

# CRITICAL THINKING

**26.SEP-26.OCT.2023**

## SAP OVERVIEW

Decision-making impacts our lives, requiring rationality and evidence-based choices.

This SAP will introduce you to Critical thinking, the skill of analysing facts objectively to form judgments, essential in the labour market for problem-solving, communication, and creativity.

## LEARNING OUTCOMES

At the end of this RUN-EU SAP, you will be able to:

- Self-Reflection: reflect on one's thinking, assumptions, and biases, recognising areas of strength and weakness and continuously improving one's critical thinking skills.
- Evaluating Arguments: assess the strengths and weaknesses of different arguments, identifying flaws and inconsistencies, and determining the most persuasive and reasonable conclusions.
- Communication: articulate and express ideas and arguments clearly and persuasively, both orally and in writing, using appropriate evidence and reasoning.
- Problem-Solving: identify, analyse, and solve complex problems by breaking them down into smaller, more manageable components and applying critical thinking skills to develop innovative and effective solutions.
- Creative Thinking: generate new and original ideas by combining existing knowledge and insights, thinking outside the box, and challenging assumptions.
- Decision-Making: apply critical thinking skills to make well-informed decisions by evaluating available options, considering potential consequences, and selecting the most appropriate course of action based on sound reasoning and evidence.

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Organised by: Polytechnic of Leiria  
NHL Stenden, TUS

**DATE** From **26 September to 26 October 2023**

Face-to-Face Week: Polytechnic of Leiria, Portugal  
16-20 October

**MODE OF DELIVERY** Blended

**LANGUAGE OF INSTRUCTION** English

**ECTS CREDITS** 3

## ACADEMIC RECOGNITION

To be defined by each home higher education institution. Generally, most students will have this SAP certified in their diploma supplement, as a minimal condition.

## ELIGIBLE PARTICIPANTS

RUN-EU students from any study cycle.

## HOW TO APPLY

Fill in the application form (**QR or website**)



## DEADLINE FOR APPLICATIONS

**8 July 2023**

## CONTACT DETAILS

[filipe.santos@ipleiria.pt](mailto:filipe.santos@ipleiria.pt)

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## SELECTION CRITERIA

Maximum number of students to be selected: 35  
Extensive motivation (why would you like to take the course, how will you apply the course, what will you bring as a student).  
Wide representation of fields of study.  
Balanced participation of RUN-EU member institutions.

## LEARNING AND TEACHING STRATEGY

Active learning, learner-centred teaching, collaborative methods.  
Problem solving tasks, discussions, project work, role play, presentations, peer teaching/learning.  
Live sessions (whole class/group work), independent (group/individual) work + mentor support, site visits in Portugal.

Platform: Teams

## COURSES LEADERS | LECTURERS

Filipe Santos (Polytechnic of Leiria)  
Paul Hartog (NHL Stenden)  
Geraldine Maughan (TUS)  
Marie Walsh (TUS)

## CERTIFICATION

The participants who successfully complete this RUN-EU SAP will receive a Certificate of Participation and a Transcript of Records jointly issued by the organising institutions.

## PHYSICAL MOBILITY | SCHOLARSHIPS AVAILABLE

The selected students will receive travel grants based on the travel distance and the subsistence costs in the country the SAP is offered in.

### Travel

IPCA – Polytechnic of Leiria: €40  
Austria – Portugal: €330  
Finland – Portugal: €470  
Hungary – Portugal: €380  
Ireland – Portugal: €270  
The Netherlands – Portugal: €330

### Subsistence

The subsistence grant for Portugal is €460

## MEANS AND CRITERIA FOR ASSESSMENT

A Portfolio, consisting of two assignments:

### Assignment 1 (Gibbs framework):

Reflective written paper (2 pages)  
To be presented in the final class of the presential week.  
To be made in groups (2 to 4 people, with a maximum number of 9 groups)  
This assignment is related to modules 1, 2, 5, and 6.  
Grading: 50%

### Assignment 2 (Decision-Making Models):

Written report (3-4 pages)  
To be discussed/defended in the last online class.  
To be made in groups (2 to 4 people, with a maximum number of 9 groups)  
This assignment is "related" to modules 3, 4, 7  
Grading: 50%

