Certificate in Industry 4.0

In recent years there has been a major shift in both the how and where manufacturing occurs. Manufacturing has become an integration of human capabilities, automation, and information. Therefore, manufacturers require a higher level of technical proficiency and ability to both design and operate integrated cyber-physical systems that are representative of what is termed “Industry 4.0”. These systems integrate information (cyber security, big data, cloud computing, blockchain) and cyber-physical manufacturing (sensors/IoT, additive manufacturing, advanced materials, robotics, collaborative bots, autonomous material flow, digital twins) to support the breadth of topics necessary for Industry 4.0 implementation. The Industry 4.0 Certificate will provide a theoretical foundation, combined with an experiential laboratory learning environment, that will prepare students to contribute and be successful in the new manufacturing environment.

Requirements

Students must complete all four required courses (either 12 credit hrs if MAE or 13 credit hrs if ISE manufacturing course/lab is taken).

Required Courses		
ISE 3500 & ISE 3505	Introduction to Manufacturing Methods and Computer Aided Design and Manufacturing Processes Laboratory	4
or MAE 3500 & MAE 2510	Introduction to Manufacturing Methods and Manufacturing Practice	
ISE 3530	Industrial Robotics	3
ISE 4570	Industrial Automation and Control	3
ISE 4565	Smart Manufacturing Systems	3

Note: ISE 4570 is a prerequisite for ISE 4565.