

## **Appendix E3. Source Texts of Chinese Course Syllabuses**

The Appendix E3 includes the web content data of eighteen Chinese universities. Each university web content data includes the university name, web link, teacher name, course description, course objectives and syllabus. The data collection criteria can be found in the Chapter Two.

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## Dongguan University of Technology

1. University Name: Dongguan University of Technology

2. Web link:

[https://mksxy.dgut.edu.cn/views/search/modules/resultpc/soso.html?query=eyJrZXlIXb3JkIjo  
i5om55Yik5oCn5oCd57u0Iiwib3duZXRiOiIxNTQyNDIwODQ5IiwidG9rZW4iOiJjclxuXHJ  
cblxyXG5cclxuXHJcblyxYG5cclxuXHJcbnRvdXIjc3QiLCJlcmlxcmVmaXgiOiIvYW9wX2NvbXBvbM  
VudC8iLCJsYW5nIjoiaTE4bl96aF9FDTIj](https://mksxy.dgut.edu.cn/views/search/modules/resultpc/soso.html?query=eyJrZXlIXb3JkIjo i5om55Yik5oCn5oCd57u0Iiwib3duZXRiOiIxNTQyNDIwODQ5IiwidG9rZW4iOiJjclxuXHJ cblxyXG5cclxuXHJcblyxYG5cclxuXHJcbnRvdXIjc3QiLCJlcmlxcmVmaXgiOiIvYW9wX2NvbXBvbW VudC8iLCJsYW5nIjoiaTE4bl96aF9FDTIj)

(Course syllabus for the first semester of the 2020-2021 academic year)

3. Teacher: Guo Yipeng

#### 4. Course description:

As a discipline that reflects the fundamental, instrumental and widely applied nature of logic, Critical Thinking greatly emphasises education in the quality of thinking and the development of thinking skills. This course deals with traditional logic from the standpoint of modern logic. The course is based on the core content system of logical analysis, logical criticism, logical reasoning and logical argument theory and methods; it elaborates the fundamental laws of logic inherent in thought and thinking, the fundamental laws of logic to be observed in thought and thinking, the basic methods of logic to be used in thought and thinking and provides the essential logical tools and means for correct thinking and practical thinking.

## 5. Course objectives

1) Knowledge objectives: Under the guidance of the idea of "modernisation of logic" and in close connection with the reality and characteristics of thinking and natural language, students will learn and master the basic knowledge, fundamental theories, and basic methods of logic systematically; understand the new developments in logic and the characteristics and methods of critical thinking; consciously carry out logical thinking and expression. This course is designed to enhance the logical power of argument and to develop a spirit of analytical reasoning and a sense of innovation, to provide the necessary tools of logical analysis for further study and understanding of other specific sciences.

2) Competence objectives: This course is dedicated to improving students' logical thinking skills through the use of various cases for virtual practice, a large number of examples of political, military,

economic, legal and daily life, heuristic and interactive case teaching, guiding students to reason, argue, analyse and criticise, stimulating students' interest and potential, training and cultivating students to translate the logical knowledge learned into the ability to analyse and solve problems. It will stimulate students' interest and potential and train and develop students' ability to translate their knowledge of logic into analysis and problem-solving.

3) Values objective: Through the study of logic and the training of thinking, students will be able to apply the basic knowledge and theories of logic to analyse and solve practical thinking problems encountered in their daily thinking and professional studies, to form a strict and correct mode of thinking and reasoning and the ability to think creatively, to establish a scientific attitude of rigorous learning and the spirit of excellence, and to lay a solid scientific literacy and psychological foundation for their future careers. It will help you to develop a rigorous scientific attitude and a spirit of excellence in learning and lay a solid scientific and psychological foundation for your future career.

6. Course syllabus:

**- Introduction: Thinking skills in the age of globalisation**

Key points and difficulties: the meaning of critical thinking, the scope of application, the relationship between critical thinking and logic, and logic and thinking training.

**- Clear Thinking (I)**

Key points and difficulties: concepts and the logical approach to their determination; the significance of clear conceptual delineation for critical thinking.

**- Clear Thinking (2)**

Key points and difficulties: common problems with using concepts; how to avoid language harm.

**- Real Thinking**

Key points and difficulties: the question of the nature of reason and the two dimensions of truth; identifying the nature of shared experience.

**- The content, cycle and methods of innovation (I)**

Key points and difficulties: basic norms of academic writing, finding information, and developing scholarship.

**- The meaning, cycle and methods of innovation (II)**

Key points and difficulties: specific ways of developing innovative thinking.

**- Rational decision-making (I)**

Key points and difficulties: the six steps of rational decision-making.

**- Rational decision-making (II)**

Key points and difficulties: the Swart (SWOT) analysis, the Franklin method, and classic decision problems.

**- Topic 1: Academic Standards and Scholarship**

Key points and difficulties: basic norms of academic writing, ways of finding information, and developing academic spirit.

**- Classical Reading Seminar**

Focus & Difficulty: Examination of the pre-assigned reading of critical thinking classics.

**- Adequate Thinking (I)**

Key points and difficulties: the irrelevance fallacy and the specific manifestations of hedgehog irrelevance in everyday argument.

**- Sufficient Thinking (II)**

Key points and difficulties: inductive reasoning (analogical reasoning) and deductive reasoning.

**- Topic 2: The art of working in depth**

Key points and difficulties: the meaning of deep work, the relationship between deep work and creativity, and the methodological theory of deep work.

**- Basic knowledge of formal logic**

Key points and difficulties: focus on the basics of formal logic.

**- Extension of deep thinking**

Key points and difficulties: distinguishing between explanation and argument, understanding the significance of argument in scientific discovery, and using knowledge of trinomial and hypothetical reasoning to uncover the assumptions and foundations of argument.

**- Summing up**

Key points and difficulties: the principles and methods of critical thinking.

# Fudan University

1. University name: Fudan University

2. Web link: <http://fdjpkc.fudan.edu.cn/201822/2449/list.htm>

3. Course teacher: Chen Wei

4. Course Description.

In the Internet era, it is undoubtedly essential to master professional knowledge; however, it is even more important to master practical thinking. The difference between people is not essentially in the amount of knowledge they have but, in their ability, to think critically. Critical thinking is a way of thinking about what to believe or do to make sound decisions. It is an attitude, a set of thinking skills and a quality of thinking. This course focuses on understanding, analysing, comparing, evaluating, and reconstructing arguments, learning the basic principles and methods of critical thinking more systematically, training the ability to think critically and developing the spirit of critical and innovative thinking through a combination of classical readings, case studies and thematic discussions.

5. Course syllabus.

## **Chapter 1 The nature and principles of critical thinking**

1.1 The hunter and the squirrel

1.2 What is critical thinking

1.3 The nature of critical thinking

1.4 Guiding principles of critical thinking

## **Chapter 2 Basic criteria for critical thinking**

2.1 Clarity

2.2 Accuracy

2.3 Relevance

2.4 Importance

2.5 Consistency, adequacy, and other criteria

## **Chapter 3 Analysing the structure of an argument**

3.1 What is an argument

3.2 Identifying arguments

3.3 Understanding arguments

3.4 Analysing the structure of an argument

## **Chapter 4 Reviewing the quality of arguments**

4.1 Identifying reasons

4.2 Types and sources of reasons

4.3 Assessing reasons

## **Chapter 5 Evaluating the argumentative relationship**

5.1 Perspectives and domains of argumentation evaluation

5.2 The general process of argumentative evaluation

5.3 Basic norms of argumentation evaluation

5.4 The Toulmin Model

## **Chapter 6 Revealing Implicit Assumptions**

6.1 Characteristics and types of implicit assumptions

6.2 Adding implied premises

6.3 Evaluating Implicit Premises

6.4 Truth and implicit assumptions

## **Chapter 7 Clarifying meaning: language and concepts**

7.1 The essential functions and fundamental forms of language

7.2 The meaning of language

7.3 Theory of concepts

7.4 Definitions

7.5 Divisions

## **Chapter 8 Constructing arguments**

8.1 Basic norms of argumentation

8.2 Strategies for argumentation

8.3 Strategies for rebuttal

8.4 Critical writing

## **Chapter 9 Thinking errors that are easy to make**

9.1 Overview

9.2 Formal fallacies

9.3 non-formal fallacies

9.4 Avoiding fallacies

# Huaqiao University

1. University name: Huaqiao University

2. Web link: <https://jwc.hqu.edu.cn/info/1109/7856.htm>

3. Teacher: Wang Hongguang

4. Course description:

We are increasingly faced with complex issues affecting the world, such as global warming, environmental pollution, financial crises, etc., and we need a good thinking and innovative ideas to collaborate to solve these problems. Personally, everyone is thinking all the time: in everyday life, at work, in research and development, in the academic field, in business, in the legal and ethical field, etc. Knowing how to think and having good thinking skills will help you gain new knowledge faster, make reliable decisions and facilitate achieving your thinking and behavioural goals in all situations where thinking is required.

