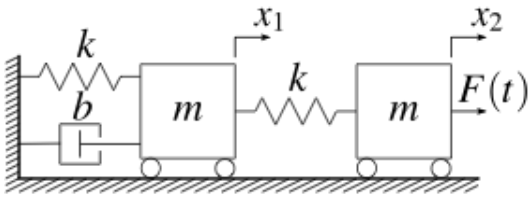
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

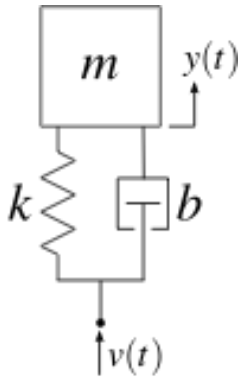
Mechanical Translation Example 1



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

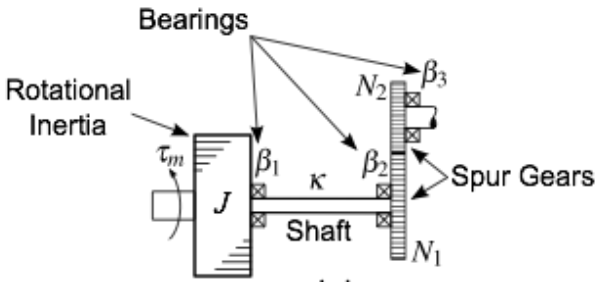
Mechanical Translation Example 2



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

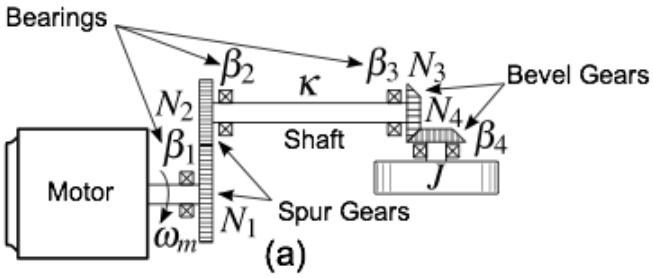
Mechanical Rotation Example 1



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

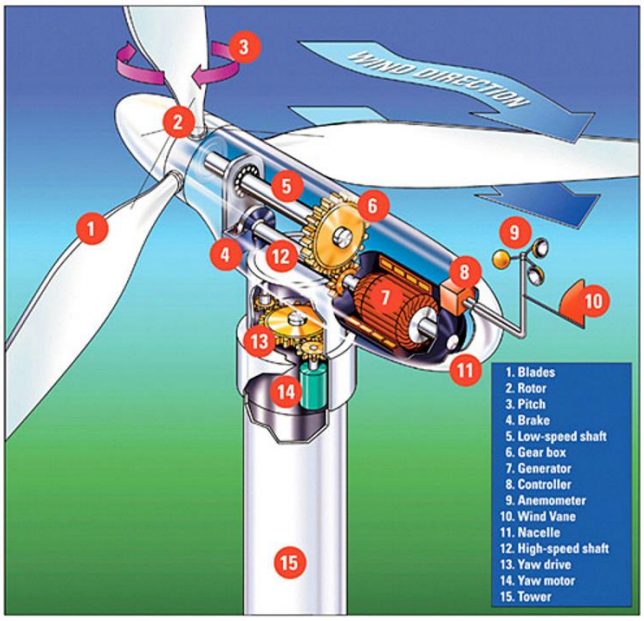
Mechanical Rotation Example 2



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

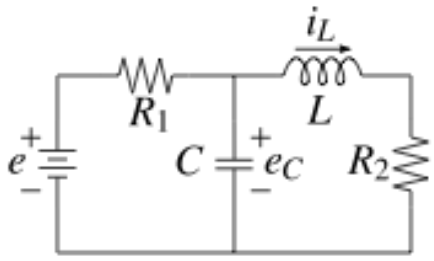
Challenge Problem: Wind Turbine Bond Graph Synthesis



