In this talk we present the development, implementation, and reflections of a series of 1-credit applied problem solving courses for undergraduates at a liberal arts institution. The goal of these courses was to prepare students for the Mathematical Contest in Modeling (MCM) and Interdisciplinary Contest in Modeling (ICM). In Part I of the course series, we simulated the contest experience over a 15-week semester. During the course, we outlined general problem solving strategies as teams of 2-3 students worked through past contest problems. We provided feedback and guidance at each step of the modeling process, but the students were ultimately responsible for all modeling choices. As in the contest, students wrote a 20-page report detailing their problem solutions for the course. The teams were also required to present their work in presentations to the class in order to enhance their mathematical communication skills. In the follow-on course, students participated in the actual contest and then shared their problem solutions at a local conference or on campus at Skidmore’s Academic Festival. In this talk, we will provide details of the course structure and share student feedback, positive outcomes (including a winning team!), and plans for future iterations of the course. (Received September 25, 2018)