"Good thinking skills" ultimately refer to two types of thinking: critical and creative. The former refers to thinking rationally and clearly in terms of accurate and systematic thinking and the need to follow the rules of logic and scientific reasoning. The latter refers to developing new and valuable ideas and discovering different possibilities. Both are equally important, and to solve problems, we need creative thinking to come up with ideas and critical thinking to evaluate and improve those ideas. This lesson is about these two thinking skills. It is hoped that by introducing a few common ways of thinking and explaining some common fallacies and biases in thinking, students will be able to develop critical thinking skills and learn how to make rational decisions, which will help improve the quality of their thinking.

5. Course objectives

6. Course syllabus:

## **Chapter 1: What is proper thinking?**

[Main content] Identify the core concepts of this course and explain why people need to think. What do people think? Dispel some misconceptions about 'thinking' and 'critical thinking'.

[Focus] Several contexts of human thinking, identifying the meaning of 'subjective' and 'objective'.

[Difficulty] Dispelling several misconceptions about 'critical thinking'

## **Chapter 2: Thinking clearly and communicating ideas**



[Main content] Using examples, students will learn how to improve the accuracy and clarity of their ideas.

[Focus] Two main ways to think and communicate clearly: increasing sensitivity to the meaning of words; connecting ideas (examples, definitions, comparing and contrasting)

[Difficulty] Mastering the application of the methods learned about life examples

Students are required to: actively participate in discussions and give their analysis about relevant phenomena in their school studies and social life.

### **Chapter 3: Defining**

[Main content] Definitions help explain and clarify the meaning of language. This chapter introduces some knowledge about definitions, what constitutes a good definition and how to give a definition, taking into account examples.

[Focus] Types of definitions, criteria for good definitions, methods of definition, clearing up misconceptions about definitions

[Difficulty] Evaluate phenomena related to school learning and social life in the context of the criteria for good definitions

Students are required to: actively participate in discussions and give their analyses about relevant phenomena in campus learning and social life.

### **Chapter 4 Necessary and sufficient conditions**

[Main content] Necessary and sufficient conditions help us understand and explain the links between concepts and the interconnections between contexts. In this chapter, we will explain the correct understanding of necessary and sufficient conditions, the use of conditional associations to resolve differences, and the different levels of 'possibility' about the two conditions.

[Focus] Correctly understanding necessary and sufficient conditions and using conditional associations to resolve disagreements

[Difficulty] Understand the different levels of 'possibility' about the two conditions

Students are expected to: actively participate in discussions and give their analyses about relevant phenomena in school and social life.

### **Chapter 5: Identifying language traps**

[Main content] This chapter introduces and analyses the use of vague, distorted and empty language in each situation, considering examples.

[Focus] Unclear (ambiguity, vagueness, incompleteness), distorted (inappropriate emotional connotations, evasions, out-of-context quotations, category errors), empty meanings

[Difficulty] Identifying language traps about classroom exercises and examples

Students are expected to: participate actively in discussions and give their analyses of relevant phenomena in their school and social life.

### **Chapter 6: Foundations of Logic**

[Main content] Logic is essential for scientific research, legal reasoning, and everyday life. Studying some logic will increase our understanding of sound reasoning, which will also help us do better when reasoning and this chapter introduces some basic logic knowledge.

[Focus] Basic logical concepts such as compatibility, implication and logical equivalence; logical conjunctions such as conjunction, disjunction and negation

[Difficulty] Logical equivalence, conditional sentences, biconditional sentences

Students are required to: actively participate in discussions and give their analysis about relevant phenomena in campus studies and social life.

### **Chapter 7: Effective argument**

[Main content] Validity is the most crucial Logic and critical thinking concept. This chapter will illustrate the concept of validity and give several common forms of valid arguments.

[Focus] Concept of validity, forms of effective argument

[Difficulty] Valid versus reliable arguments

Students are required to: actively participate in discussions and give their analysis about relevant phenomena in their school studies and social life.

### **Chapter 8: Inductive Argument**

[Main content] Inductive arguments are those invalid arguments whose premises do not necessarily support the conclusion. Despite their invalidity, we still need practice arguments in which the premises support the conclusion more strongly, and this chapter will introduce this type of argument with examples.

[emphasis added] strength of induction, probability of inductive arguments, types of inductive reasoning

[Difficulty] Abolish ability of inductive arguments

Students are required to: participate actively in the discussion and give their analysis of relevant phenomena in campus studies and social life.

### **Chapter 9: Argument Analysis**

[Main content] In this chapter, students learn to use argument diagrams to demonstrate the logical structure of an argument, the criteria for evaluating a good argument, and how to attack an argument.

[Focus] Argument diagrams, criteria for good arguments, ways to attack an argument

[Difficulty] Argument diagrams

Students are required to: participate actively in discussions and analyse relevant phenomena in their school studies and social life.

### **Chapter 10 Reasoning about cause and effect**

[Main content] In this chapter, the concept of "cause" is often used ambiguously in everyday life, and it is essential to identify the relationship between "correlation" and "causation". This chapter will provide the necessary identification of 'correlation' and 'causation', explain the concepts of 'causation' and 'causal reasoning', and explore reliable models of causal mechanisms.

[Focus] Correlation and causation, causation, causal inference

[Difficulty] Identifying correlations and causal relationships

Students are required to: actively participate in discussions and give their analyses about relevant phenomena in campus studies and social life.

### **Chapter 11: Reflections on the Question of Value**

[Main content] Many vital issues in our daily lives are about values, the criteria or ideal types of behaviour, people or situations that are evaluated. This chapter applies critical thinking to value issues and will introduce applicable principles and concepts for thinking about values and ethics.

[Focus] Different types of values, things to avoid in ethical discussions, four types of ethical arguments

[Difficulty] Moral values and normativity

Students are required to: participate actively in the discussion and give their analysis of relevant phenomena in their school studies and social life.

### **Chapter 12: Fallacies**

[Main content] This chapter introduces the common fallacies in our thinking, that is, errors that violate the principles of correct reasoning.

[Focus] Classification of fallacies, fallacies about incompatibility, fallacies about inappropriate assumptions, and fallacies about irrelevance and insufficiency.

[Difficulty] Identifying fallacies about examples from life

Students are required to: actively participate in discussions and analyse relevant phenomena in their campus studies and social life.

### **Chapter 13 How to make rational decisions**

[Main content] Good decisions are essential for a successful life. Many people make decisions based on intuition and emotions, but intuition and emotions are not the only basis for important decisions, and some people attribute good decisions to good outcomes while ignoring the possibility that a wrong decision can also get a good ending by chance, but no one is always lucky. Therefore, to make a good decision, we should focus on the reliability of the decision-making process. Although a reliable thinking process may not ensure that every decision will lead to a good ending, it can lead to as good an ending as possible, which also means a more nominal cost of mistakes.

[Focus] How to make a good decision (six steps), evaluating decisions, typical problems in decision making

[Difficulty] Steps to make a good decision, criteria for evaluating decisions

Students are required to: actively participate in discussions and give their analysis about relevant phenomena in their school studies and social life.