# CRITICAL THINKING

## PROGRAMME AT A GLANCE

### WEEK 1 - 26-29.SEPTEMBER.2023 - ONLINE

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	21h00	22h00	23h00	00h00	
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	20h00	21h00	22h00	23h00	
GMT	9h00	10h00	11h00	12h00	13h00	14h00	15h00	19h00	20h00	21h00	22h00	
<b>TUESDAY 26/9</b>												<b>ONLINE SESSION</b> INTRODUCTION TO CT INTRODUCTION TO MODULE 1
<b>WEDNESDAY 27/9</b>												<b>INDEPENDENT STUDY</b> DOCUMENT READING ACTIVITY 1
<b>THURSDAY 28/9</b>												<b>ONLINE SESSION</b> INTRODUCTION TO MODULE 2 INTRODUCTION TO MODULE 3
<b>FRIDAY 29/9</b>												<b>INDEPENDENT STUDY</b> DOCUMENT READING ACTIVITY 2

# CRITICAL THINKING

## PROGRAMME AT A GLANCE

### WEEK 2 - 3-6.OCTOBER.2023 - ONLINE

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	21h00	22h00	23h00	00h00	
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	20h00	21h00	22h00	23h00	
GMT	9h00	10h00	11h00	12h00	13h00	14h00	15h00	19h00	20h00	21h00	22h00	
<b>TUESDAY</b> 3/10												<b>ONLINE SESSION</b> INTRODUCTION TO MODULE 4 INTRODUCTION TO MODULE 5
<b>WEDNESDAY</b> 4/10												<b>INDEPENDENT STUDY</b> DOCUMENT READING ACTIVITY 3
<b>THURSDAY</b> 5/10												<b>ONLINE SESSION</b> INTRODUCTION TO MODULE 6 INTRODUCTION TO MODULE 7
<b>FRIDAY</b> 6/10												<b>INDEPENDENT STUDY</b> DOCUMENT READING ACTIVITY 4

# CRITICAL THINKING

## PROGRAMME AT A GLANCE

### WEEK 3 - 9-12.OCTOBER.2023 - ONLINE

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	21h00	22h00	23h00	00h00	
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	20h00	21h00	22h00	23h00	
GMT	9h00	10h00	11h00	12h00	13h00	14h00	15h00	19h00	20h00	21h00	22h00	
<b>MONDAY</b> 9/10												INDEPENDENT STUDY DOCUMENT READING
<b>TUESDAY</b> 10/10												INDEPENDENT STUDY DOCUMENT READING ACTIVITY 5
<b>WEDNESDAY</b> 11/10												ONLINE SESSION DOCUMENT READING ACTIVITY 6
<b>THURSDAY</b> 12/10												INDEPENDENT STUDY DOCUMENT READING ACTIVITY 7

# CRITICAL THINKING

## PROGRAMME AT A GLANCE

### WEEK 4 - 16-20.OCTOBER.2023 - FACE-TO-FACE WEEK - LEIRIA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
LOCAL TIME	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
<b>MONDAY</b> 16/10	WELCOMING	CRITICAL THINKING: SO WHAT? LECTURE	THE INFLUENCE OF MIND IN REASONING LECTURE	LUNCH BREAK	TEAM BUILDING ACTIVITIES	ASSIGNMENT 1 GROUP WORK					
<b>TUESDAY</b> 17/10		IS CREATIVITY THE ENEMY OF CRITICAL THINKING? LECTURE	THE ART OF PROBLEM SOLVING LECTURE	LUNCH BREAK	COMCEP WORKSHOP	ASSIGNMENT 1 GROUP WORK					
<b>WEDNESDAY</b> 18/10		IS CREATIVITY THE ENEMY OF CRITICAL THINKING? LECTURE	HOW TO BUILD A BULLET PROOF ARGUMENT? LECTURE	LUNCH BREAK	ASSIGNMENT 1 GROUP WORK						
<b>THURSDAY</b> 19/10		THINKING LIKE A SCIENTIST	MAKING THE RIGHT DECISION	LUNCH BREAK	CULTURAL SESSION	ASSIGNMENT 1 PRESENTATIONS					
<b>FRIDAY</b> 20/10		ASSIGNMENT 2 GROUP WORK	OVERALL QUALITY ASSESSMENT	LUNCH BREAK	ASSIGNMENT 2 GROUP WORK						

