

Critical Thinking and Decision Making

COURSE SYLLABUS/SCHEDULE

Notes

- Items below preceded by a star (★) are graded.
- All activities are due at the end of the course.

GET STARTED (30 MINS)

| | Content/Activity | Estimated Time |
|---|---|----------------|
| <i>This week you'll take a Pre-Assessment to get a baseline of your understanding of the course material. During this period, you'll become familiar with the platform and course design.</i> | Welcome to the Course | 5 min |
| | Entrance Survey | 3 min |
| | ★ Pre-Assessment | 10 min |
| | Getting Started: | |
| | Syllabus | 5 min |
| | Discussion Forum: Introduce Yourself | 5 min |
| | Course Team | 5 min |
| | Software Requirements and Accessibility | 5 min |

WEEK 1: INTRODUCTION TO CRITICAL THINKING (3 HRS)

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| <i>In week one, you will be introduced to critical thinking and meta-cognition. Thinking about your thinking is critical to understanding problems and how you solve them. You will analyze alternative solutions critically and be able to identify types of evidence for or against alternative solutions.</i> | Defining Critical Thinking | 30 min |
| | Deductive Reasoning and Fallacies | 30 min |
| | Deductive Thinking and Meta- Thinking | 30 min |
| | ★ Week 1 Graded Activity: Peer Review | 50 min |
| | ★ Submit Your Response | 20min |
| | ★ Review the Work from Three Peers | 10 min |
| | Week 1 Discussion | 10 min |

WEEK 2: CRITICAL THINKING IN CONTEXT (3 HOURS)

In week two, you will be introduced to information literacy and research techniques to forming conclusions. You will also learn about a case study around Toyota and see real-world applications to diagramming an argument. This will allow you to assess the strength of evidence and relate evidence to different social and technical factors.

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| Diagramming an Argument | 30 min |
| Premises and Counterpoints | 30 min |
| Bayes's Law | 30 min |
| ★ Week 2 Scenario: Apply and Discuss | 60 min |
| Week 2 Discussion | 20 min |

WEEK 3: STRUCTURED DECISION PROCESSES (3 HOURS 20 MIN)

In week three, you will be introduced to group decision making processes. These are structured processes that focus on convergence and gathering information. These utilize the Pugh Matrix and the Evaluation Matrix. You will also hear about how MIT's D-Lab applies these matrixes into their research to develop and advance collaborative approaches and practical solutions to global poverty challenges.

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|---------------------------------------|--------|
| Group Decision Making | 30 min |
| Convergence | 30 min |
| Gathering Information | 30 min |
| Leading Teams Summary | 30 min |
| ★ Week 3 Scenario: Apply | 50 min |
| ★ Week 3 Graded Activity: Peer Review | 20 min |
| ★ Submit Your Response | |
| ★ Review the Work from Three Peers | |

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|-------------------|--------|
| ★ Post-Assessment | 10 min |
| EXIT SURVEY | 10 min |