### **Chapter 14 Developing the habit of creative thinking**

[Main content] This chapter explains how critical thinking is vital in enhancing innovation, the cycle of innovative work (four steps) and how to develop innovative thinking habits.

[Focus] The cycle of innovative work and innovative thinking habits

[Difficulty] The role of critical thinking in promoting innovation

Students are required to: actively participate in the discussion and give their analysis about relevant phenomena in their school studies and social life.

# Huazhong University of Science and Technology

1. University name: Huazhong University of Science and Technology

2. The web link: <https://www.icourse163.org/course/HUST-1206620838>

3. Teacher: Chen Gang

4. Course description:

Do you want to improve your thinking skills? Do you want to balance learning and thinking successfully? Do you hope to get twice the result with half the effort in the future study of specialised courses? Do you want to be an innovative first-class person?" "Critical Thinking" is a training course in thinking. You will learn to analyse problems, be critical, question and go beyond yourself, develop ideas, create alternatives, evaluate solutions, and achieve high-quality thinking and innovation.

Critical thinking is, first and foremost, a public foundation course. Critical thinking is also a way of thinking that emphasises truth-seeking, reasoning and argument. It is also a teaching philosophy emphasising the balanced development of learning and thinking. Most of the world's leading universities emphasise developing students' critical thinking skills, not only by offering this course but also by implementing the concept of critical thinking into the teaching of various specialised courses to cultivate innovative and first-class talents through the training of critical thinking.

The feature of this course is not the imparting of professional knowledge but the learning of thinking skills and the cultivation of thinking ability. This course highlights include problem analysis, examining evidence, exploring implicit assumptions, evaluating arguments, developing ideas and creating alternatives, critical reading, and critical writing.

5. Course objectives:

Master the primary contents and methods of critical thinking.

Preliminarily learn the application of critical thinking in studying specialised courses and daily life.

Improve students' essential thinking ability and professional, innovative thinking ability.

## 6. Course syllabus:

### **Chapter 1 Introduction**

1.1 What is Critical Thinking

1.2 Critical thinking and innovative Thinking

1.3 Divergent thinking and convergent Thinking

1.4 Learning and Thinking

1.5 Critical thinking and educational reform in China

1.6 The practical significance of critical thinking for contemporary China

Chapter One Unit test

### **Chapter 2: Rationality and problem exploration**

2.1 What is Rationality

2.2 Inquiry and demonstration: Put forward and analyse problems

2.3 Critical Reading

2.4 Rationality and demonstration of critical Thinking

Chapter two Unit test

### **Chapter 3 Read the argument**

3.1 Cases of critical reading

3.2 Finding the argument structure

3.3 Basic argument structure

3.4 Toulmin's model of argument

Chapter Three Unit test

### **Chapter 4 Clarifies the concept**

4.1 Eight Ways of concept error

4.2 How to Clarify Concepts

Unit four Unit test

### **Chapter 5 Examines the evidence**

5.1 Review the evidence and reasons

5.2 Unintentional falsity

5.3 How to get the Truth

Chapter five Unit test

### **Chapter 6 Inference**

6.1 Six ways of reasoning Errors

6.2 Types and Validity of reasoning

6.3 Correct form of Deductive reasoning

6.4 Inductive statistical reasoning and evaluation

6.5 Other forms of reasoning and their evaluation

Chapter six Unit test

## **Chapter 7 Scientific Reasoning**

7.1 Causal Reasoning

7.2 Evaluation of causal reasoning

7.3 Forms of scientific discovery

7.4 Verification and falsification

7.5 Optimal Explanatory reasoning

Exercise

## **Chapter 8 Mining Implicit assumptions**

8.1 The necessity of examining implicit assumptions

8.2 Types of Implicit Assumptions

8.3 Identify and supplement implicit assumptions

8.4 Evaluate implicit assumptions

8.5 Implicit Assumptions in Science

Chapter eight Unit testing

## **Chapter 9 Opening and creation**

9.1 What is Dialectical thinking?

9.2 Methods for developing competitive argument

9.3 Methods for constructing competition argument

9.4 Argument and methods for evaluating competition

## **Chapter 10 Organisation and expression**

10.1 Basic Requirements for essay writing

10.2 Writing methods of two types of argument articles

10.3 Argument and analysis

10.4 Discussion Paper

## **Chapter 11 The application of critical thinking in specialised courses**

11.1 Applications in foreign language learning

11.2 Applications in the Life sciences

11.3 Application in clinical medicine

# Hubei University

1. University name: Hubei University

2. Web link: <https://www.xuetangx.com/course/HUBU01011001489/12423770>

3. Teacher: Shao Lizhen

## 4. Course Description.

This course, offered in full English, introduces concepts, characteristics, principles, methods, and critical thinking approaches. It will thus provide a foundation for all types of course study and enable students to analyse complex social phenomena systematically and logically, form comprehensive opinions, make rational judgements, make informed decisions and form correct conclusions. On the other hand, critical thinking is used extensively to improve English proficiency, both for listening and reading, which are reception-based, and for writing and speaking, which are output-based. Critical thinking programmes help students make sense of the material they listen to and read and make their written and spoken expressions more effective, which significantly impacts their English language proficiency. It is, therefore, highly effective in terms of knowledge and skills and terms of extended application.

## 5. Course syllabus

### 1. Orientation

1.1 What Is Critical Thinking?

1.2 Why Study Critical Thinking?

Critical Thinking: Knowledge, Skills, and Attitudes

### 2. Basics of Critical Thinking

2.1 Claims

2.2 Issues

2.3 Arguments

2.4 Identifying Premise and Conclusion

2.5 What Arguments Are Not

### 3. Two Kinds of Reasoning

3.1 Two Kinds of Arguments

3.2 Distinguishing Deductive and Inductive Arguments

3.3 Validity and Soundness of Deductive Arguments

3.4 Strength of Inductive Arguments



### 3.5 Techniques for Understanding Arguments

## **4. Clarity**

### 4.1 Clarity, Precision, Accuracy, and Relevance

### 4.2 Consistency, Logical Correctness, Completeness, and Fairness

### 4.3 Vagueness

### 4.4 Ambiguity

### 4.5 Generality

### 4.6 Defining Terms

## **5. Clear Writing**

### 5.1 Tasks before Writing

### 5.2 Writing Argumentative Essays

### 5.3 Essay Types to Avoid

## **6. Credibility**

### 6.1 A Few Words on Credibility

### 6.2 Credibility of the Claim

### 6.3 Credibility of the source

## **7. Persuasion through Rhetoric**

### 7.1 What Is Rhetoric Device and Why Use Rhetoric?

### 7.2 Euphemisms and Dysphemism

### 7.3 Weasels, Down players, Hyperbole

### 7.4 Stereotypes

### 7.5 Innuendo, Loaded Questions, Ridicule and Sarcasm

### 7.6 Rhetorical Definitions and Rhetorical Explanations; Rhetorical Analogies

### 7.7 Misleading Comparisons

### 7.8 Proof Surrogates; Repetition

## **8. Psychological and Related Fallacies**

### 8.1 Argument from outrage, Argument from Pity, Argument from Envy

### 8.2 Scare Tactics, Apple Polishing

### 8.3 Guilt Trip, Wishful Thinking, Rationalizing

### 8.4 Groupthink Fallacy, Nationalism, Peer Pressure

### 8.5 Appeal to Popularity, Appeal to Common Practice, Appeal to Tradition

### 8.6 Red Herring, Two Wrongs Make a Right

## **9. More Fallacies**

### 9.1 The Ad Hominem Fallacy

### 9.2 The Genetic Fallacy, Straw Man

### 9.3 False Dilemma, Argument from Analogy

### 9.4 The Perfectionist Fallacy, The Line-Drawing Fallacy, Slippery Slope

9.5 Misplacing the Burden of Proof, Begging the Question

**10. Causal explanation**

10.1 Two Kinds of Explanations

10.2 Explanatory Adequacy

10.3 Forming Hypotheses

10.4 Mistakes in Causal Reasoning

# Nanjing Forestry University

1. University name: Nanjing Forestry University

2. Web link.

[https://www.icourse163.org/course/NJFU-1001755007?from=searchPage&outVendor=zw\\_mooc\\_pcsgjg\\_](https://www.icourse163.org/course/NJFU-1001755007?from=searchPage&outVendor=zw_mooc_pcsgjg_)

3. Course Teacher: Li Guangbo

4. Course description.

This course covers all the core issues of critical thinking training, including understanding thematic arguments: understanding the thesis, key issues, positions and arguments involved in an argument; analysing the structure of an argument: identifying and analysing arguments and their structure; clarifying the meaning of ideas: clarifying the meaning of ideas and defining key words; examining the quality of reasons: analysing and synthesising all possible information available and assessing their truth or acceptability; evaluating reasoning relationships : clean up and evaluate reasoning relationships, examining their relevance and adequacy; uncovering implicit assumptions: uncover and interrogate implicit premises, assumptions, implications and consequences; examining alternative arguments: create, examine, compete, compare and exclude different perspectives, arguments and conclusions; synthesising and organising arguments: combine the strengths of all arguments to form a comprehensive and appropriate conclusion.

