

Critical Thinking and Problem Solving Online Learning Certificate Program Course List

This program was developed by the NYS & CSEA Partnership for Education and Training for CSEA-represented NYS employees. Participants are required to complete all eight of the following courses and achieve a passing grade of 70% or higher in each course.

1. Critical Thinking: Challenging Assumptions (0.4 Hours)

Every day, we make hundreds of assumptions based on facts, observations, and experiences. Some are useful time savers, but some are based on a weak premise or poor data and can lead to jumping to a conclusion without asking questions or listening to other people's input. When a decision is based on assumptions and prejudices, it mitigates the opportunity for innovation and creativity. Examining your assumptions requires small changes, but the payoff is significant. In this course, you'll learn how assumptions manifest and what power they have on decision-making and innovation. You'll learn practices to redirect automatic assumption-based thinking into critical thinking as well as questioning techniques to identify assumptions so you can mitigate their impact. You'll also learn techniques to help you investigate assumptions thoroughly and how to systematically test them, which will give you the best chance of making the best decisions.

2. Critical Thinking: Investigating Arguments (0.4 Hours)

Every day, people put forth their ideas or points of view. After all, at the heart of every great change, lies a great argument someone has used to influence others. The basis of an argument is expressing a point of view and supporting it with enough evidence to persuade someone to accept a conclusion. How can you determine what's a fact, what's an opinion, and how to get to the truth of the matter? Part of critical thinking is identifying, constructing, and evaluating arguments, because only then will you be able to reach logical conclusions and solve problems. In this course, you'll learn how to use arguments in the right situations and explore what makes up an effective argument. You'll also learn to recognize the common types of logical fallacies that can derail an argument, and how to employ reasoning skills against arguments that use tactics of manipulation.

3. Developing Your Critical Thinking and Cognitive Flexibility (0.8 Hours)

It often seems like the whole world is on information overload. Each day, we encounter massive amounts of new false, or dubious information, alongside a steady stream of data that may, or may not, be relevant to our needs. As a leader, your critical

thinking skills are essential for deciding what is important and making the best decisions for your organization.

This course will help you improve your critical thinking skills. You'll learn about the intake, investigative, and act stages of critical thinking, as well as how to use analytical techniques to assess information. Finally, you'll learn the advantages of keeping an open mind through cognitive flexibility.

4. Critical Thinking: Drawing Sound Conclusions (0.4 Hours)

Humans excel at coming to quick judgments based on mental shortcuts. People like definite answers and an end to uncertainty, so sometimes they jump to conclusions based on minimal information and are driven by past experiences, social norms, rules of thumb, or emotions. People are jumping-to-conclusions experts. And while that can work in some situations, such as when automatically driving the best route to work every day, you can't fix complex problems with fast decision-making or insufficient information. In this course, you'll learn how to gather and assess the evidence you need to reach a sound conclusion, and what visual tools can help you understand the evidence more clearly. You'll also learn to use lines of questioning to consider the impact and validity of your evidence and techniques to arrive at, evaluate, and implement the logical conclusions you come to.

5. Outwitting Your Cognitive Bias (0.3 Hours)

To make the best business decisions, you need to confront – and overcome – your cognitive biases. In this course, you will learn techniques for identifying cognitive bias, as well as strategies for overcoming specific biases.

6. Problem Solving: Defining and Stating the Problem (0.3 Hours)

For most business professionals, solving problems is a major part of their jobs. But what are often seen as problems are really symptoms of deeper challenges. Treating these symptoms may provide temporary relief, but the deeper issues remain. By investigating the scope of problems and addressing their root causes, you can work toward ultimately finding solutions for sustained success. In this course, you will explore the process of uncovering the roots of business problems, starting with gathering all of the pertinent information necessary to understand the scope of a problem and its effects. You will also learn about the value of root cause analysis and some of the common, popular tools for performing one. Finally, you'll learn how to prepare a problem statement that clearly defines the problem and lays the foundation for finding solutions that address its roots.

7. Problem Solving: Generating Solutions (0.3 Hours)

When faced with business challenges, defining the problem is an important step, but it's only the first in a series of steps. Now comes the hard part: finding ways to solve the problem. Generating multiple solutions allows you to open up your thinking and reexamine your opportunities and possibilities. Studies have found that when decision makers considered two or more possible solutions, the average failure rate of an implemented solution dropped from 50% to 30%. Generating alternative solutions sets the stage for creativity, innovation, and success. It allows your company to pursue

not just a good solution, but the best solution. In this course, you will explore the process of generating alternative solutions to business problems. You'll look at the types of information you need to gather before you can begin, ways to brainstorm creatively and productively, and how to use the ideas that come from it to fashion and solidify actionable solutions. Finally, you'll learn to identify potential pitfalls to generating solutions and how to mitigate or avoid them.

8. Problem Solving: Choosing and Implementing the Right Solution (0.3 Hours)

Almost any business problem can have more than one solution, but some solutions are better than others. And one of those will be the best solution. Trying to find the best, right solution to a business problem can itself be a problem.

Foundational Competencies

Workplace development competencies are job-based skills employees need to succeed across a wide variety of occupations. Having completed this certificate, you have enhanced your skills in one or more competency areas. You can learn more about these competencies by visiting the Workforce Development Competencies page at <https://nycseapartnership.org/workforce-development-competencies>.

This certificate program assists you in developing competency in *Professionalism and Self-Management*.