

Lovely Professional University, Punjab

Course Code	Course Title	Lectures	Tutorials	Practicals	Credits	
CSK103	CRITICAL THINKING 101	2	2	0	4	
Course Weightage	ATT: 5 CA: 95					

Course Outcomes :Through this course students should be able to

CO1 :: analyze an enhanced ability contexts when presenting a position on an issue or problem

CO2 :: examine structured reasoning and support for an argument

CO3 :: learn and deliver human centric products

CO4 :: measure things clearly, independently and logically

	TextBooks (T)		
Sr No	Title	Author	Publisher Name
T-1	CRITICAL THINKING SKILLS FOR DUMMIES	MARTIN COHEN	WILEY

	Reference Books (R)		
Sr No	Title	Author	Publisher Name
R-1	DESIGN THINKING FOR DUMMIES	CHRISTIAN MULLER-ROTERBERG	WILEY

Relevant Websites (RW)		
Sr No	(Web address) (only if relevant to the course)	Salient Features
RW-1	https://www.coursera.org/learn/mindware	A course on Critical Thinking for the Information Age by Prof Richard Nisbett
RW-2	https://courses.edx.org/courses/course-v1:RITx+SKILLS103x+2T2018/dd23dcf231aa48cfaf4ae432642d88d2/	Detailed content about critical thinking
RW-3	https://learn.saylor.org/course/view.php?id=410&sectionid=12796	Evaluate ideas and evidence rationally to produce and implement solutions.

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7
Weeks After MTE	7

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Detailed Plan For Lectures

Week Number	Lecture Number	Broad Topic(Sub Topic)	Chapters/Sections of Text/reference books	Other Readings, Relevant Websites, Audio Visual Aids, software and Virtual Labs	Lecture Description	Learning Outcomes	Pedagogical Tool Demonstration/ Case Study / Images / animation / ppt etc. Planned	Live Examples
Week 1	Lecture 1	Problem solving and strategic thinking(Complex systems)	T-1 R-1	RW-1 RW-2	The lectures discusses about Creativity's Role in Critical Thinking and Problem Solving	Candidates should be able to: • Extract the information that is relevant to the problem to be solved • Extract data from related data sets that can be combined in the solution of a problem	Discussion and one to one interaction	
		Problem solving and strategic thinking(Complex systems)	T-1 R-1	RW-1 RW-2	The lectures discusses about Creativity's Role in Critical Thinking and Problem Solving	Candidates should be able to: • Extract the information that is relevant to the problem to be solved • Extract data from related data sets that can be combined in the solution of a problem	Discussion and one to one interaction	
	Lecture 2	Problem solving and strategic thinking(Charts and diagrams)	T-1 R-1	RW-1 RW-2	Understand information in the various forms in which it is presented	Candidates should be able to: • Understand information presented as text, tables and diagrams	Discussion and one to one interaction	

Week 2	Lecture 3	Problem solving and strategic thinking(Sort and organize findings and data)	T-1 R-1	RW-1 RW-3	Understand the logical relationships between pieces of information	Candidates should be able to: • Understand descriptions of simple models • Identify necessary and sufficient conditions • Given a summary of some processed data, deduce some information about the original data	Discussion and one to one interaction	
		Problem solving and strategic thinking(Making good decision)	T-1 R-1	RW-1 RW-2	Understand the logical relationships between pieces of information	Candidates should be able to: • Understand descriptions of simple models • Identify necessary and sufficient conditions • Given a summary of some processed data, deduce some information about the original data	Discussion and one to one interaction	
	Lecture 4	Problem solving and strategic thinking(Analyse the success and failure of different solutions)	T-1 R-1	RW-1	The lecture will provide detailed Analyse the success and failure of different solutions	Candidates should be able to understand: How is success and failure measured in life along with what are the considerations on which the two terms are based?	Discussion and peer learning.	
Week 3	Lecture 5	Creative thinking(Three basic principles of creative thinking)	T-1	RW-1 RW-3	The lecture will provide and understanding of several types of problems and explain how to understand and problem-solve for each; use visualization tools to analyze problems; explain the principles of creative thinking and their implications Explain the principles of creative thinking and their implications	Candidates should be able to: • Assess credibility of evidence – Reliability – Plausibility – Corroboration and consistency	Discussion and peer learning.	

