New Program Request Form
CA1

General Information

Institution submitting proposal	Kansas City Kansas Community College
Name, title, phone, and email of person submitting the application *(contact person for the approval process)*	Mr. Jerry Pope Interim Vice-President of Academic Affairs (913) 288-7634 jpope@kckcc.edu
Identify the person responsible for oversight of the proposed program	Dean Cheryl Runnebaum Kansas City Kansas Community College Career and Technical Education Center (913) 288-7811 crunnebaum@kckcc.edu
Title of proposed program	Automation Engineer Technology/Technician
Proposed suggested Classification of Instructional Program (CIP) Code	15.0406
CIP code description	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, installing, calibrating, modifying and maintaining automated systems. Includes instruction in computer systems; electronics and instrumentation; programmable logic controllers (PLCs); electric, hydraulic and pneumatic control systems; actuator and sensor systems; process control; robotics; applications to specific industrial tasks; and report preparation.
Standard Occupation Code (SOC)	17-3023 and 17-3024
SOC description	(17-3023) Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, adjust, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. (17-3024) Operate, test, maintain, or adjust unmanned, automated, servo-mechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment to observe or record visual information at sites such as oil rigs, crop fields, buildings, or for similar infrastructure, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

Revised/Approved January 2018

Number of credits for the degree and all certificates requested	Certificate: 49 AAS: 65
Proposed Date of Initiation	Fall 2021
Specialty program accrediting agency	
Industry certification	Certified Maintenance and Reliability Technician Certification, OSHA 10

Signature of College Official _Jerry Pyn_ Date _2/18/21_

Signature of KBOR Official _____ Date _____

Narrative

The Automation Engineer Technology Certificate and Associates Program commencing in Fall 2021 is a holistic and comprehensive approach of training to prepare for a career in Advanced Manufacturing. Manufacturing floors are switching to automation as a reliable source of "workers"; Covid-19 sped up the process of switching manufacturing plant floors from "human" labor to robotic labor as a method to ensure productivity continues. With increased automation and the switch to Industry 4.0, it is necessary to prepare people in the areas of maintaining, troubleshooting, programming, and repairing the machinery. The program is process engineered to create the most empowered and autonomous graduate and future employee possible. Students will learn skills in: robotics, electrical concepts including programmable logic controls and motor controls, AutoCAD concepts, machining, welding and lean manufacturing. These are some of the primary skills, as determined by the advisory committee, necessary to keep the manufacturing plant up and running at optimal capacity. Upon completion of the program, students will be prepared to take the Control Systems Technician Associate (CST) Exam through the International Society of Automation. This exam, if passed, counts as one year of experience toward the five years of education/work related experience required to take the ISA credentialed CCST exam.

A JobsEQ query showed that 1510 manufacturing jobs were advertised in the first six months of 2020, demonstrating the demand for skilled workers in this area. Half of the positions were for maintenance & repair workers and production workers. The other advertised positions were for mechanics, installers and repairers; inspectors; testers; sorters; samplers; weighers; assemblers; fabricators; industrial machinery mechanics; welders; cutters; solderers; brazers; machinists; electrical and electronics repairers; computer numerically controlled tool operators and more.

Quarterly surveys and outreach calls conducted over the past few years by Kansas Manufacturing Solutions and the Wyandotte Economic Development Council consistently demonstrate that area manufacturers' top concern is that they cannot find enough skilled workers. Other issues include: lengthy employee learning curves, high turnover, lack of technical training programs, unengaged/unproductive employees, a hiring process that is inadequate and baby boomers getting ready to retire.

Wyandotte County is one of the poorest counties in the United States, yet it is the site of over 300 manufacturing companies with some of the region's highest paying jobs, averaging $69,126 annually (JobsEQ.) Moreover, for every $1.00 spent in manufacturing, another $2.74 is added to the economy. That is the highest multiplier effect of any economic sector. In addition, for every one worker in manufacturing, there are another five employees hired elsewhere. (NAM calculations using 2018 IMPLAN data). The realities of this data behoove Wyandotte County to work to develop its manufacturing workforce and support its employers. Because the pandemic is projected to continue, and its labor market effects last for years, it is imperative to develop and implement immediate strategies for recovery. The Automation Engineer Technology program will help satisfy the growing job openings, upskills workers, train Wyandotte County citizens to gain a career in a high wage occupation, and provide manufacturers the employees they need to keep their new automated floors up and running.

