COURSE SYLLABUS

LAST REVIEW   Fall 2022

COURSE TITLE   Automated Manufacturing Systems Capstone

COURSE NUMBER   AMFT 0250

DIVISION   Career and Technical Education

DEPARTMENT   AMFT

CIP CODE   15.0406

CREDIT HOURS   2

CONTACT HOURS/WEEK Class: X   Lab: 4

PREREQUISITES   AMFT 0230, AMFT 0240

COREQUISITES   None

COURSE PLACEMENT None

COURSE DESCRIPTION
The purpose of this course is to design a system utilizing as many of the areas of learning in the AMT Program as possible. The students will create needed CAD files, wire, fabricate, machine, weld, Program Programmable equipment and analyze processes, continuously improve toward repeatability. The student will update all documentation as well as test their system to assess if it meets the specification they wrote. The instructor will then ask for modifications and make it operate to new specifications. All skills learned in the AMT program may be utilized to make the lab equipment run according to the new specifications and all documentation must be updated to be turned in for grade. This course offers the student the opportunity to create their own project portfolio including as many of the skills learned in the AMT program as they wish to achieve.

PROGRAM ALIGNMENT
This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:
https://kansasregents.org/workforce_development/program-alignment

Program Learning Outcomes
1. The student will be able to assess hazards, mitigate risk, and develop procedures and protocol to create a safe working environment.
2. Student will be able to collaborate with team members in developing a plan to maximize efficiency in a production facility.
3. The student will be able to evaluate implicit tasks and identify necessary resources to install and maintain industrial equipment.

4. Student will be able to troubleshoot and repair industrial equipment in the high stress environment of modern manufacturing.

TEXTBOOKS
http://kckccbookstore.com/

METHODS OF INSTRUCTION
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE
  I.   Principles of "design first" in specifications and documentation
  II.   Principles of documentation in career development
  III.   Principles of modifications and change orders to project scopes
  IV.   Principles of project completion and acceptance by owner
  V.   Fundamentals of best practice loop in project movement to continuously improve

COURSE LEARNING OUTCOMES
Upon successful completion of this course, the student will:

  A.   The student will be able to create Project file and portfolio outline.
  B.   The student will be able to create outcomes, specifications, and job scope.
  C.   The student will be able to design Capstone Project in AutoCAD.
  D.   The student will be able to perform all mechanical, fabrication, electrical, controls or programming task needed to complete project job scope.
  E.   The student will be able to troubleshoot and test project according to Job Scope.
  F.   The student will be able to submit all updated documentation
  G.   The student will be able to make modifications to Capstone project based on new specifications.
  H.   The student will be able to utilize Process and Project management tools to assess project performance.
  I.   The student will be able to update all files and submit all portfolio documentation.

ASSESSMENT OF COURSE LEARNING OUTCOMES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements
https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.