

Lab Name	Equipment Needed
Long Drop	1x Bouncy ball
	1x Ping-pong ball
	1x Stopwatch
Pendulum	1x Camera
Setup	1x Green-fingered clamp for camera
	1x Right-angle clamp
	1x 8" Aluminum shaft
	3x Thorlab shaft stands (take 1/4-20 x1" set screws)
	2x Black anodized shafts with turned-down ends (take 6-32 screws on top)
	1x Black anodized crossbar with aluminum rods
	2x Black delrin struts with copper inserts
	1x Pendulum (take 4-40 x1.5" with or without washer and nut)
	1x Black construction paper with cutouts for stand to cover optical table
	1x Black plexi and cardboard for background
	1x Shielding for sides
Rocker	1x Camera
Setup	1x Green-fingered clamp for camera
	1x Right-angle clamp
	1x 8" Aluminum shaft
	1x Thorlab shaft stand (with 1/4-20 x1" set screw)
	1x Symmetric rocker
	1x "Asymmetric" rocker
	1x Black construction paper/plexi for bottom and sides
Spring-Mass-Damper	1x Precision ground right-angle block (red anodized) (takes 1/4-20 x1" screws to mount to optical table) (takes 6-32 or 8-32 x3/4" screws to voice coil)
Setup	1x Voice coil
	1x Precision-ground shaft – tapped (1/4-20 to voice coil, 6-40 to LVDT)
	2x Air bearings with mounting blocks
	2x ring clamps with rubber bumpers
	1x ring clamp for spring – with piano wire spring
	1x LVDT (including matched core and 6-40 aluminum adaptor)
	1x Aluminum LVDT mounting block
	1x Plastic hold-down for LVDT
	1x LVDT signal conditioner
	1x Power amplifier
	1x Optical rail
	1x Slider with set screw
	1x Aluminum block

	1x Knob
	1x Alligator – alligator cable to go from LVDT P2 switch 1&2 to Dspace
	1x Alligator – BNC cable to go from power amplifier to Dspace
Coupled S-M-D	Same as S-M-D, plus:
Setup	1x Right-angle coupling joint with varying angles
	1x Precision-ground rod – untapped
	2x Air bearings with mounting blocks
	1x Turnaround block for LVDT
4 th Order	Same as S-M-D, plus:
Setup	1x Ring clamp for second mass (take 10-32 screws to mount ruler)
	1x Steel mass – threaded
	1x Steel mass – unthreaded
	1x Strain gage circuit with attached ruler
	1x Power cable for strain gage
	1x Alligator – alligator cable to go from strain gage to Dspace