Modeling and Simulation Certificate

Modeling and Simulation Certificate Requirements

20 Credits

Code	Title	Hours
CS 1400	Fundamentals of Programming	3
MATH 1210	Calculus I (MA) (Prerequisites: MATH 1010 and MATH 1050 and MATH 1060 or MATH 1080 or equivalent placement score)	4
MATH 2050	Applied Statistics with Programming (Prerequisites: MATH 1040 or MATH 1050) or equivalent placement score)	3
or STAT 2040	Business Statistics	
or MATH 3060	Statistics for Scientists	
MATH 2285	Adventures in Modeling	1
MATH 3050	Stochastic Modeling and Applications	3
MATH 3605	Introduction to Modeling and Simulation	3
MATH 4800	Industrial Careers in Mathematics	3

Completion Requirements

1. Complete 20 credit hours of required courses. Prerequisite courses are stacked within other degree plans.
2. Cumulative GPA of 2.0 or higher

Modeling & Simulation Certificate Program Learning Outcomes

At the successful completion of this program, students will be able to:

1. Facilitate higher-order reasoning and problem-solving skills, develop collaboration abilities and refine general employability and occupation-specify skills.
2. Formulate an open-ended problem by considering the detail of the problem and define manageable questions to address that will lead to some conclusions or scientific results.
3. Construct the problem into mathematical model using multiple mathematical and statistical representations of relevant structures and relationships.
4. Compute and evaluate the solution to interpret the mathematical solution in the original context and communicate the results in an interdisciplinary setting.