

witness 4 Day Basic Training Course

Style

- This is a practical, classroom based course for up to 6 delegates
- It is taught with a mixture of instructor-led explanations and demonstrations, supported by delegate exercises and case studies
- A training and reference manual is provided for delegates to use both during and after completing the course. Guidance on running simulation projects is also covered.

Who Should Sit This Course?

- The Basic WITNESS Training Course has been designed for people who are new to WITNESS
- No prior knowledge of simulation is necessary
- Computer “programming” skills are not required but basic keyboard skills are necessary and some familiarity with Excel is highly desirable
- Course delegates need to be numerate

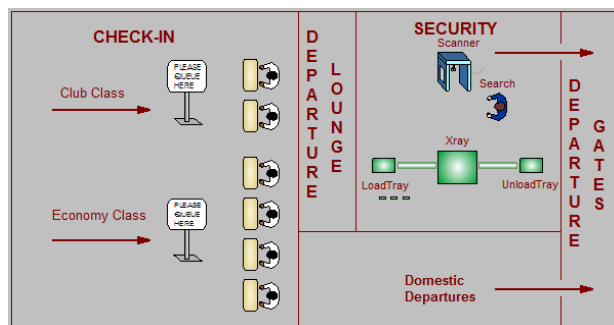
Course Objectives

- To help the delegates learn how to build and run simulation models using WITNESS
- To equip the delegates with the skills necessary to conduct simulation projects

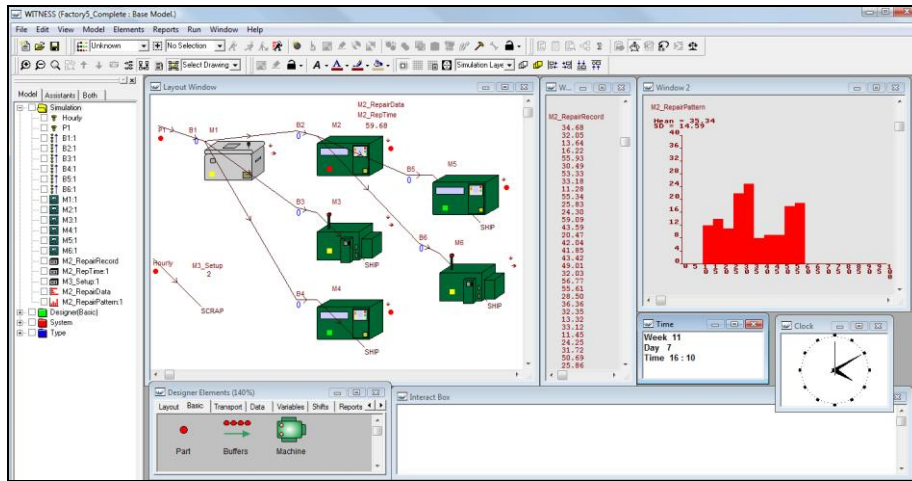
Summary of Course Content

- Introduction to WITNESS - The instructor will explain the principles of Discrete Event Simulation and demonstrate the tangible benefits that can be derived from its application.
- The WITNESS Environment - The delegates will be introduced to the WITNESS world and will build their first model using the library of pre-defined elements
- Building a basic simulation - The delegate through a series of exercises will create a Fuel (Gas) Filling Station
- Further exercises and demonstrations to extend the use of Witness functionality by adding Labor and multiple instances of the same WITNESS element, such as 3 identical machines working on the same task
- Airport Case study - The delegates create the airport Check-in and Security check process:

- The delegates will have to run multiple simulations
- Analyse statistical reports
- Conduct experimentation to find the best solution to improve the flow



- More exercises will develop the use of complex control logic:



- Delegates will determine how parts in a factory are either sequenced or randomly assigned to different processing machines
 - Introduce Setup times and Breakdowns into the machines
 - Set user defined distributions to determine the length of repair for a machine
- Importing and Exporting Data to Microsoft Excel - To easily alter inputs and use outputs
- In-depth use of labor within simulation:
 - Labor with various skill levels
 - Choose where the labor is used, such as carrying out a process, setting up a machine, repairing a broken machine, or transporting a part from one machine to another
 - Priority of certain tasks for the labor over others
- Use of Shifts within a model – Shifts are applied to either labor or directly on machines / activities
- ACME Valve Manufacturing Case study:

- The delegate is given the task of modelling this production line
 - With a pricelist for improvements and a budget the delegate has the objective of improving the throughput of the model

