Evangelos Kaisar – Engineering LC

Which HIEP(s) will you be using?
X Undergraduate research
X Collaborative assignments and projects

Please describe your project (100 words or less)

The MITS Laboratory’s data gathering and traffic simulation capabilities support interactive learning through the development of classroom modules and tools. Simulation models developed by the lab can be used as interactive learning tools to help teach the theory and practice of traffic management to students. I am planning to ask students to work on intersection design (FAU road Network) in order to allow traffic flow to proceed as smoothly and safely through an intersection as possible. Also, we are going to provide an online geometry design tool that was developed to assist students conducting the geometric design of roadways on computer screen using a contour map in the background as reference. Furthermore, students have the option to visualize the final roadway design in a 3D virtual reality environment.

Describe 2 learning outcomes and what are you planning to assess and HOW?

Communication, critical thinking and plan of action are the student learning outcomes. The students will develop in collaboration with the faculty a plan to address and investigate the project problem statement using appropriate teaching methods. The students will collect data that are relevant and implement the plan on the simulation platform. They are going to work in groups and will communicate in clear manner through class presentations and questions and answer sections. The students will involve in real life project and they will participate in FAU undergraduate research day, presentation to the sponsor agency, and possible undergraduate paper publication. The students will improve the technical and communication skills through discussion though the research project.

Please describe the VALUE ADDED that you will have from this experience – SPECIFICALLY what you will do differently than in the past to make this an enhanced experience (100 words or less)

One attractive element of our project approach to education is that it provides entry points for students of a wide variety of backgrounds, and learning styles. It also offers activities to sustain these students’ interest beyond their initial exposure. We will develop a variety of activities targeted to primary and secondary students that raise awareness of transportation operations and safety-related issues and solutions and identify exciting career opportunities in related fields. I will deliver STEM topics to students and I believe that the use of online games is an effective way to communicate transportation operations and safety messages to younger and more technology-focused audiences. I will use an online transportation games developed by collaborative universities, to educate students. This experience provides an opportunity to reach out to other engineering faculty to team up with.