5. Course objectives.

On completion of this course, students should be able to.

- a. Identify critical issues and difficulties and be able to articulate these clearly and accurately.
- b. gathers and evaluate relevant information and interpret it effectively using simple language.
- c. draws valid conclusions and solutions and test them using relevant criteria.
- d. identifies and evaluate alternative arguments, their assumptions, implications and possible outcomes in practice.
- e. communicates effectively with others when searching for solutions to complex problems.

6. Course syllabus.

## **Chapter 1 Why Think: What is 'critical thinking'?**

### **1.1 Why study critical thinking?**

## **Chapter 2: Normative Thinking: The Core Issues of Critical Thinking**

2.1 What is 'critical thinking'?

2.2 The core issue of critical thinking - good arguments

### **Chapter 3 Discursive thinking: identifying and analysing 'argument'**

3.1 What is an 'argument'?

3.2 Methods for analysing complex arguments

### **Chapter 4: Clear thinking: How to make sense of what you say?**

4.1 The connotations and extensions of lexical items

4.2 Definitions and their purpose

4.3 The technique of definition

4.4 Guidelines for the typical definition of words

### **Chapter 5 Thinking Deeper: How to explore the 'meaning beyond words'?**

5.1 What are 'implied conditions'?

5.2 How do you explore and evaluate 'implied conditions'?

### **Chapter 6 Thinking about fallacies: why "inference is not possible"**

6.1 non-formal fallacy I: the irrelevance fallacy

6.2 non-formal fallacy II: the fallacy of improper presupposition

6.3 non-formal fallacy III: the fallacy of lack of clarity

### **Chapter 7 Real Thinking: How to examine the credibility of evidence?**

7.1 How do you assess 'evidence'?

7.2 "Credibility" and types of evidence

### **Chapter 8 Thinking Effectively: How do you assess 'deductive arguments'?**

8.1 How to assess 'deductive arguments'?

8.2 Examining the form of the argument

### **Chapter 9: Thinking adequately: how to assess 'inductive arguments'?**

9.1 How is the 'inductive argument' assessed?

9.2 Types of 'inductive arguments.'

9.3 non-formal fallacy IV: the weak inductive fallacy

### **Chapter 10 Best thinking: basic methods of scientific enquiry**

10.1 Causal arguments: how do causes lead to effects?

10.2 Reasoning in scientific inquiry

### **Chapter 11 Value-based thinking: reasonable vs justified**

11.1 What is a 'value statement'?

11.2 The moral argument

11.3 Other value arguments

### **Chapter 12 Dialectical thinking: openness, innovation, and competition**

12.1 Critical thinking requires openness and competition

12.2 Constructing competing and alternative arguments

Dialectical thinking: openness, innovation, and competition

# Renmin University of China

1. University name: Renmin University of China

2. Web link: <http://mooc1.chaoxing.com/course/923427.html>

3. Teacher: Yang Wujin

4. Course description.

Logic and Critical Thinking systematically treat logic and critical thinking by introducing reasoning and then argumentation. In the reasoning section, deductive reasoning is examined before inductive reasoning, reasoning about simple sentences is examined before reasoning about compound sentences, and finally, some important methods of concluding are examined. In the argument section, we examine the weakening, strengthening and assumptions of arguments, followed by explanation and evaluation, and finally, the analysis of the validity of arguments.

5. Course syllabus.

1 Logic and critical thinking

1.1 Logic and Critical Thinking (I)

1.2 Logic and Critical Thinking (II)

1.3 Logic and Critical Thinking (III)

1.4 Logic and critical thinking (iv)

1.5 Logic and critical thinking (v)

1.6 Logic and critical thinking (vi)

2 Deformational reasoning and syllogism

2.1 Deformational reasoning and general syllogism (I)

2.2 Deformational reasoning and the general syllogism (II)

2.3 Deformational reasoning and general syllogism (iii)

3 Determining the validity of syllogism

3.1 Syllogism validity determination (I)

3.2 Syllogism validity determination (II)

3.3 Syllogism validity determination (iii)

4 Basic Compound Propositions

4.1 Basic compound Propositions (I)

4.2 Basic compound propositions (II)

4.3 Basic compound proposition (iii)

- 4.4 Basic compound proposition (iv)
- 5 Basic complex inference
  - 5.1 Basic complex inference (I)
  - 5.2 Basic complex inference (II)
  - 5.3 Basic complex inference (iii)
- 6 Multiple complex inference
  - 6.1 Multiple complex inference (I)
  - 6.2 Multiple complex inference (II)
  - 6.3 Multiple complex inference (iii)
  - 6.4 Multiple complex inference (iv)
  - 6.5 Multiple complex inference (v)
  - 6.6 Multiple complex inference (VI)
  - 6.7 Multiple complex inference (vii)
- 7 Inductive reasoning
  - 7.1 Inductive reasoning (I)
  - 7.2 Inductive reasoning (II)
  - 7.3 Inductive reasoning (iii)
  - 7.4 Inductive reasoning (iv)
  - 7.5 Inductive reasoning (v)
  - 7.6 Inductive reasoning (vi)
- 8 Conclusion-based problem solving
  - 8.1 Conclusion-based problem solving (I)
  - 8.2 Conclusion-based problem solving (II)
  - 8.3 Conclusion-based problem solving (iii)
  - 8.4 Conclusion-based problem solving (iv)
- 9 Basic laws of logic
  - 9.1 Basic laws of logic (I)
  - 9.2 Basic laws of logic (II)
  - 9.3 Basic laws of logic (iii)
  - 9.4 Basic laws of logic (iv)
- 10 Argumentation - Applied Logic
  - 10.1 Argumentation - Applied Logic (I)
  - 10.2 Argumentation - Applied Logic (II)
  - 10.3 Argumentation - Applied logic (III)
- 11 Weakening, strengthening, assumptions
  - 11.1 Weakening, strengthening, hypothesis (i)
  - 11.2 Weakening, strengthening, hypothesis (ii)

11.3 Weakening, strengthening, hypothesis (iii)

11.4 Weakening, strengthening, hypothesis (iv)

12 Interpretation and evaluation

12.1 Interpretation and evaluation (I)

12.2 Interpretation and evaluation (ii)

12.3 Interpretation and evaluation (iii)

12.4 Interpretation and evaluation (iv)



# Shaanxi Normal University

1. University name: Shaanxi Normal University

2. Web link: <http://zxsy.snnu.edu.cn/info/1016/1017.htm>

3. Teacher: Wang Jing

4. Course description.

Critical thinking aims to lead people to engage in reasoned doubt and reflection and to guide them to make sound decisions about what to believe or do. Specifically, it requires us to properly analyse, understand, reconstruct and evaluate arguments in everyday life and philosophical arguments. This course will combine famous philosophical arguments from the history of Chinese and Western philosophy and critically analyse them in order to equip students with the skills of critical writing and its argumentation in the form of examples and to appreciate the importance of critical thinking and its writing, ultimately forming good critical thinking habits.

