

Integrating Code with Simulink

Prerequisites

Simulink for System and Algorithm Modeling, *MATLAB Fundamentals*, and knowledge of C programming

Day 1 of 1	
Code Integration Methods	<p>Objective: Become familiar with the various code integration methods and discuss how a Simulink model interacts with user-defined blocks.</p> <ul style="list-style-type: none">Overview of all methods of code integrationIntroduction to S-functions
Transitioning from MATLAB to Simulink	<p>Objective: Integrate MATLAB code into Simulink models.</p> <ul style="list-style-type: none">Writing a MATLAB function in a MATLAB Function blockConverting a MATLAB function to a MATLAB Function blockMATLAB Function block coding standards
Calling External Routines	<p>Objective: Integrate C code into a Simulink model using automated tools.</p> <ul style="list-style-type: none">Calling an external C routine with the Legacy Code ToolCalling an external C routine in a MATLAB Function block
Writing Wrapper S-Functions	<p>Objective: Integrate C code into a Simulink model by manually writing C MEX S-functions.</p> <ul style="list-style-type: none">Writing a C MEX S-functionCalling external code from a C MEX S-functionWork vectorsInheriting input and output port dimensionsAdditional macros
Code Generation Considerations	<p>Objective: Explore the procedures and limitations for automatically generating code with Simulink Coder™.</p> <ul style="list-style-type: none">Generating code from a MATLAB Function blockGenerating code from C MEX S-functions (Legacy Code Tool)
Code Integration Methods Review	<p>Objective: Review code integration methods and discuss the pros and cons of each.</p> <ul style="list-style-type: none">Review of all methods of code integrationHow to choose a code integration method