Week 3	Lecture 5	Creative thinking (Introduction to Creative thinking)	T-1	RW-1 RW-3	The lecture will provide and understanding of several types of problems and explain how to understand and problem-solve for each; use visualization tools to analyze problems; explain the principles of creative thinking and their implications Explain the principles of creative thinking and their implications	Candidates should be able to: • Assess credibility of evidence – Reliability – Plausibility – Corroboration and consistency	Discussion and peer learning.	
	Lecture 6				Test 1			
Week 4	Lecture 7	Creative thinking(Creativity cycle)	T-1	RW-1	Various methods for approaching problems creatively as a means to think creatively about real-world problems.	Candidates should be able to: provides a set of stages for developing a solution to a problem or coming up with a creative outcome.	Discussion and one to one interaction	
	Lecture 8	Creative thinking(Group creativity)	T-1 R-1	RW-1 RW-3	The lectures discusses about Creative Heuristics and Group Creativity	Upon successful completion of this lecture Candidates should be able to: illustrate several types of problems and explain how to understand and problem-solve for each	Discussion and one to one	
Week 5	Lecture 9	Identifying biases (Introduction: What is cognitive bias)	T-1 R-1	RW-1 RW-2 RW-3	The lectures will provide information regarding Cognitive biases and their importance for critical thinking. Along with this different types of cognitive bias	Upon completion of these lectures, students will be able to: Assess the internal and external environmental factors surrounding problems and opportunities. Document a wide range of potential responses to a problem or opportunity.	Live class with role plays, activities and examples	

Week 5	Lecture 10	Identifying biases(Cognitive biases and their importance for critical thinking)	T-1 R-1	RW-1	The lectures will provide information regarding Cognitive biases and their importance for critical thinking. Along with this different types of cognitive bias	Upon completion of these lectures, students will be able to: Assess the internal and external environmental factors surrounding problems and opportunities. Document a wide range of potential responses to a problem or opportunity.	peer to peer interactions	
		Identifying biases(Types: Confirmation Bias - Logical fallacy - Elimination by aspects - IKEA effect - Pattern seeking- Anchoring Effect - Hindsight bias)	T-1 R-1	RW-1	The lectures will provide information regarding Cognitive biases and their importance for critical thinking. Along with this different types of cognitive bias	Upon completion of these lectures, students will be able to: Assess the internal and external environmental factors surrounding problems and opportunities. Document a wide range of potential responses to a problem or opportunity.	peer to peer interactions	
Week 6	Lecture 11	Identifying biases(Cognitive biases and their importance for critical thinking)	T-1 R-1	RW-1	The lectures will provide information regarding Cognitive biases and their importance for critical thinking. Along with this different types of cognitive bias	Upon completion of these lectures, students will be able to: Assess the internal and external environmental factors surrounding problems and opportunities. Document a wide range of potential responses to a problem or opportunity.	peer to peer interactions	

Week 6	Lecture 11	Identifying biases(Types: Confirmation Bias - Logical fallacy - Elimination by aspects - IKEA effect - Pattern seeking- Anchoring Effect - Hindsight bias)	T-1 R-1	RW-1	The lectures will provide information regarding Cognitive biases and their importance for critical thinking. Along with this different types of cognitive bias	Upon completion of these lectures, students will be able to: Assess the internal and external environmental factors surrounding problems and opportunities. Document a wide range of potential responses to a problem or opportunity.	peer to peer interactions	
	Lecture 12				Test 2			
Week 7	Lecture 13	Identifying biases(Debiasing strategies)	T-1 R-1	RW-1 RW-2 RW-3	The lecture will give idea of different Cognitive Debiasing Strategies	Upon completion of this lecture, students will be able to: Evaluate potential responses to a problem or opportunity to determine the best response.	peer to peer discussion	
SPILL OVER								
Week 7	Lecture 14				Spill Over			
MID-TERM								
Week 8	Lecture 15	Arguments and informal logics(How to analyse arguments - Deep analysis)	T-1 R-1	RW-1 RW-3	The lecture will give idea of: IDENTIFYING AND ANALYZING ARGUMENTS	The students will be able to demonstrate critical thinking skills, analytical abilities, and the clarity with which you present your ideas.	peer to peer discussion	
		Arguments and informal logics(Evaluate arguments - Deductive standards - Inductive standards)	T-1 R-1	RW-1	The lecture will give idea of: IDENTIFYING AND ANALYZING ARGUMENTS	The students will be able to demonstrate critical thinking skills, analytical abilities, and the clarity with which you present your ideas.	peer to peer discussion	

