Stevens Institute of Technology
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ME345 MODELING AND SIMULATION - COURSE OUTCOMES

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Prog. Outcome	**COURSE OUTCOMES**
(2)	2-1. You are able to: (i) apply the Finite Element Method to assess stress, strain and deformation in a component and (ii) critically evaluate the model results via comparison to simplified analytical solutions
(2)	2-2. You are able to: (i) derive the state equation(s) for a mechanical system, (ii) use the state equations to determine the evolution of the system over time.
(4)	4-1. You are able to: (i) construct a CAE model for a given mechanical system and (ii) apply CAE simulation tools to evaluate, redesign and optimize a given mechanical system.
(5)	5-1. You are able to apply various CAE packages to: (i) create and manipulate parts and assemblies, (ii) evaluate the performance of the system, (iii) modify the system within the CAE environment, and (iv) assess the impact of design changes on the system performance.
(6)	6-1. You are able to: (i) select and (ii) use an appropriate CAE simulation tool applicable for mechanical system analysis.
(6)	6-2. You are able to critically interpret, analyze, and evaluate the results of a CAE model simulation
(6)	6-3. You are able to: (i) develop a strategy (psuedocode) for writing a computer program to solve a given problem, (ii) utilize elementary programming structures (for, while, and if statements) within the MATLAB programming environment, (iii) evaluate the accuracy of the coded solution
(10)	10-1. You are able to: (i) write a clear and concise technical memo summarizing the results of a CAE simulation and (ii) appropriately support the conclusions drawn from the simulation
(12)	12-1. You are able to describe how the contemporary practice of engineering has been impacted by the introduction of new engineering tools
(13)	13-1. You are able to independently use software tutorials and other self-study materials to learn how to utilize new engineering software tools