

KENAN HATIOGLU & YOGENDRA PANTA, West Virginia University Institute of Technology, Deployment of E-Learning modules to foster entrepreneurial mindset among engineering students at WVU Tech.

“E-Learning Module- Applying Systems Thinking to Solve Complex Problems” were deployed at West Virginia University Institute of Technology (WVU Tech) to foster an entrepreneurial mindset among engineering students. This E-Learning Module were applied to an elective electrical engineering course “EE 493X Alternative Energy Resources” in fall of 2017 to develop a skill set to solve complex problems by applying system thinking. The implementation of Applying Systems Thinking to Solve Complex Problems help realize students to think out of the engineering classroom box and be mindful of the entrepreneurial environment. The module is bundled up with a number of learning outcomes provided by the KEEN. The modules’ supplementary resources were guided by the instructor in the class and then made accessible to the students through blackboard. Students reviewed the online contents of the module and then spent their time to complete module activities. Instructor debriefed the classwork activity to highlight on the purpose and the summary of that specific activity. These activities created a very interactive and an effective learning environment advancing student engagements, curiosities, and maximize the learning. Overall, students effectively utilized the module materials for defining system, systems architecture, and system engineering, identify alternative distributed power generation system architectures, decomposing alternative distributed power generation system hierarchy to at least four levels and defining/addressing future integrated power systems from various perspectives, including technical feasibility, value, risk, and societal impact. In the future, the module is planned to be deployed in other courses.

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