5. Course syllabus.

## **Section 1 Introduction**

Topic: What are critical thinking and skills

Discussion: What are the qualities of critical thinking?

## **Section 2: Argumentation and its classification**

Topics: deductive & inductive arguments & analogical arguments

Discuss: The issue of assessment criteria for different types of arguments

## **Section 3: Asking questions and recognising fallacies**

Topic: The benefits of appropriate questioning and ways of recognising fallacies

Discuss: What are the logical requirements for a responsible response?

## **Section 4: Identifying reasons and illustrating arguments**

Topic: Recognising different types of justification and argumentative diagrams

Discuss: What are the manifestations of unjustified reasons?

## **Section 5: Philosophical Analytical Writing and Critical Criteria**

Topic: Steps and methods of analytical writing

Appreciation of critical writing (classic literature in philosophy)

## **Discussion.**

1. Analysis of 'Zeno's paradox' argument

2. Analysis of Gettier's argument, which challenges the traditional triadic definition of knowledge

### 3. Analysis of Hempel's "raven paradox" argument

# Shanghai Jianqiao College

1. University name: Shanghai Jianqiao University

2. Website link: <https://mksxy.gench.edu.cn/2020/0305/c807a88253/page.htm>

3. Teacher: Jing Xiaohuai

4. Course description.

Critical thinking is the evaluation of thinking through specific criteria and thus improving it. It is rational, reflective thinking as a thinking skill and disposition. It is learned to change students' thinking stereotypes, helping university students get out of their thinking misconceptions, think independently, and see-through human nature and the world.

The course aims to develop several essential skills in students: the ability to interpret/analyse/evaluate/infer/explain and self-calibrate. Students develop the ability to think truthfully and open-mindedly; to promote the ability to identify problems, to understand the symptoms and anticipate the consequences with reasons and evidence; to work through problems in an organised and purposeful way; to be sure of their rational, analytical skills; to be curious and enthusiastic about knowledge and to try to learn and understand. Students are motivated by learning to make prudent judgements, think carefully, and make sound decisions. When faced with a problem, students can selectively come up with various solutions to the problem.

5. Course objectives.

- 1) To be able to purposefully collect and access the learning resources needed to learn theories related to the course in a self-directed manner
- 2) To develop students' critical thinking and their ability to analyse and solve problems in a dialectical manner
- 3) To develop a sense of commitment to society

6. Course syllabus.

## **Unit 1: What is Critical Thinking?**

Students will learn to know critical thinking and understand why it is essential to think critically.

What assumptions require critical thinking? Analyse the commonalities between different disciplines and understand the five primary sources of critical thinking.

## **Unit 2: How do you learn to think critically?**

Students will learn that critical thinking is a form of social learning, and through the use of model critical thinking by the teacher, students will be able to analyse dilemmas and confusions in learning about specific experiences and progressively use critical thinking.

### **Unit 3: Intermediate and Advanced Critical Thinking Training Programme**

The teacher introduces critical thinking and designs examples of critical thinking; students vote on the teacher's list of hypotheses, use voting machines and handheld devices, analyse specific scenarios and conduct scenario analysis. The teacher conducts Intermediate Training 1: Crisis Decision Making Simulation; Intermediate Training 2: Critical Debate; Intermediate Training 3: Examples and Flaws; Intermediate Training 4: Affirmations and Questioning and conducts advanced training to enable students to master critical conversation training.

### **Unit 4: Critical Reading and Writing and Critical Thinking Integrated into Different Lessons**

Teachers train students in critical thinking skills through specific cases. Teachers design cases of critical thinking, integrate critical thinking into specific curriculum tasks and teach students to engage in critical discussion.

# Shanghai Tech University

1. University name: Shanghai Tech University

2. Web link: [https://ih.shanghaitech.edu.cn/ih\\_en/2020/1215/c11437a1028956/page.htm](https://ih.shanghaitech.edu.cn/ih_en/2020/1215/c11437a1028956/page.htm)

3. Teacher: Wang Qiang

4. Course description.

Today is the information age, and a vast amount of information surrounds us daily. From the world situation to personal studies and daily life, there are different views and opinions on every aspect of life. Without the ability to think and judge independently, getting lost in this flood of information and making the right decisions is easy. In this context, the ability to think critically is essential.

"Critical" comes from the Greek word "Kritikos", meaning insight, judgement. Critical thinking aims to make informed decisions and reach the correct conclusions. This course is an applied discipline that develops and trains students' thinking skills. Students are expected to understand the nature of argument and reasoning and to develop a prudent and holistic approach to thinking. The course focuses on integrating theory and practice, teaching how to think critically while combining case studies and class discussions to promote the habit of using critical thinking in daily life and professional studies.

5. Course syllabus: None

# Shantou University

1. University Name: Shantou University

2. Web Link: <https://higher.smartedu.cn/course/62354d2a9906eace048f2d41>

3. Teachers Sun Jinfeng, Wang Yuxuan, Liao Yanlin

## 4. Course Description

In an era of rapid social development, good thinking will become an individual's core competency.

This course focuses on creative, critical, and systems thinking, teaching these three thinking skills and developing learners' ability to think creatively, critically, and systematically.

## 5. Course syllabus (**bolded parts are critical thinking content**)

Session 1 Introduction to Integrative Thinking Course Content and Introduction to Creative Thinking Course

Section 1 Why an Integrative Thinking course?

Introduction to the Integrative Thinking Course

Section 3 The importance of teaching creative thinking

Section 4 What kind of people are creative

Session 2 Factors influencing creativity and observation methods

Section 1 The relationship between knowledge and creativity

Section 2 The relationship between interest and motivation and creativity

Section 3 The relationship between environment and creativity

Section 4 Observation 1

Section 5 Observation 2

Session 3 The relationship between cognitive style and creativity and the restatement problem

Section 1 Cognitive styles and creativity

Section 2 Positive versus Negative Thinking

Section 3 Divergent vs Convergent Thinking

Section 4 Lateral versus vertical thinking

Section 5 Restating the Problem (above)

Restating the problem (below)

Session 4 Tools to Enhance Group Creativity - Brainstorming, Six Thinking Hats and Mind Mapping

Session 1 Brainstorming

Session 2 Six Thinking Hats

Session 3 Thinking Maps

Session 5 Factors influencing problem-solving and their responses implicit characteristic assumptions, associations and forced connections

Section 1 Factors Influencing Creative Problem Solving<sup>1</sup>

Section 2 Factors affecting creative problem solving<sup>2</sup>

Section 3 The implicit identity hypothesis

Section 4 Associations and Forced Connections

Session 6 Other practical tools for enhancing creativity categorisation and combinatorial transformation, empathy, categorisation and assessment of creativity, and the expression of creativity in everyday life; summary

Session 1 Categorisation and Combinatorial Transformation

Section 2 Empathy

Section 3 Summary of the creative thinking section

Session 7 Principles and methods of critical thinking

Section 1 Why critical thinking

Section 2 What is critical thinking?