# CRITICAL THINKING

## PROGRAMME AT A GLANCE

WEEK 5 - 23-26.OCTOBER.2023 - ONLINE

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	21h00	22h00	23h00	00h00	
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	20h00	21h00	22h00	23h00	
GMT	9h00	10h00	11h00	12h00	13h00	14h00	15h00	19h00	20h00	21h00	22h00	
<b>MONDAY</b> 23/10												ASSIGNMENT 2 GROUP WORK
<b>TUESDAY</b> 24/10												ASSIGNMENT 2 GROUP WORK
<b>WEDNESDAY</b> 25/10												ASSIGNMENT 2 GROUP WORK
<b>THURSDAY</b> 26/10												ASSIGNMENT 2 PRESENTATIONS

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# CRITICAL THINKING

## WEEK 4

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16 OCTOBER

MONDAY 8h00-18h00 - LEIRIA

GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
LOCAL TIME	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
<b>MONDAY 16/10</b>	<b>WELCOMING</b>	<b>CRITICAL THINKING: SO WHAT? LECTURE</b>	<b>THE INFLUENCE OF MIND IN REASONING LECTURE</b>	<b>LUNCH BREAK</b>	<b>TEAM BUILDING ACTIVITIES</b>	<b>ASSIGNMENT 1 GROUP WORK</b>					

### Critical Thinking: So what?

- 🕒 9h00-11h00
- 📖 Lecture
- 👤 Geraldine Maughan (TUS)

📄 In this first strand, we will provide, an overview of critical thinking to disciplinary knowledge and practices or methods, the concept and definitions of critical thinking as well as the basics of critical thinking and how you can overcome your natural tendency to use your biases, prejudices, fallacies and preconceptions to lead you to the conclusion that you think you already know. We will examine how to become a critical thinker in 7 easy steps. We will achieve this by incorporating problem-based learning situated within case studies. This approach can craft a varied HE teaching environment incorporating both formal lectures and less formal discussion, where Learners can discover more about themselves and develop their reflexivity and critical thinking skills. The top 5 most critical thinking skills (Analysis, communication, open-mindedness, problem-solving and creativity will be addressed through formal lectures and discussion and the assessment.

### The Influence of Mind on Reasoning

- 🕒 11h00-13h00
- 📖 Lecture
- 👤 Paul Hartog (NHL Stenden)

📄 In this second strand, we will delve further into how learners can discover more about themselves and develop their reflexivity and critical thinking skills. In other words, criticality to oneself.



# CRITICAL THINKING

## WEEK 4

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17 OCTOBER

TUESDAY 9h00-18h00 · LEIRIA

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	21h00
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
LOCAL TIME	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
<b>TUESDAY 17/10</b>	<b>IS CREATIVITY THE ENEMY OF CRITICAL THINKING? LECTURE</b>		<b>THE ART OF PROBLEM SOLVING LECTURE</b>		<b>LUNCH BREAK</b>	<b>COMCEP WORKSHOP</b>		<b>ASSIGNMENT 1 GROUP WORK</b>			

### Is Creativity the Enemy of Critical Thinking?

🕒 9h00-11h00

📖 Lecture

👤 Marie Walsh (TUS)

📄 Creativity and Critical Thinking are often seen as opposites. A person may believe that one cannot even exist without the other e.g. you might think you are very creative but not a critical thinker and vice versa. The reality is that creativity is a core skill that must be developed to become an excellent critical thinker. Creativity is more than just coming up with the next bright idea. Creativity is about striving for originality – in thought, process or asset and about being brave enough to make it a reality! In this session, we will explore what creativity is, play with creative methods and take a closer look at the relationship between creativity and critical thinking.

### The Art of Problem Solving

🕒 11h00-12h00

📖 Lecture

👤 Marie Walsh (TUS)

📄 Regardless of what you are studying or what industry you work in, you will likely be expected to be a good problem solver. Yet how many of us have the luxury of time to think about how we solve a problem and better still, how we can improve our problem-solving ability? This session is your opportunity to reflect on and develop your problem-solving skills. We will examine how to define the problem, after all the presenting problem is not always what it seems. Next, we will explore ways to analyse and understand the problem further (exploring problem-solving steps and the PMOPS model). Ultimately, if we understand a problem from all angles then we are in a great position to choose the best solution.

