



**Professor Carlo Pincioli**  
**Assistant Professor - Computer Science**

*Citation:*

In undergraduate courses, a delicate balance must be struck between rigorously teaching content and fostering an engaging learning environment. Professor Carlo Pincioli has successfully done so by introducing elements of gamification in his classes. For the uninitiated, gamification is a teaching approach in which the structure of the material is inspired by elements of video-game design.

As Carlo explains: I structure each class as a sequence of small units of increasing complexity. These units, together, form a “quest” — a challenge with a significant goal. Each unit has sub-goals, which act as “monsters” to slay. A small set of tools are offered as possible “weapons”. I then challenge the students to solve the problem at hand.

To keep the students engaged, he encourages discussion, offers possible solutions, and indicates problems they might have missed, thus compelling them to analyze the many facets a seemingly simple problem might offer.

And clearly, students are engaged. One student wrote: “Robotics labs can be tedious and gruesome and students often feel overwhelmed. Professor Pincioli’s RBE 3002 was not like that at all. The class was structured to be a game: each lab assignment was a different level, and the final project was the goal. Each level had its own demons but after completing each challenge, we felt accomplished. It was like a video game you didn’t want to stop playing. Every time you finished a level, you said, ‘One more level then I’ll go!’, but we never left.”

A graduate student, who was a Student Advisor in one of Carlo’s classes had taken a previous iteration of the course, wrote: “The students were engaged and interested much more than when I took the class. The discussions drew more participation, and I saw a marked improvement in their comprehension.”

In response to the course evaluation question “Would you encourage a friend to take a course from this instructor?”, one particularly enthusiastic student wrote: “Yes, a hundred times over yes. This is one of the best classes I’ve ever taken at WPI.”

For his creativity and innovation, and for fostering true enthusiasm for learning among his students, we are pleased to present the 2020 Romeo Moruzzi Young Faculty Award for Innovation in Undergraduate Education to Professor Carlo Pincioli.