Section 3 The use of critical thinking

Lecture 8 Problem Analysis and Critical Reading

Section 1 Inquiry and argument: asking and analysing questions

Section 2 Critical reading

Sub-section 3 Rationality and argument in critical thinking

Lecture 9 Argument analysis

Section 1 Identifying and standardising arguments

Section 2 Basic structures of argument

Section 3 Examples of critical reading and argument analysis

Section 4 The Toulmin Model of Argument

## Lecture 10 Examining the Implicit Premises, Assumptions of Thinking

### Subsection 1 The Need to Examine Implicit Premises (Assumptions)

### Subsection 2 Types of implicit assumptions

### Sub-section 3 Identifying and adding to implicit assumptions

### Sub-section 4 Evaluating Implicit Assumptions

### Sub-section 5 Evaluating the role of hypotheses in science.

## Session 11 Critical Thinking Essay Writing

### Section 1 The Meaning of Writing

### Section 2 Meaning of Critical Thinking Writing and Types of Essays

### Section 3 Criteria for evaluating critical thinking essays

### Section 4 Choosing a critical thinking essay topic

### Section 5 Critical Essay Argument Structure and Writing Patterns Positive Argument Structure

## Lecture 12 Discourse Analysis and Critical Discourse Criticism

### Section 1 The Meaning of Discourse Analysis and Harmful Discourse Criticism

### Section 2 Semantic Ambiguity

### Section 3 The Critique of Language Damage the Emptying of Words

### Section 4 Conceptual slippage

## Lecture 13 Evaluating Evidence

### Section 1 The Need for and Meaning of Evidence Assessment, Assessing the Evidence Within

### Section 2 Assessing Sources of Evidence

### Section 3 Assessing the credibility of authoritative statements

### Section 4 Dissemination of false information by the media due to issues of interest

## Lecture 14 Deductive and Inductive Arguments

### Section 1 What is a proposition

### Section 2 Definition of an argument

### Section 3 How to classify arguments

### Section 4 Deductive arguments

### Section 5 Inductive arguments

## Lecture 15 Analogies and causal arguments

### Section 1 The Triple Function of Analogy

### Section 2 The Structure and Critique of the Analogical Argument

### Section 3 Analogical Refutation



Section 4 Causal Argument

Section 5 How to determine causation

Lecture 16 Anatomy of a Fallacy the Fallacies of Inconsistency, Irrelevance, Inadequacy and Improper Presupposition

Section 1 Introduction and the meaning of fallacies

Section 2 Classification of fallacies and the fallacy of inconsistency

Section 3 The fallacy of irrelevance

Subsection 4 The fallacy of inadequacy

Section 5 The fallacy of improper presupposition

Lecture 17 The Meaning, Operation and Obstacles of Systems

Section 1 The meaning, properties and composition of a system

Section 2 How to analyse the behaviour of a system

Section 3 The operation of systems

Section 4 The application of systems in life (I)

Section 5. Applications of systems in life (II)

Sub-section 6 Barriers to systems

Lecture 18 The pitfalls of systems, how to change them

Sub-section 1. Pitfalls of systems (I)

Sub-section 2. Traps of systems (II)

Sub-section 3. How to change the system (I)

Sub-section 4. How to change the system (II)

Sub-section 5. Dancing with the system

# Sichuan University

1. University name: Sichuan University

2. Web link: <https://www.icourse163.org/course/SCU-336004?tid=1001858005>

3. Teacher: Liu Xiaojie

4. Course description:

This course is a seminar-style course for first-year students run by experienced professors in a variety of subject areas, with an emphasis on teacher-student interaction and student-led learning directed towards exploration and research. The course is structured around teacher-selected topics that stimulate and broaden students' intellectual horizons, providing opportunities for teacher-student and student-student interaction and exchange and for students to learn through exploration in a collaborative environment. Students are trained in a holistic approach to self-discovery, learning methods and skills, time management, critical thinking, communication and communication, and many other areas.

5. Course syllabus: **(bolded sections are critical thinking course content)**

Chapter 1 Introduction (Hong Mei)

1. Why do you want to go to university?
2. What is university life like?
3. What is the difference between university and secondary school?
4. How to make the transition from secondary school to university?

Chapter 2 Self-discovery (Hong Mei)

1. Discovering your abilities
2. Discover how you learn? (Your learning style)
3. Discovering your various aspects of intelligence
4. Setting your learning goals for university

Chapter 3 Communication (Hunan Wang)

1. keeping the lines of communication open
2. Learning to express yourself
3. choosing to listen
4. writing effectively

5. Handling conflict
6. Five ways to say "no" politely
7. Seven steps to an effective complaint
8. Staying safe on the internet

#### Chapter 4: Reading (Zhao Hui)

1. Current problems and dilemmas in reading - thus introducing reading
2. The meaning and purpose of reading
3. How to read effectively: the muscle reading method + the four levels of reading

#### Chapter 5: Note-taking (Zhao Hui)

1. The current dilemma of university students in note-taking - thus introducing note-taking
2. The meaning and purpose of note-taking
3. How to take notes effectively: method/process: observation-record-review

#### Chapter 6: Thinking (Liu Xiaojie)

- 1. Critical thinking training - logical testing of inference fallacies 1**
- 2. Critical Thinking Training - Logical Detection of Reasoning Fallacies 2**
- 3. Critical Thinking Training - Logical Tests of Reasoning Fallacies 3**

#### Chapter 7: Time (Pope Yifei)

1. Setting and achieving goals
2. Making the most of time

#### Chapter 8: Memory (Zuo Hang)

1. The "jungle" of memory
2. Preparing for memory
3. Remembering effectively
4. Maintaining memory
5. Memory techniques

#### Chapter 9 Exams (Shuri)

1. What do you know about university exams?
2. Tips from seniors on how to prepare for exams
3. Let exam anxiety go
4. Examinations in progress

## 5. Failure is no big deal

### Chapter 10 Money Management (Nie Jing)

#### 1. The importance of studying money management for university students

(1) The concept of money management

(2) Financial issues

(3) Do I need to manage my money?

#### 2. How to manage money for university students

(1) The general principles of money management

(2) Income and expenditure planning

(3) Open source and reduce expenditure

(4) Save for a rainy day

### Chapter 11 Health (Hong Mei)

#### 1. Take care of your body

#### 2. Take care of your mental health

### Chapter 12 Conclusion (Hong Mei)

#### 1. Further advice for the future

#### 2. Start your career planning now

#### 3. Learn transferable skills at university

#### 4. Create and use your profile

#### 5. Become a good university student

# Sun Yat-sen University and Dalian University of Technology

1. University Name: Sun Yat-sen University, Dalian University of Technology

2. The web link: <http://mooc1.course.gxu.edu.cn/course/218723492.html#courseTeam>

3. Teachers: Xiong Minghui, Feng Lin, Zhang Wei

4. Course description:

If you are trying to understand the "Socrates must die" inference, if you are struggling to solve the "barber's paradox" if you are puzzled by the "white horse" argument, if you want to exercise your thinking skills, if you want to shine in the debate competition if you want to get ahead in the future job examination, if... Xiong Minghui, a well-known logic professor from Sun Yat-sen University, presented a different introduction to logic with a clear, rigorous and humorous style.

5. Course syllabus:

## **1. Study arrangement and precautions**

1.1 Course arrangement

1.2 Instructions for examination arrangement

1.3 Instructions for viewing learning progress and results

1.4 Description of face recognition

1.5 Learning Exceptions

1.6 Download the Instruction manual

1.7 Solutions to Common Problems such as Forgetting passwords and Login Failures

1.8 Course notification is also essential

## **2. Introduction: Into Logic**

2.1 What is Logic

2.2 Logic and Law: Protagoras Paradox

2.3 Function and research scope of logic

2.4 Understanding "Non-Western Logic."

## **3. Argumentation**

3.1 Key concepts of argument

3.2 Proposition, statement, and sentence

3.3 Empirical proposition and apodeictic proposition

- 3.4 Meaning and types of argument
- 3.5 Functions and elements of argument
- 3.6 Argument and explanation
- 3.7 Identification of premises and conclusions
- 3.8 Logical criteria for argument and evaluation
- 3.9 Rhetorical standard of argument

#### **4. Categorical propositional**

- 4.1 What is a Categorical Proposition
- 4.2 Venn Diagram and Euler Diagram
- 4.3 Demonstration of opposition relation
- 4.4 Categorical propositional operation
- 4.5 Introduction to Syllogism
- 4.6 Rules and reconstruction of syllogism

#### **5. Truth function logic**

- 5.1 Compound propositional argument: opposing argument
- 5.2 Compound propositional argument: conjunctive argument and disjunctive argument
- 5.3 Compound propositional argumentation: conditional argumentation and Dilemma argument
- 5.4 Truth function
- 5.5 Construction of truth table
- 5.6 Truth table test
- 5.7 Formal Deduction
- 5.8 Indirect proof and simple proof

#### **6. Inductive Logic**

- 6.1 Induction and inductive intensity
- 6.2 Generalization
- 6.3 Causal Hypothesis

