

Project Title:	Control of an Inverted Pendulum Using LabVIEW RT
Client:	ONU Engineering Department
School Year:	2000-2001
Students:	Adam Barriger and Jim Lauterbach
Summary:	<p>The inverted pendulum project focused on the design and construction of an inverted pendulum and a control system developed in the the LabVIEW RT programming environment. The work incorporated the linear motion table owned by Olivet Nazarene University, Department of Engineering. The outcomes of the project include design plans and parts list for an inverted pendulum system; a functioning prototype of the mechanical pendulum system; operational electrical communication with mechanical system; and communication between the control system and the pendulum input and output components for automatic operation. The control system consists of a National Instruments PCI-7030 Real Time engine and 6040E Data Acquisition (DAQ) board, as well as a control program developed by engineers at National Instruments. The scope of this project extended to the electromagnetic system development and does not investigate the state-space control system.</p>