1086-H1-2027   **Edmund A Lamagna*** (`eal@cs.uri.edu`), Dept of Computer Science and Statistics, University
of Rhode Island, Kingston, RI 02881. *Mathematical Problem-Solving and Algorithmic Thinking.*

Puzzles and games form the basis of a freshman seminar designed to develop mathematical and computational problem-solving skills. The desired learning outcomes include: 1) helping STEM students transition from high school to college, 2) motivating and creating excitement for the further study of mathematics, computer science, and other STEM subjects, 3) allowing STEM students to work in small groups on fun, interesting problems, 4) introducing mathematical and computational problem-solving strategies not typically encountered in high school or college, 5) instilling the confidence and persistence needed to solve complex, difficult problems, 6) encouraging "out of the box" thinking and applying alternative problem-solving strategies, and 7) exposing students to real-world applications.

Each session begins by introducing a set of puzzles of a particular type or a game illustrating a particular principle. Students spend most of the period in small groups solving puzzles or playing the game. Toward the end of class, students discuss general solution techniques with guidance from the instructor. While the presenter is teaching this course for the first time with freshman, he has successfully incorporated a similar approach into an intermediate course in discrete mathematics. (Received September 25, 2012)

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