#### **7. Demonstrate evaluation and fallacies**

- 7.1 Validity of Argument (I)
- 7.2 Validity of the Argument (II)
- 7.3 Approach to Argument (I)
- 7.4 Approach to Argument (II)
- 7.5 Definition and classification of fallacies
- 7.6 Premise Fallacy
- 7.7 Coherent Fallacy (I)
- 7.8 Coherent Fallacy (II)
- 7.9 Supporting Fallacies

#### **8. Critical thinking and its obstacles**

8.1 Critical thinking and its Definitions

8.2 Composition of critical thinking

8.3 Barriers to critical thinking

8.4 Break through the barriers of critical thinking

8.5 Assessment of critical thinking

## **9. Foundations of critical thinking**

9.1 Sources of philosophy, logic and scientific methodology and Western education

9.2 Logic and Reasoning

9.3 Think and express logically

9.4 Categorical syllogism

9.5 Critical Thinking in Ethics, law, and Aesthetics

## **10. The central question of critical thinking**

10.1 Ability to think critically

10.2 Arguments

10.3 Arguments related issues

10.4 How to evaluate arguments

## **11. The process of critical thinking**

11.1 Ambiguous words

11.2 Reasoning Fallacy

11.3 Reliability of evidence

11.4 Interfering factors

## **12. Application of critical thinking**

12.1 Critical thinking

12.2 Reading and Writing critically

12.3 Critical science innovation

12.4 Critical technological innovation

# Tongji University

1. University name: Tongji University

2. Web link: <http://www.mba-sz.com/open/sxy180107193559093.html>

3. Teacher: Chen Junhua

4. Course Description:

Do you remember Michelle Obama's passionate and infectious speech on the eve of the Democratic National Convention this year? Do you remember the heated debate between Trump and Hillary in the US election this year? There are also those exciting and tear-jerking American TED Talks .....

Whether it is a speech or a debate, we have seen critical thinking and superior speech and debate skills.

How can you improve your speech?

How to make a speech with good thinking and logic?

How can you become a master speaker?

---- "Critical Thinking and Presentations" gives you the answers!

5. Course syllabus.

## **I. The meaning of critical thinking**

Presentations are not just about verbal expressions but, more importantly, the thinking behind verbal expressions.

The unreflective thinking that we do in our daily lives

To "think better, think better", where there is thinking, there is a need for critical thinking

A master of speech must be a master of critical thinking

## **II. The concept of critical thinking**

Definition: critical thinking

Slogan: Think better, think better

Keywords: understanding, reflection, critique, perfection

Reflection is at the heart of critical thinking

## **III. Reflection and the treatment of speech**

Watch, analyse, reflect and diagnose several videos of presentations

Live speech and diagnosis for participants

Participants live speech and diagnosis

## **IV. Critical thinking and reasoning**



The importance of reasoning, persuasion and the relationship with speech

Some techniques and principles of reasoning: it is best to provide three reasons

On-site training for reasoned speech

## **V. The validity of the reasoning**

Principles of critique

Taking the initiative to solve problems and answer questions

On-site training

# Tsinghua University

1. University name: Tsinghua University

2. Web Link:

[https://www.xuetangx.com/course/thu01011003963/14770316?channel=i.area.course\\_list\\_all](https://www.xuetangx.com/course/thu01011003963/14770316?channel=i.area.course_list_all)

3. Teacher: Li Jixian

4. Course description.

Critical thinking, which means not being gullible and not following blindly, is what many experts and scholars advocate as "independent thinking".

It helps us to be sensitive to the dubiousness of certain information and 'knowledge' and to have the means to verify unreliable information and improve flawed 'knowledge'. Furthermore, unlike some people's understanding of critical thinking, we are good at questioning and identifying problems and can offer better solutions to them.

Which professions are most in need of critical thinking? Good industry leaders and decision-makers, good doctors and legal people, good media people, experts and academics, and ordinary people.

For the average person, critical thinking helps us to identify rumours and fake news. Discover the truth about complex events. It also helps us make informed choices and avoid paying IQ tax when making decisions.

If you are studying at university, you can grasp the key aspects and ask high-level questions, no matter what courses and lectures you listen to. You will also be able to excel in various research-based activities and assignments.

It will help demonstrate your ability and intelligence at various meetings if you are already working. It also allows you to take on new tasks and challenges that others are afraid to take on. Because your mind is full of analytical and problem-solving weapons, you know how to use them to tackle new problems.

If you are ready, let's start this exciting journey of exploring the world with your mind.

5. Course syllabus.

## **Chapter 1 Introduction**

1.1 Introduction (top) What is critical thinking?

1.2 Introduction (middle) When and how to use critical thinking?

1.3 Introduction (below) Who are the people and professions that need critical thinking most?

## **Chapter 2 Understanding accurately what information and knowledge means**

2.1 Difficulties in accurate understanding: identifying ambiguous words

2.2 How do you get the meaning of ambiguous words right?

2.3 Why and how can ambiguous words be 'understood sympathetically'?

### **Chapter 3: Appropriate methods of definition, common conceptual fallacies**

3.1 What are the methods and rules of definition?

3.2 Conceptually related fallacies

Discussion of the previous chapter and review of the 'poll question.'

### **Chapter 4: Understanding the meaning of statements in depth - presuppositional analysis of statements**

4.1 The literal meaning of an utterance: semantic presuppositions

4.2 Beyond the meaning of an utterance: semantic presuppositions

4.3 The presupposition of words and sentences commonly used in opinions

### **Chapter 5 Judging the reliability of statements: the fact-opinion-fallacy distinction**

5.1 Judging the reliability of information statements

5.2 Judging the reliability of information statements: complex declarative sentences

5.3 Determining the reliability of 'knowledge' statements

### **Chapter 6 How to judge the reliability of factual information - identifying fake news**

6.0-6.1 Extent and classification of disinformation, disinformation from people in the media

6.2 Disinformation from non-media persons

6.3 Misrepresentation from professional media

### **Chapter 7 The inductive method and its associated fallacies**

7.1-7.2 Proper induction - improving conclusions from induction

7.3 Fallacies associated with the inductive method

### **Chapter 8 Forms of deductive reasoning and their validity**

8.1 Conditional propositions and the validity of their reasoning

8.2 Syllogism reasoning and its valid forms

### **Chapter 9 Methods and structures of deductive arguments**

9.1 Several standard methods of argument

9.2 Analysis of the structure of arguments

### **Chapter 10 Improving deductive arguments**

10.1 Improving the Toulmin model of deductive argument

10.2 Methods for improving complex arguments using the Toulmin model

### **Chapter 11 Fallacies in deductive reasoning and argument**

11.0-11.1 Classification of Deductive Fallacies-Reason or Conclusion Related Fallacies

11.2 Fallacies of Relationships between Reasons and Conclusions

### **Chapter 12 Analogy, comparison, and fair evaluation**

12.1 Argument of analogy and related fallacies

12.2 Communicating by analogy Convincing and finding the truth

12.3 Comparison and impartial evaluation

### **Chapter 13 Related concepts of causal explanation, fallacies of causation**

13.1 Related concepts of causal explanation

13.2 Fallacies of correlation and causation

13.3 Social psychological research on attribution bias

13.4 Methods for identifying causal relationships between two variables

### **Chapter 14 Basic Ideas and Research Methods in Causal Explanation**

14.1 Basic Issues and Ideas in Causal Explanation

14.2 How to formulate and filter causal hypotheses for common-sense phenomena

14.3 How to formulate causal hypotheses in the field of non-sense (above)

14.4 How to formulate a causal hypothesis in the field of non-sense (below)

# University of Chinese Academy of Sciences

1. University name: University of Chinese Academy of Sciences

2. Web link: <https://jwbaucas.ac.cn/sc/course/courseplan/208702>

3. Teachers: Fan Jie and Li Dazhu

## 4. Course Description.

In the era of big data, although we can easily access a vast amount of information, it is not easy to filter out valuable and accurate information, recognize the truth and not blindly follow the authority, and make our independent judgments, which requires us to have strong critical thinking skills. The core of critical thinking skills is the ability to reason and argue logically, and critical thinking skills cannot be developed without logic as a foundation.