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

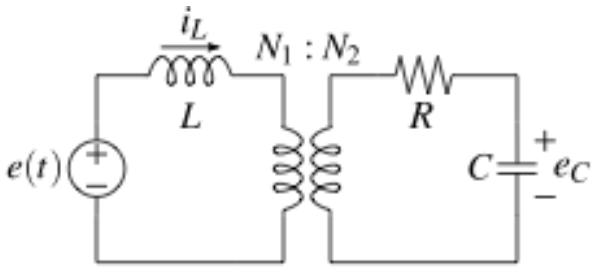
Electrical Circuits Example 1



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

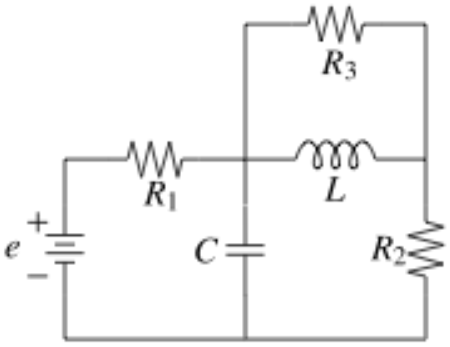
Electrical Circuits Example 2



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

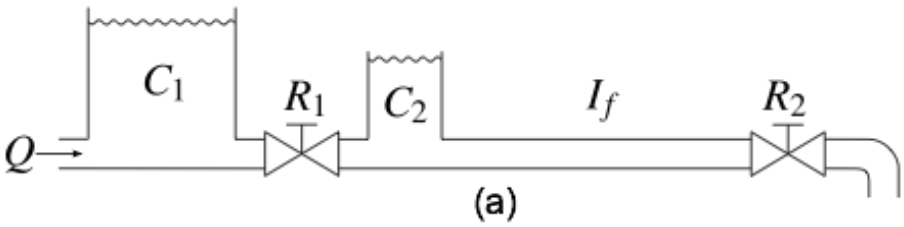
Electrical Circuits Example 3



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

Hydraulic Circuit
Example 1



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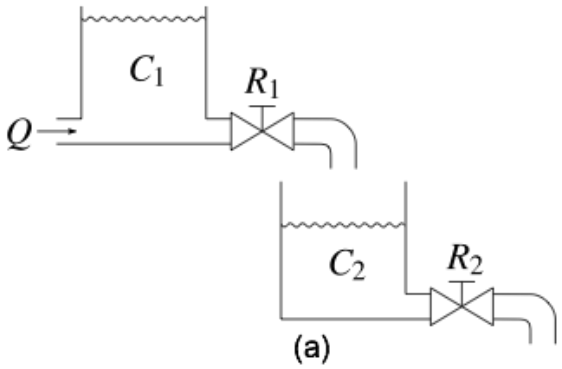
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

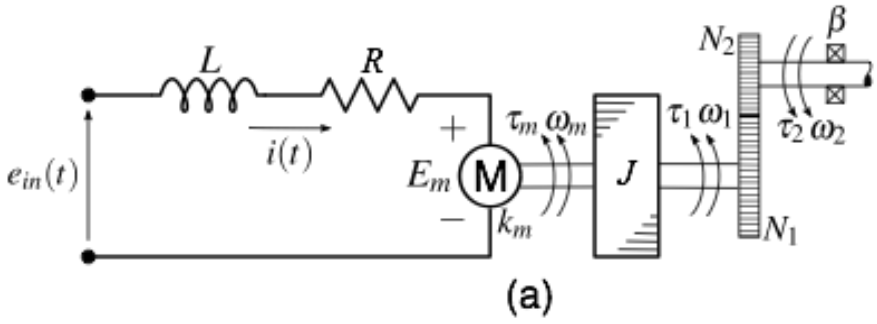
Hydraulic Circuit Example 2



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

Mixed System Example



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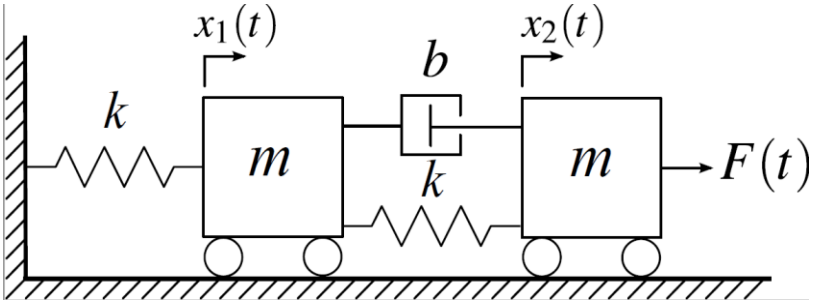
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

