

ME402 Assessment—Unit 4.3: “Risk Assessment and Decision Analysis”

In this assignment, you are asked to perform risk assessment and decision analysis using a free 30-day trial of Analytica, a popular software for risk assessment and decision analysis. The goal of this assignment is to get you comfortable using software for decision analysis.

You can download Analytica by click on the following link, <http://www.lumina.com/products/free-trial/>, which will take you to a webpage where you can obtain a 30-day trial of Analytica. Please put your information into the form and click on “Submit to get Free Trial.” You will receive an activation key in e-mail, which will allow you to download the installer for Analytica. Follow the instructions on the webpage to install Analytica.

Exercise 1. Click on Help/Tutorial to open the tutorial for Analytica. Read Chapter 1 to learn how to open and run a simple Analytica model: “Rent vs. Buy model.” Follow the instructions and make sure that you can do what was described in the tutorial.

Exercise 2. Read and follow the instructions in Chapter 2, which shows how to browse a model’s structure and assumptions. Make sure that you understand the concepts of influence diagrams and variables. Look up the Glossary if you are not sure about a term or a concept.

Exercise 3. Read and follow the instructions in Chapter 3, which shows how to perform sensitivity analysis and importance analysis.

Exercise 4. Read and follow the instructions in Chapter 4, which shows how to create a new model in Analytica.

Exercise 5. Use Analytica to create a model to decide where you should have your party: outdoors, indoors, or on a porch. The uncertain variable is weather, which could be sun or rain. You need to account for the accuracy of the weather forecast. After you work on the problem for two hours, look up the solution and follow the instructions in Chapter 6 of the tutorial.