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18 OCTOBER

WEDNESDAY 9h00-18h00 - LEIRIA

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	21h00	
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	
LOCAL TIME	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	
<b>WEDNESDAY 18/10</b>	<b>IS CREATIVITY THE ENEMY OF CRITICAL THINKING?</b> LECTURE		<b>HOW TO BUILD A BULLET PROOF ARGUMENT?</b> LECTURE		LUNCH BREAK	<b>ASSIGNMENT 1</b> GROUP WORK						

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### How to Build a Bullet Proof Argument

- 🕒 11h00-13h00
- 👤 Lecture
- 👤 Filipe Santos (Polytechnic of Leiria)

📄 In this strand, we will analyse the structure of reasoning (different patterns, assumptions, context) and present a general method for argument analysis. We will analyse the acceptability, credibility sufficiency, consistency and contradiction of reasons and their implicit premises. We will analyse the logic of argumentation, and its types (deduction, induction, supposition)

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## WEEK 4

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19 OCTOBER

THURSDAY 9h00-18h00 - LEIRIA

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	21h00
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
LOCAL TIME	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
<b>THURSDAY 19/10</b>	THINKING LIKE A SCIENTIST		MAKING THE RIGHT DECISION		LUNCH BREAK	CULTURAL SESSION		ASSIGNMENT 1 PRESENTATIONS			

### Thinking Like a Scientist

- 🕒 9h30-13h00
- 📄 Lecture
- 👤 Filipe Santos (Polytechnic of Leiria)

📄 In this strand, we will understand the specific characteristics of scientific reasoning. We will see the role of the hypothesis, the data collection methods, and the construction of models and theories. These will be a guide to distinguish science from 'marginal science' or 'pseudo-science'. Several historical examples will be analysed, such as geo- and helio-centric models, Darwinism, Freudian psychology, astrology, and extrasensory perception. Tools and methods such as Popper's 'falsifiability' and "the burden of proof" will be presented.

### Making the Right Decision

- 🕒 11h00-13h00
- 📄 Lecture
- 👤 Filipe Santos (Polytechnic of Leiria)

📄 In this strand, we will explore how critical thinking as competence can help us in every aspect of our lives that involve decision-making. The psychology of decision will be addressed and models of decision-making will be presented. The aspect of 'Risk' and uncertainty in a decision will be addressed. Theories (like the Utility Theory) will be studied. Finally, some tools for decision support (SWOT analysis, Decision Matrix,...) will be explored.

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## WEEK 4

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20 OCTOBER

FRIDAY 9h30-18h00 - LEIRIA

GMT+2	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	21h00
GMT+1	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
LOCAL TIME	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00
<b>FRIDAY 27/10</b>	ASSIGNMENT 2 GROUP WORK		OVERALL QUALITY ASSESSMENT	LUNCH BREAK	ASSIGNMENT 2 GROUP WORK						

### Overall Quality Assessment

🕒 12h00-13h00

👥 Team Work, Coaching

👤 All Teachers

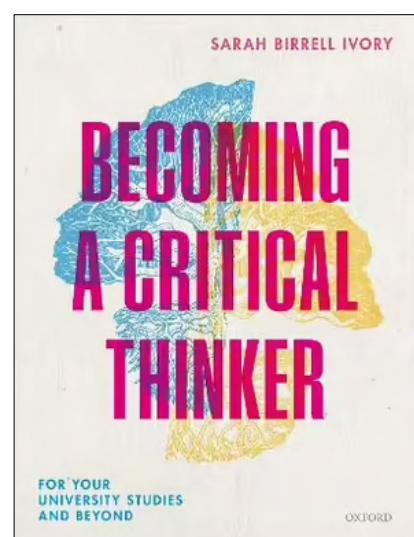
- 📄 • Group Learning Reflection (all)
- Individual Learning Reflection Report  
+ Mobility Assessment (students)
- SAP Self-reflection Report (SAP coordinators)
- LearnWell questionnaire
- Feedback session