Because of this vital role, logic and critical thinking were established as a course in North America in the 1970s and 1980s, and in recent years some universities in mainland China, such as Peking University, China Youth University of Political Science, and Renmin University of China, have also offered general courses like logic and critical thinking.

This course will focus on the fundamental laws of thinking, concepts (connotations and extensions, definitions and divisions, types of concepts, relationships between concepts), propositions (types, truth tables and methods of truth determination), reasoning (common reasoning and its rules, trinomials), argumentation (standard methods of argumentation); in the section on critical thinking, I will focus on criteria for critical thinking, argumentation analysis (identification, reconstruction and evaluation of arguments), and understanding and identifying common logical fallacies. Hopefully, this course will improve students' logical and critical thinking skills, particularly logical reasoning and argumentation.

## 5. Course syllabus.

### **Chapter 1 Introduction**

Section 1 Logic, Critical Thinking and Their Relationships

### **Chapter 2 Concepts**

Section 1 The connotations and extensions of concepts and their relationships

Section 2 Types of concepts

Section 3 The relationship between concepts

Section 4 Methods of clarifying concepts and their general rules

### **Chapter 3 Compound propositions and their reasoning**

Section 1 The distinction between propositions, statements, declarations and judgements

Section 2 Types of propositions, types of reasoning

Section 3 Conjunctive proposition and their reasoning

Section 4 Disjunctive proposition and their reasoning

Section 5 Hypothetical proposition and their reasoning

#### **Chapter 4 Categorical proposition and lexical logic**

Section 1 Categorical proposition and their kinds

Section 2 The opposition relation of categorical propositions

Section 3 The exhaustiveness of the concept

Section 4 Immediate inference

Section 5 Syllogism and its validity judgment method

#### **Chapter 5 Relational propositions and modal propositions**

Section 1 Relational propositions and their properties

Section 2 Modal propositions and their reasoning

#### **Chapter 6 Other Deductive Reasoning**

Section 1 Hypothetical deformational reasoning

Section 2 Hypothetical chain reasoning

Section 3 The equivalence of "or" and "then" substitution

Section 4 Dilemma reasoning

#### **Chapter 7 Basic Laws of Logic**

Section 1 The law of Identity

Section 2 The law of contradiction

Section 3 The law of excluded middle

Section 4 The law of Sufficient Reason

#### **Chapter 8 Logical Fallacies**

Section 1 Informal fallacies

#### **Chapter 9 Non-deductive reasoning, argumentation**

Section 1 Inductive reasoning

Section 2 The Five Laws of Cause and Effect

Section 3 Analogical Reasoning

Section 4 Argumentation

# Xi'an Jiaotong University

1. University name: Xi'an Jiaotong University

2. Web link: <http://philosophy.xjtu.edu.cn/info/1017/1092.htm>

3. Teachers: Wang Wei, Qiu Genjiang, Luo Zixin, Ding Xiaojun, Zhang Zhiwei

## 4. Course Background.

The emergence of critical thinking courses has its roots in the critical thinking movement. The critical thinking movement originated in the 1970s when American educators reflected on the flaws in the American educational model. At the time, a group of American educators conducted a thorough study of essential and higher education in the United States, which showed that students were learning more and more in the classroom, acquiring more and more information. However, their ability to think through real-world problems was significantly lower than in other industrialised countries and was continuing to weaken. One scholar has given a very graphic analogy of this state of affairs: if we compare the workings of modern society to the dumb camera, our education does produce enough people who are skilled in operating the camera, but fewer of them can invent and improve it. Clearly, the latter ability is more important than the former, yet it is a declining proportion of the total American population. Scholars have argued that one of the fundamental reasons for the severe decline in the proportion of this population, a vital indicator of a nation's overall power, is the deficiencies of American education, including higher education. Against this backdrop, a critical thinking movement began in the United States, and its influence soon spread across North America and Europe.

The critical thinking movement had at least three immediate consequences: first, it led to the birth of non-formal logic. Non-formal logic is a branch whose task is to tell the story of non-formal criteria, scales and procedures for analysing, explaining, evaluating, criticising and arguing constructs in everyday life. Secondly, the emergence of an introductory course in higher education that teaches students "how to think", i.e. a course in critical thinking, the main objective of which is to train students to think critically. Thirdly, there are new competency-based exams such as the GRE, GMAT, LSAT, MBA, MPA, etc. These exams differ from previous knowledge-based exams, and the main objective is to assess the candidate's critical thinking skills.

In the United States, the rise and development of critical thinking education and the strategic development of undergraduate general education are synchronised; the current U.S. colleges and universities offer this course, and many prestigious foreign schools have this course as mandatory for all undergraduate students. In 2003, Logic and Critical Thinking were first offered as a general elective course at Peking University, and in 2004 it was incorporated into the summer school

curriculum and began to be taught twice a year. In 2004, the course was incorporated into the summer school curriculum and began to be taught twice a year to first-year undergraduates in the Yuanpei Programme and first-year undergraduates in other faculties. In the 2011 work highlights of the Department of Higher Education of the Ministry of Education, it is proposed that the course "Critical Thinking" be promoted nationwide to improve university students' creative thinking ability. The course will be held once a year at the National Seminar on Critical thinking.

#### 5. Course objectives.

The American Council on Education survey states that "the most important purpose of undergraduate education is to develop in students the ability to think critically: to evaluate the quality of evidence skillfully and fairly and to detect errors, falsehoods, falsifications, and biases. .... This is central to individual success and the needs of the nation. importance." Thus, in the United States, critical thinking skills are a significant measure of success in undergraduate education and a primary goal of graduate entry testing. China has borrowed and promoted the form of foreign comprehensive ability exams. An MBA, MPA, MPAcc, GCT, and various types and levels of civil service recruitment exams, large central enterprises and famous multinational companies recruiting executives the exam, critical thinking skills become an essential examination target to test thinking skills and comprehensive quality. Specifically, the significance of offering courses in logic and critical thinking is.

- 1) It helps to free oneself from sensory thinking and develop and possess critical thinking attitudes, thinking skills and qualities.
- 2) contribute to the critical learning of relevant subjects
- 3) contribute to becoming more autonomous thoughtful citizens and responsible individuals
- 4) contribute to improved decision-making
- 5) contribute to a better understanding of the world

#### 6. Course offerings are based on the following ideas.

- 1) Highlighting the pedagogical weight of thinking training: a large number of cases from critical thinking courses are introduced, aiming to integrate the teaching of logic with practical thinking training closely.
- 2) Improving the effectiveness of thinking training: the key lies in the extent to which it can stimulate students' interest in learning, independent thinking and thinking potential, so cases with a particular social impact and timeliness will be chosen so that they will be happy to receive classroom thinking training and take the initiative to carry out practical thinking training outside of class.
- 3) Assessment: A comprehensive assignment will be handed in at the end of the term, requiring a list of logical errors found in the usual reading and logical analysis, seeking to expand the teaching space,



extend the teaching of logic and critical thinking from the classroom to outside the classroom, and stimulate students' independent thinking and thinking potential.

# China Agricultural University

1. University name: China Agricultural University

2. Web link: [http://jwc.cau.edu.cn/art/2021/8/23/art\\_41951\\_777782.html](http://jwc.cau.edu.cn/art/2021/8/23/art_41951_777782.html)

3. Course Teacher: Liu Wei

4. Course description.

Critical thinking is reflective and rational thinking, and innovation requires the courage to question.

This course teaches students to use various thinking skills to question, analyze and evaluate, to ask questions, analyze problems and solve them based on questioning, to enhance their creative ability.

Critical thinking is the core ability of rationality and creativity; critical thinking education is necessary to cultivate leading talents and help students establish a correct worldview, outlook on life and values.

5. Course syllabus.

1. why critical thinking is so important

2. learning to ask questions

3. argumentation

4. thinking clearly and concretely

5. Thinking with truth and accuracy

6. relevant and sufficient thinking

7. deep thinking - implicit assumptions