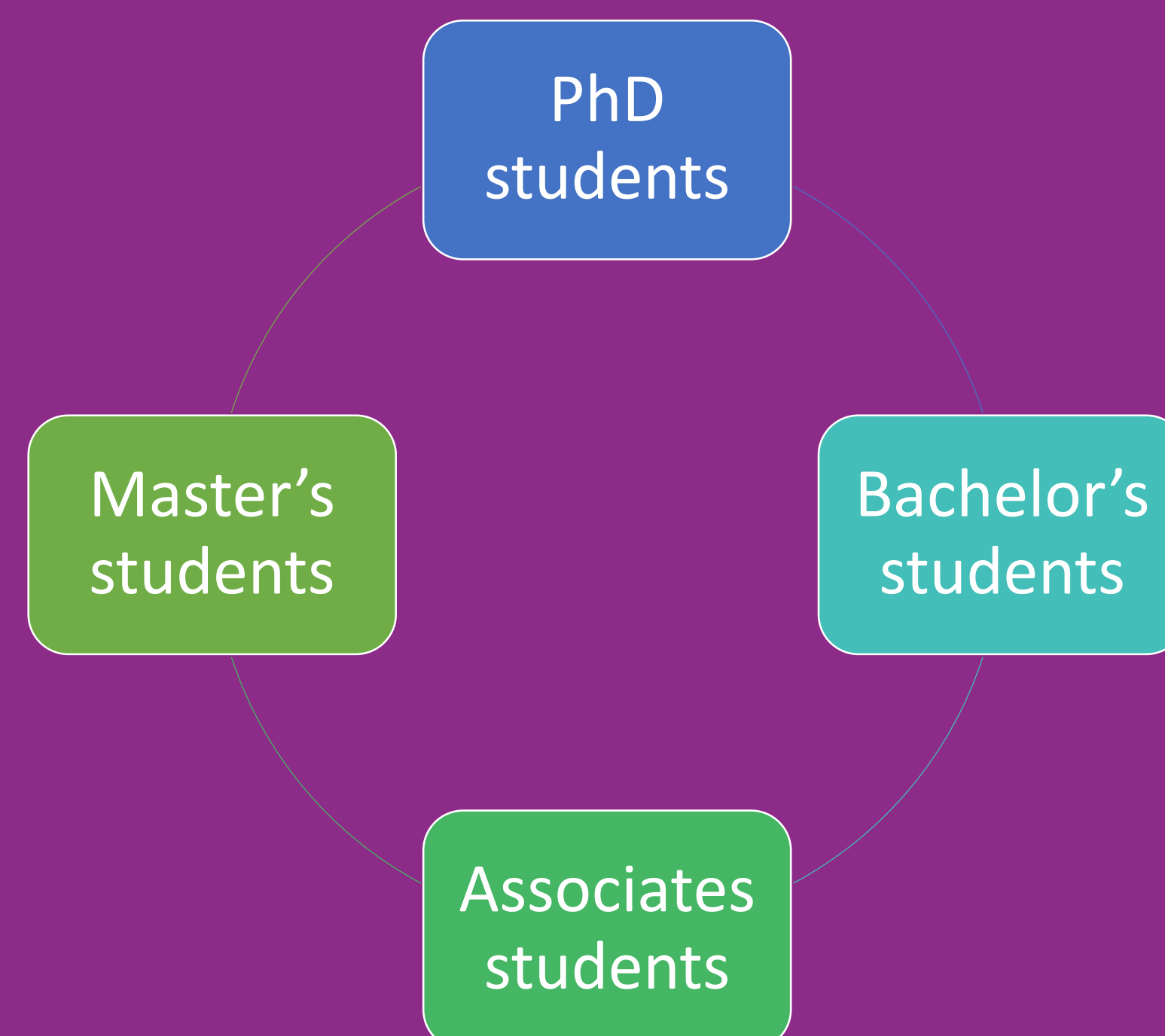


A multilevel student team partnership between Greenville Technical College and Clemson University to address challenges in the advanced manufacturing landscape

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URE Approach and Methods

High-performing GTC students are chosen for inclusion in MEC 299 Applied Research in Advanced Manufacturing. Greenville Technical College students are briefed with Clemson University graduate and bachelor's students on the overall goal and how each group will contribute. Individual student groups work on their portion of the project while attending scheduled meetings with the entire group, led by a Ph.D. student who acts as the liaison between student participants.

