

Examples and Tutorials

There are many tutorials and examples to help you learn how to use OpenSim. The examples listed below move from introductory to more advanced. Additional OpenSim-based tutorials, homework problems, and project ideas are available on the [Biomechanics of Movement classroom site](#).

Introductory Examples

- [Tutorial 1 - Intro to Musculoskeletal Modeling](#)
- [Tutorial 2 - Simulation and Analysis of a Tendon Transfer Surgery](#)
- [Tutorial 3 - Scaling, Inverse Kinematics, and Inverse Dynamics](#)
- [OpenSense - Kinematics with IMU Data](#)
- [Soccer Kick Example](#)

Intermediate Examples

- [Simulation-Based Design to Prevent Ankle Injuries](#)
- [Simulation-Based Design to Reduce Metabolic Cost](#)
- [The Strength of Simulation: Estimating Leg Muscle Forces in Stance and Swing](#)
- [Working with Static Optimization](#)
- [Example - Computed Muscle Control](#)
- [Example - Estimating Joint Reaction Loads](#)
- [Example - Output Reporter with a Jumping Simulation](#)

Advanced Examples

- [Building a Dynamic Walker in Matlab](#)
- [Dynamic Walking Challenge: Go the Distance!](#)
- [Pulling Out the Stops: Designing a Muscle for a Tug-of-War Competition](#)
- [Sky High: Coordinating Muscles for Optimal Jump Performance](#)
- [Custom Static Optimization in MATLAB](#)
- [Moco: Predict a Squat-to-stand](#)