QUANSER
INNOVATE·EDUCATE

QLABS VIRTUAL QARM

Virtual platform for distance and blended undergraduate robotics courses

QLabs Virtual QArm is a fully instrumented, dynamically accurate virtual twin of a Quanser QArm system. It behaves in the same way as the physical hardware and can be measured and controlled using MATLAB®/Simulink® and other development environments. QLabs Virtual QArm can enrich your lectures and activities in traditional labs, or bring credible, authentic model-based lab experiences into your distance and online robotics course.

Same as the physical QArm, the virtual system is a 4 DOF serial robotic manipulator with a tendon-based two-stage gripper and an RGBD camera.

Features

Academically appropriate

High-fidelity, credible lab experiences equivalent to use of physical lab equipment

Comprehensive Resources

Curriculum mapped to popular robotics textbooks

Open access

Full access to system parameters through MATLAB®/Simulink®

Scalable

12-month, multi-seat subscription

Courseware

- Introduction to QArm sensors and components
- Forward kinematics
- Inverse kinematics
- Path planning
- Differential kinematics (coming soon)
- Statics (coming soon)
- Dynamics (coming soon)

Product Details

QArm Virtual Sensors:

- Joint position
- Joint velocity
- Joint PWM command
- Joint current
- RGBD sensor

QLabs Virtual QArm runs on Windows 10 (64-bit) and requires MATLAB and Simulink R2019a or later (not included).