NIST
National Institute of Standards and Technology
U.S. Department of Commerce

Curriculum Innovation through the integration of Manufacturing related materials and quality control Standards for different level engineering students from freshmen to graduates (CIMS)

Drs. Kai Jin, and Hua Li

Mechanical and Industrial Engineering

Texas A&M University-Kingsville

TEXAS A&M UNIVERSITY KINGSVILLE

Project Goal and Objectives

- **Goal**: create a systematic framework for different level engineering students to strengthen education and learning about manufacturing related materials and quality control standards and standardization.
- **Objectives**
  1. **Develop innovative course modules to use in current undergraduate engineering curriculum to improve students' career readiness.**
  2. **Develop graduate certificate program to advance students' professional preparedness.**
  3. **Create an online based cost-effectiveness structure to enhance education and learning impacts.**

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Significant Accomplishments

- Manufacturing Standard and Standadization Certificate Program (transcripted)

http://www.tamuk.edu/engineering/departments/mien/projects/nist-cims.html

- **Students receive the certificate**

  Dec. 2018 9 students

  May 2019 15 students

  Dec. 2019 10 students

- **Publications:**

Hua Li, Kai Jin, Yue Zhang, A Curriculum Innovation Framework to Integrate manufacturing Related Materials and Quality Control Standards into Different Level Engineering Education, Proceedings of 2018 ASEE Annual Conference & Exposition.

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Significant Accomplishments

- New Course and Course Modules
  - IEEN5303 Standards of Product Design and Manufacturing
  - IEEN 5333 Six Sigma and ISO Standards
  - IEEN 5332 Manufacturing System Design
- Webinars (live and recorded):
  - December 3, 2018
  - July 27, 2018
  - April 26, 2018
  - March 27, 2019

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