Week 8	Lecture 16	Arguments and informal logics(How to analyse arguments - Deep analysis)	T-1 R-1	RW-1 RW-3	The lecture will give idea of: IDENTIFYING AND ANALYZING ARGUMENTS	The students will be able to demonstrate critical thinking skills, analytical abilities, and the clarity with which you present your ideas.	peer to peer discussion	
		Arguments and informal logics(Evaluate arguments - Deductive standards - Inductive standards)	T-1 R-1	RW-1	The lecture will give idea of: IDENTIFYING AND ANALYZING ARGUMENTS	The students will be able to demonstrate critical thinking skills, analytical abilities, and the clarity with which you present your ideas.	peer to peer discussion	
Week 9	Lecture 17	Arguments and informal logics(Logical fallacies and areas of argumentation)	T-1 R-1	RW-1 RW-2	Introduction to various different Logical Fallacy	The lecture address the acquisition or formulation of a plan of activity or the execution of that plan.	Discussion and peer learning.	
	Lecture 18				Test 3			
Week 10	Lecture 19	Critical thinking for workplace(Approaching a problem: Analysis - Interpretation - Inference - Evaluation - Explanation - Self regulation - Open Mindedness - Problem solving)	T-1 R-1	RW-1	The lecture consists of 12 different Approaches To Problem-Solving for Every Situation	The students will understand: How to work through obstacles collaboratively and How to analyze failure to improve future performance	Discussion and one to one learning	
	Lecture 20	Critical thinking for workplace(Approaching a problem: Analysis - Interpretation - Inference - Evaluation - Explanation - Self regulation - Open Mindedness - Problem solving)	T-1 R-1	RW-1	The lecture consists of 12 different Approaches To Problem-Solving for Every Situation	The students will understand: How to work through obstacles collaboratively and How to analyze failure to improve future performance	Discussion and one to one learning	
Week 11	Lecture 21	Critical thinking for workplace(Workplace wellness: Empathy - Productivity - Goal setting - Task Pipeline - Meeting the deadline)	T-1 R-1	RW-1 RW-2	The student will learn about the time Management and Goal Setting for Work-Life Balance	The students will learn to Apply the Problem/Opportunity Response Process to address a problem or opportunity in your work environment.	Discussion and one to one learning	

Week 11	Lecture 22	Critical thinking for workplace(Workplace wellness: Empathy - Productivity - Goal setting - Task Pipeline - Meeting the deadline)	T-1 R-1	RW-1 RW-2	The student will learn about the time Management and Goal Setting for Work-Life Balance	The students will learn to Apply the Problem/Opportunity Response Process to address a problem or opportunity in your work environment.	Discussion and one to one learning	
Week 12	Lecture 23	Understanding requirements (Client facing: Introduction, Identifying customer needs, Product specification)	T-1 R-1	RW-1 RW-2 RW-3	The student will learn about quality attributes such as security, high availability, scalability, performance, and reliability. User interface Integration	The students will learn how to identify key stakeholders and ensure their needs are met	Live class with role plays, activities and examples	
	Lecture 24				Presentation - Individual 1			
Week 13	Lecture 25	Understanding requirements (Framework: Applied creativity, prototyping, architecture, financial analysis, design for environment, product development processes)	T-1	RW-1	The student will learn Applied creativity, prototyping, architecture, financial analysis, design for environment, product development processes.	The students will learn how to identify key stakeholders and ensure their needs are met	Discussion and one to one learning	
	Lecture 26	Understanding requirements (Framework: Applied creativity, prototyping, architecture, financial analysis, design for environment, product development processes)	T-1	RW-1	The student will learn Applied creativity, prototyping, architecture, financial analysis, design for environment, product development processes.	The students will learn how to identify key stakeholders and ensure their needs are met	Discussion and one to one learning	
Week 14	Lecture 27				Presentation - Individual 2			
SPILL OVER								
Week 14	Lecture 28				Spill Over			
Week 15	Lecture 29				Spill Over			
	Lecture 30				Spill Over			

