



Program Title: “National Formosa University Student Training Program in Advanced Manufacturing/Industry 4.0”

Program Description:

A group of 5 students (undergraduate senior or graduate level, on J1 non-degree seeking student visa) from National Formosa University, Taiwan will spend a 12-month time at UTSA to learn about advanced manufacturing/Industry 4.0 related topics via a combination of auditing regular graduate courses, carrying out mentored projects, and taking technical short courses on-site at UTSA. They will have options to enroll in English as a Second Language (ESL) training courses to enhance their English technical communication skills. This program will be repeated for two subsequent years (with funding already committed by Taiwan government), and the group of participating students may apply for graduate studies at UTSA after their one-year visiting stay at UTSA.

Formally audit three (3) required courses and completion of course related projects:

- 1) ME 5503 Lean Manufacturing and Lean Enterprises. (3-0) 3 Credit Hours.
- 2) ME 5583 Process Improvement and Variability Reduction. (3-0) 3 Credit Hours
- 3) EGR 5233 Advanced Quality Control. (3-0) 3 Credit Hours

Students completed the above requirements will receive Lean & Six Sigma Green Belt Certificate issued by CAMLS.

Optional courses to audit (depending on student’s interests and load):

- 1) ME 5603 Advanced Manufacturing Systems Engineering. (3-0) 3 Credit Hours.
- 2) ME 5643 Green and Sustainable Manufacturing and Enterprise Systems. (3-0) 3 Credit Hours.
- 3) ME 5703 Lean Product Development and Service Systems. (3-0) 3 Credit Hours.
- 4) ME 4543 Mechatronics. (2-3) 3 Credit Hours.
- 5) ME 4723 Reliability and Quality Control in Engineering Design. (3-0) 3 Credit Hours.
- 6) ME 4773 Robotics. (3-0) 3 Credit Hours.

Required 7 Short Courses (1-2 days each, on each of the following topic areas):

- Introduction to Advanced Manufacturing Systems Engineering – **Dr. Wan**
- Introduction to Machine Learning and Data Analytics for Manufacturing – **Dr. Alaeddini**
- Introduction to Additive Manufacturing and Its Applications – **Dr. Wan & Dr. Bhounsule**
- Introduction to Sustainable Manufacturing and Enterprise Systems – **Dr. F. Chen**
- Introduction to Intelligent Machinery and Robotics – **Dr. Bhounsule & Dr. Jafari**
- Introduction to Mechatronics – **Dr. Bhounsule**
- Robotics in Industry 4.0: Challenges and Opportunities – **Dr. Jafari**

Students completed all above short courses will receive Advanced Manufacturing Certificate issued by CAMLS

One or two optional ESL courses during the year–long stay (in summer and/or Fall/Spring term).