# CRITICAL THINKING

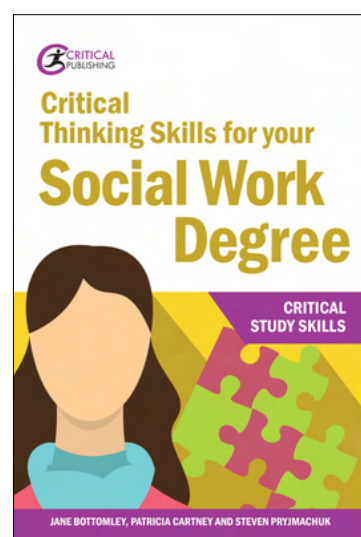
26.SEP-26.OCT.2023

## REFERENCE READING

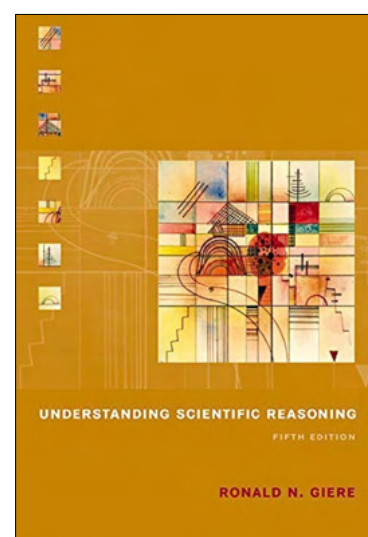
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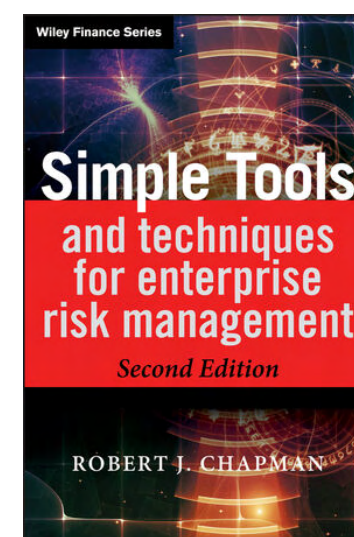
Ivory, S. B. (2021). **Becoming a Critical Thinker: For your university studies and beyond.** Oxford University Press



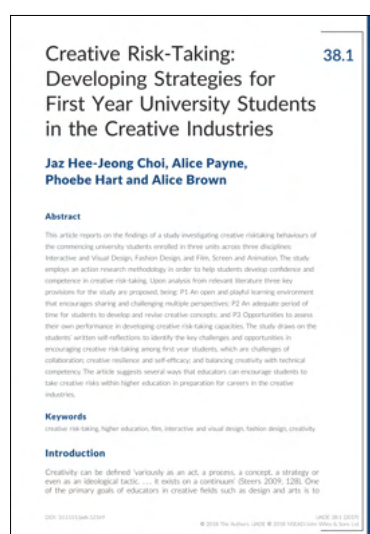
Bottomley, J., Cartney, P., Prymachuk, S. (2019) **Critical Thinking Skills for your Social Work Degree.** Critical Publishing



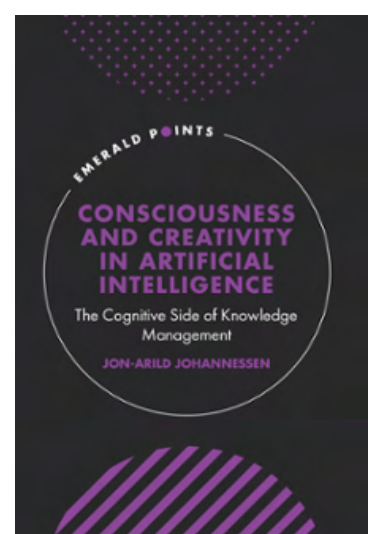
Giere, R.N., Bickle, J., Mauldin, R.F. (2006). **Understanding Scientific Reasoning (5th ed.).** Wadsworth CENGAGE Learning



Chapment, R.J. (2006). **Simple Tools and Techniques for Enterprise Risk Management.** Wiley Finance



Choi, J.H, Payne, A., Hart, P & Brown, A. (2019). **Creative Risk-Taking: Developing Strategies for First Year University Students in the Creative Industries.** The International Journal of Art & Design Education (iJADE). 38(1). pp 73-89.



Johannessen, J.-A. (2023). **Appendix 1: Strategies, Methods and Techniques for Thinking Creatively. Consciousness and Creativity in Artificial Intelligence.** Emerald Publishing Limited, Bingley, pp. 89-117.