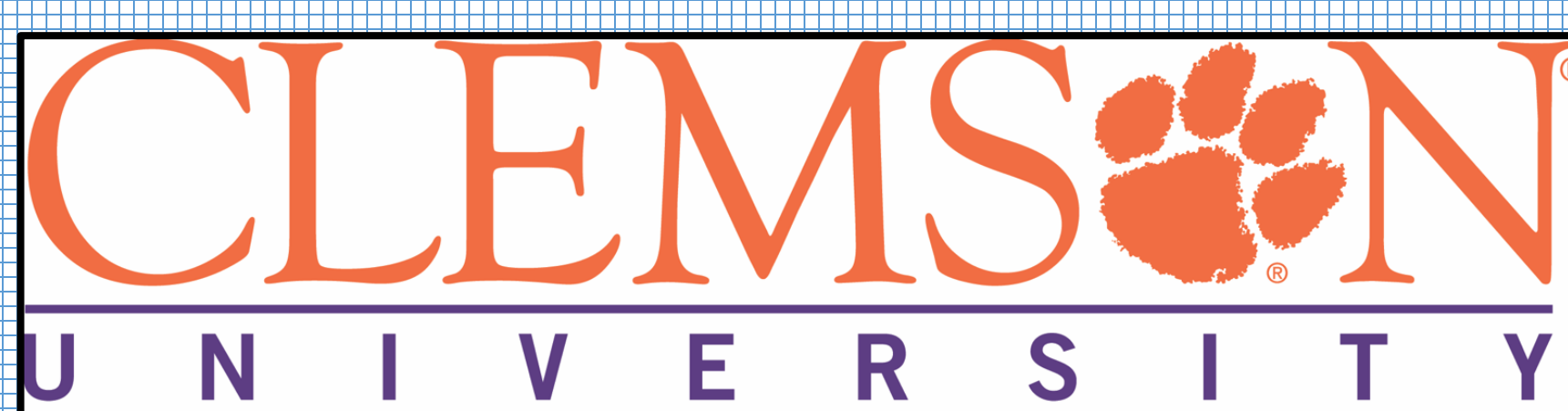
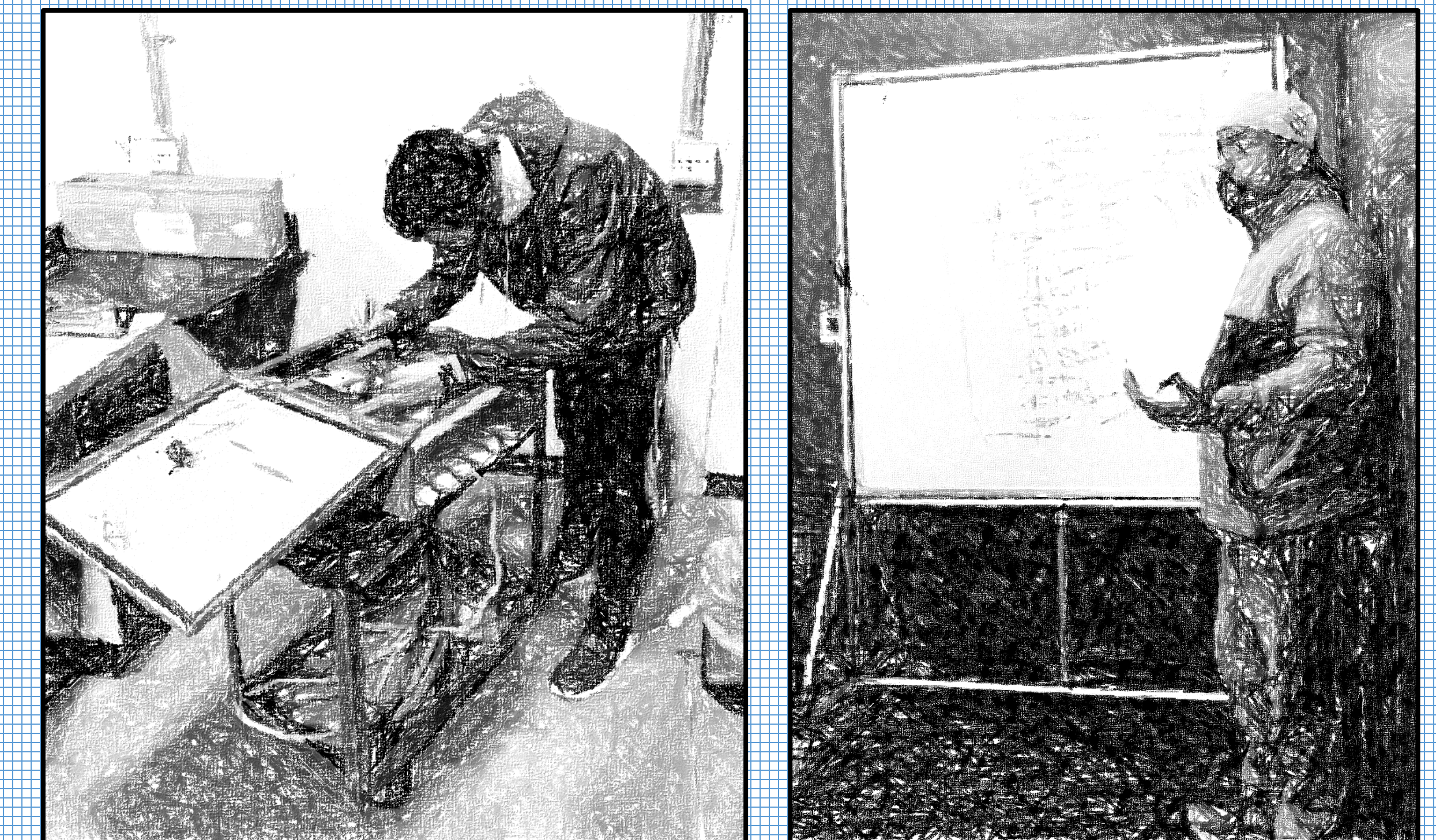


Summary

In this course-based URE, GTC students will construct a linear guide rail to the specifications given by Clemson students. The guide rail is involved in the evaluation of electrical connector engagement in vehicles produced by BMW Plant Spartanburg and will help build a library of measurements of force and sound of electrical connector engagement. This library will eventually be used for workforce development to decrease defects on the production floor which, in turn, will improve worker behaviors and attitudes in the manufacturing enterprise.

Top URE Impacts

1. Participate in a collaborative experience in an environment that closely replicates the manufacturing workplace, developing valued communication and interpersonal skills.
2. Demonstrate competence in technical skills and knowledge acquired throughout their mechatronics program to design a test fixture.
3. Gain experience finding solutions to open-ended questions.



Assessment

A grade is earned in MEC 299 by completing project design, assembly, and testing, a research journal, and a group presentation to stakeholders of the project.



Challenges and Lessons Learned

Communication is key when student groups collaborate across institutions. A semester progresses quickly!