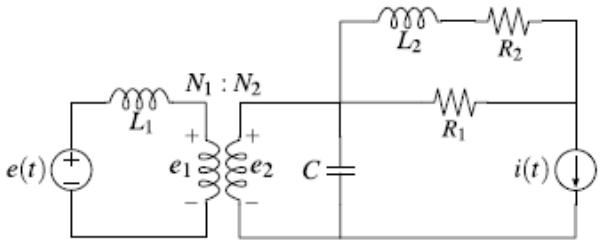
Practice Problem 1



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

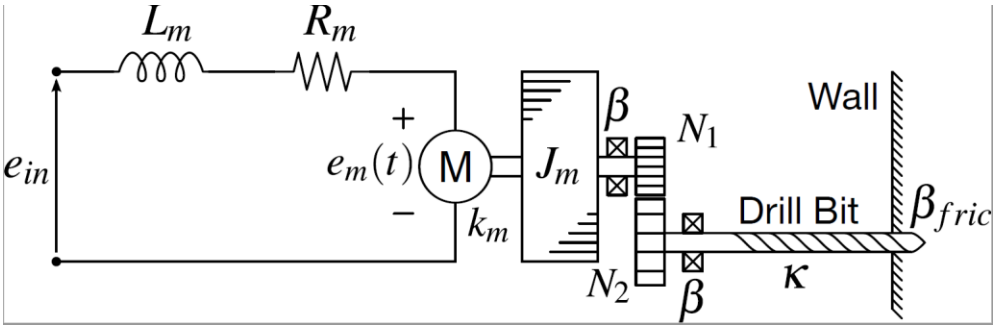
Practice Problem 2



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

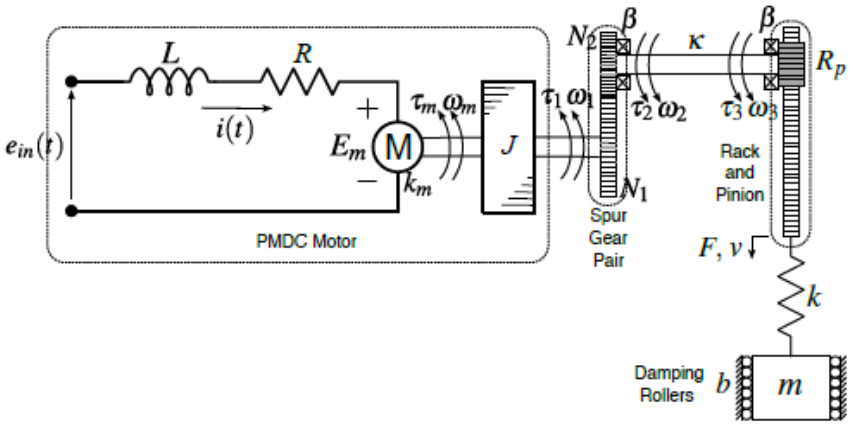
Practice Problem 3



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph for the following problems.

