

# Critical Thinking for Software Engineers

GoSkills online course syllabus

**Skill level**

Beginner

**Lessons**

16

**Pre-requisites**

No prior experience needed

**Video duration**

39m

**Estimated study time**

39m 18s

**Instructor**

Wade Armstrong

## Introduction

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- 1** **Become a problem solving software engineer**  
Critical thinking and problem solving are essential skills for software engineers.

## Applying Critical Thinking as a Software Engineer

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- 2** **Assess different arguments**  
Evaluating different perspectives and arguments is crucial in software development.
- 3** **Identify logical fallacies**  
Recognizing logical fallacies helps prevent erroneous conclusions in software development.
- 4** **Identify and question assumptions**  
Questioning underlying assumptions in software projects leads to better solutions.
- 5** **Recognize cognitive biases**  
Cognitive biases can skew decision-making processes.
- 6** **Apply critical analysis**  
Applying critical analysis techniques is key to deep understanding of complex issues.

## Use Advanced Analytical Skills in Software Projects

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- 7** **Analyze problem statements**  
Accurate analysis of problem statements is fundamental to effective software engineering.

**8** **Develop decision-making frameworks**  
Creating robust decision-making frameworks aids in consistent and effective problem-solving.

**9** **Evaluate software solutions**  
Comparing and evaluating different solutions is a key skill in software development.

**10** **Utilize systems thinking**  
Systems thinking allows for a holistic view of software projects.

## Leading Critical Discussions as a Software Engineer

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**11** **Communicate with stakeholders**  
Your key stakeholders have different needs and perspectives on this project than you do.

**12** **Facilitate productive debates**  
Facilitating debates effectively can lead to breakthroughs in projects.

**13** **Encourage critical feedback**  
Constructive feedback is vital for continuous improvement.

**14** **Promote intellectual humility**  
Promoting intellectual humility prevents conflicts and fosters collaboration.

**15** **Implement Agile reflective practices**  
Implementing reflective practices is core to the Agile mindset, because it helps in personal and team growth.

## Conclusion

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**16** **Leverage critical thinking**  
Thanks for watching!