notes from 7.4.1. Read the notes of at least two other buddy-pairs. On the forum make a comment to at least one other buddy-pair’s post as feedback either to their notes or their answer to 7.4.2 (b).  |

**7.5 Assessment**

***All assessments should be uploaded by the deadline given by the lecturer***

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| **Individual Assessment**(about 120 min) | **7.5.1** | Working individually, submit a final revised copy of your notes for Topic 7 Article, after taking into account the feedback of classmates in 7.4.3  |
| **7.5.2** | In not more than 1000 words write down a summary of how you would examine the real-life problem you described in the Activity above following the steps described in the Topic 7 Article. Upload your answer as a Word file  |

***This topic is optional***

# **TOPIC 8 - Connection between faith and reason**

 **8.1 Introduction**

Faith is knowledge from a supernatural source, the Creator. Reason is knowledge through argumentation, proof and testing. This is the last topic in our module. In this topic you will learn to discuss intellectually and use critical thinking to form your own opinion of whether there is any connection between faith and reason. You will also examine the question whether critical thinking is opposed to knowledge which is faith-based? The detailed content is [Topic 8 Article](https://drive.google.com/open?id=1ClDVpd0QGT4FehrhXlA73LAo8_Gnnec6).

**8.2 Learning Outcomes**

At the end of this topic, you should be able to

8.2.1 Explain the connection between faith and reason

**8.3 Online resources**

* [Topic 8 Article](https://drive.google.com/open?id=1ClDVpd0QGT4FehrhXlA73LAo8_Gnnec6)

**8.4 Activity (e-tivity) – *This is a group activity***

Read the Topic 8 Article. Join a group of 5 classmates. Each member of the group will explain using his own words one of the five proofs of Thomas Aquinas. Write down the explanation (other than your own) that you found most convincing. Also write down the explanation you found least convincing and attempt to improve on it.

**8.5 Assessment (optional)**

8.5.1 Upload your answer for Activity 8.4