The modeling and simulation professional organization started in the early twenty-first century spurred by the advent of the computers and ultimately the vast networking capabilities of contemporary computing. Compared to other disciplines, such as engineering, computer science, and math, modeling and simulation is still in its infancy. However, because of the varied use of modeling and simulation techniques and tools used within almost every discipline, modeling and simulation as a profession has experienced significant growth. Consequently, there does not appear to be synchronization between the three primary stakeholder groups of the modeling and simulation profession: academia, government, and industry. The discipline’s professional organization does not recognize a single body of knowledge as an authoritative reference for modeling and simulation knowledge, skills, and abilities. Academic institutions do not have unanimity from one institution to another regarding targeted knowledge, skills, and abilities. Industry lacks the confidence to hire modeling and simulation professionals who have core understanding of knowledge, skills, and abilities directly associated with the version of modeling and simulation used by each separate industry. This research study attempted to take the first coordinated step in unifying the modeling and simulation discipline by assessing and prioritizing the current competencies required of modeling and simulation professionals. A survey instrument was developed and distributed to modeling and simulation stakeholders to ascertain the breadth of the needed and required knowledge, skills, and abilities within the domain.

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Approved for distribution by Bruce D. Caulkins, Committee Chair, on February 12, 2019.

The public is welcome to attend.