

COMSOL Multiphysics®

Intensive Training (2 Days)

This course is the recommended starting point for learning how to use the COMSOL Multiphysics® software. During the 2-day COMSOL Multiphysics® Intensive training course, you will develop a strong foundation for your future multiphysics modeling work. We start at an introductory level, leading students through the essential steps needed in all analyses (geometry creation, interactive meshing techniques, model setup, postprocessing, etc.) Then, we move into more advanced topics, such as solution techniques and multiphysics modeling.

To teach this course, we use a combination of instructor- and self-guided hands-on training as well as theoretical and practical lecture. The goal is to immerse you in all of the main aspects of using COMSOL Multiphysics® and the built-in Application Builder, so that you feel comfortable working with the software. You will leave the course feeling confident that you are correctly solving your simulation problems with COMSOL Multiphysics®.

Day 1, 9:00am - 5:00pm

Please plan to check in between 8:30 am - 9:00 am.

The course begins with a guided introduction to the graphical user interface (GUI) and usage of the software, so that you learn all of the key steps in the modeling workflow: geometry creation, physics assignments, meshing, solving, model verification, and data extraction.

The first day is primarily focused on optimizing your usage of the software. We will present the Model Builder and Application Builder in COMSOL Multiphysics®, as well as introduce the COMSOL Server™ product. You will learn what is important in preparing your geometry for analysis, working with the COMSOL® software environment, and extracting information from your model.

Day 2, 9:00am - 5:00pm

Please plan to check in between 8:30 am - 9:00 am.

The second day builds upon the training from the previous day with more examples and lecture that address:

- Theoretical and practical aspects of meshing and solving nonlinear weakly and strongly coupled multiphysics problems
- Practical aspects of solving large finite element problems
- Local and nonlocal couplings of different physics and equations
- Finding, understanding, and eliminating errors in the model
- Efficient modeling for maximizing user productivity

According to the interests of the participants, some or all of the above topics will be considered.

Suggested Background

The COMSOL Multiphysics® Intensive course is suitable for anyone with an engineering, physics, or science background. No previous experience with the COMSOL Multiphysics® software is required.