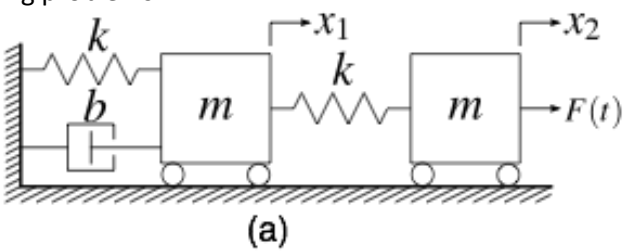
Practice Problem 4



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Mass-Spring-Damper Example



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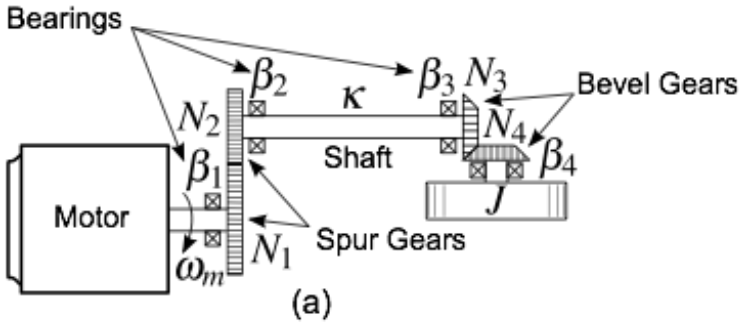
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Mechanical Rotation

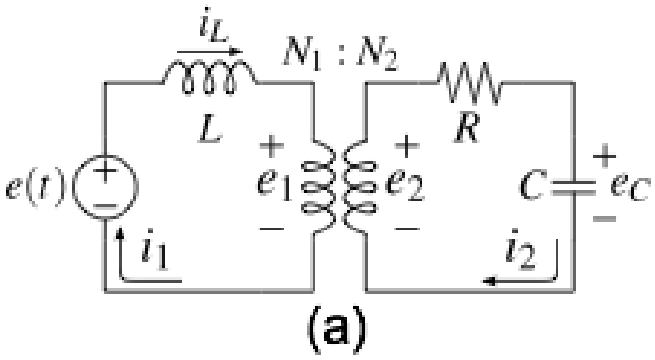
Example



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Electric Circuit Example



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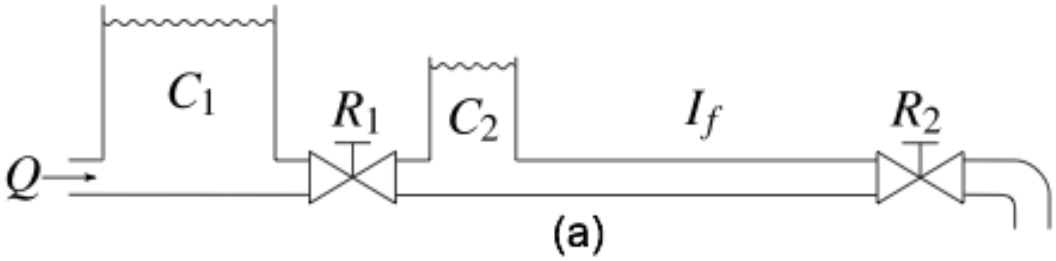
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

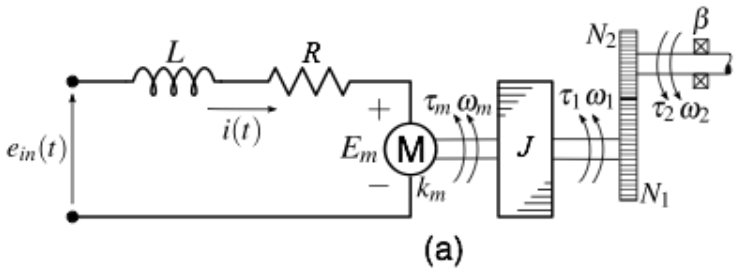
Hydraulic Circuit Example



MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Mixed System Example



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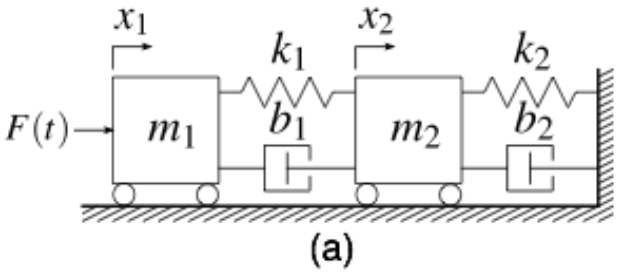
MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Algebraic Loops



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MECE 3304 System Dynamics

Chapter 3 Lecture Problems: Synthesize the bond graph and derive the differential equations for the following problems.

Challenge Problem