Scheme for CA:

CA Category of this Course Code is:A0505 (5 out of 5)

Component	Weightage (%)	Mapped CO(s)
Test 1	20	CO1
Presentation - Individual 1	20	CO3
Presentation - Individual 2	20	CO4
Test 2	20	CO1
Test 3	20	CO2

Details of Academic Task(s)

Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Test 1	To test students on the preliminary concepts of Critical Thinking	Students are provided with a few practical questions that test their understanding of concepts	Individual	Offline	30	3 / 3
Test 2	To test students on their ability to react to specific cases	Students are provided with cases and they write their ideal ways of reacting to them - by avoiding Critical Thinking errors	Individual	Offline	30	6 / 6
Test 3	To test students on their ability to react to specific cases	Students are provided with cases and they write their ideal ways of reacting to them - by avoiding Critical Thinking errors	Individual	Offline	30	9 / 9
Presentation - Individual 1	To test students on their ability to present solutions to real time cases	Students are provided with real time cases and they present their solutions to them by applying the concepts of Critical Thinking	Individual	Offline	30	12 / 12
Presentation - Individual 2	To test students on their ability to present solutions to real time cases	Students are provided with real time cases and they present their solutions to them by applying the concepts of Critical Thinking	Individual	Offline	30	14 / 14

Plan for Tutorial: (Please do not use these time slots for syllabus coverage)

Tutorial No.	Lecture Topic	Type of pedagogical tool(s) planned (case analysis,problem solving test,role play,business game etc)
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Tutorial1	System 1 and 2 thinking	Case Analysis,Problem Solving
Tutorial2	Attention and effort	Case Analysis,Problem Solving
Tutorial3	Associative Thinking	Problem Solving
Tutorial4	Cognitive Ease	Problem Solving
Tutorial5	Norms, Surprises and Causes	Case Analysis,Problem Solving,Role Playing
Tutorial6	Jumping to Conclusions	Problem Solving
Tutorial7	How Judgements Happen	Case Analysis,Problem Solving,Test
Tutorial8	Answering Questions	Business Game
Tutorial9	The law of small numbers	Case Analysis,Problem Solving,Role Playing
Tutorial10	Anchors	Role Playing,Business Game
Tutorial11	The science of availability, emotions and risks	Case Analysis,Problem Solving
Tutorial12	Less is more	Case Analysis,Business Game
Tutorial13	Causes vs statistics	Problem Solving,Role Playing
Tutorial14	Regression to the mean	Case Analysis
After Mid-Term		
Tutorial15	Taming Intuitive Predictions	Test,Business Game
Tutorial16	The illusions of Understanding and Validity	Problem Solving
Tutorial17	Intuition vs Formula	Problem Solving,Role Playing
Tutorial18	Expert Intuition and when to trust it + The Outside View	Case Analysis,Test
Tutorial19	Bernoulli's Errors, Prospect Theory and the Endowment Effect, Bad Events, The Fourfold Pattern, Rare Events	Test,Business Game
Tutorial20	Risk Policies, Keeping Score, Reversals, Frames and Reality	Test,Role Playing,Business Game
Tutorial21	Real-time case studies on Critical Thinking	Case Analysis
Tutorial22	Real-time case studies on Critical Thinking	Case Analysis
Tutorial23	Real-time case studies on Critical Thinking	Case Analysis
Tutorial24	Real-time case studies on Critical Thinking	Case Analysis
Tutorial25	Real-time case studies on Critical Thinking	Case Analysis
Tutorial26	Real-time case studies on Critical Thinking	Case Analysis
Tutorial27	Real-time case studies on Critical Thinking	Case Analysis
Tutorial28	Real-time case studies on Critical Thinking	Case Analysis

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