Catalog Description

This program will teach students to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, installing, calibrating, modifying and

maintaining automated systems. Includes instruction in computer systems; electronics and instrumentation; programmable logic controllers (PLCs); electric, hydraulic and pneumatic control systems; actuator and sensor systems; process control; robotics; applications to specific industrial tasks; and report preparation.

Program Objectives

1. Prepare students with a holistic education for a long-term career as a responsible certified professional in automation in advanced manufacturing with educational content that includes: OSHA 10 certification; machining; welding; electrical; industrial systems integration; industrial fluid power; lean manufacturing and understanding the differences between process management and project management.
2. Have an active, engaged professional advisory committee that aligns the educational objectives such that the program reflects changes in technology, regulatory laws, rules and regulations and complies with professional standards of conduct.
3. Partner with professionals, service companies and technology providers in the automated manufacturing industry as well as government entities to enable student internships, employment opportunities, engagement with the public, and student scholarships and grants.
4. Graduates will, upon graduation, be prepared to take and pass the Control Systems Technician Associate (CST) Exam as well as the Certified Maintenance and Reliability Technician Certification exam.

Admissions Requirement

Admission to the Automation Engineer (Advanced Manufacturing) Technology Certificate Program is based on successful completion of the following Admission Requirements and the number of students admitted may vary based on classroom/lab size restrictions and/or teacher-to-student ratio.

1. Apply for admission to KCKCC.
2. Make an appointment with the Academic Advisor.
3. Submit a high school transcript (or GED) with graduation date.

Students seeking to obtain an AAS degree must meet the following Admission Requirements:

1. Take the complete placement exam.
2. Complete the Automation Engineer (Advanced Manufacturing) Technology Certificate Program with a minimum of a 2.0 GPA

Graduation Requirement

- Complete program requirements with a 2.0 GPA or higher
- No outstanding obligations (tuition, bookstore, library, etc.)

To receive an AAS degree, students must pass all required coursework, submit required transcripts for transfer credit and meet all academic, financial or other obligations required for their program of study. To be eligible for graduation, students must have an overall GPA of at least a 2.0. KCKCC urges students to monitor their educational progress. Prior to the end of the semester, students must meet with an Academic Advisor to complete a graduation check-off form that insures all requirements will be finished prior to the anticipated graduation date.

Demand for the Program

The CIP Code 15.0406 is cross walked to two occupations, 17-3023 Electrical and Electronics Engineering Technicians and 17-3024 Electro-Mechanical Technicians.

The following information was gathered using the Kansas Department of Labor's Long Term Occupational Outlook (https://klic.dol.ks.gov):

The Kansas Department of Labor Long-term Occupation Projections 2018-2028 indicate a statewide change of employment for Electrical and Electronics Engineering Technicians (17-3023) of 3.4% with an annual median wage of $60,860 with an Associate degree as the typical education needed for entry. Annual openings equate to 92 jobs per year.

The Kansas Department of Labor Long-term Occupation Projections 2018-2028 small cell suppresses Electro-Mechanical Technicians (17-3024) data.

Getting data for the Electro-Mechanical and Mechatronics Technologist/Technicians occupation is challenging due to the fact that although this is not a new occupation, the need and demand for those trained in this area is only now being realized.

In order to obtain the demand in the region for the Electro-Mechanical Technician occupation, KCKCC utilized the Emsi data using occupations that are closely related to the Electro-Mechanical and Mechatronics occupation. According to Economic Modeling Specialist International (Emsi), reflective of Quarter 3, 2020 data set for the Kansas City Metro (Kansas and Missouri area). The data shows from 2015-2020, the 3 Kansas county region, Johnson, Leavenworth and Wyandotte, experienced a 16.9% increase in job growth. Additionally, the median salary is $55,469 for the area. The average monthly job postings from September 2016 – August 2020 are 48 postings. The average monthly hires were 6. This report demonstrates a need for these skilled workers at a high wage. (See appendices A)

Heartland Cocoa-Cola has a continuous need to hire qualified, local candidates with advanced manufacturing skills. They support this program by serving on the program advisory board and with a monetary donation to be used to purchase equipment for the program. Their goal is to hire KCKCC students in internship roles while attending the program. Also, they will continue to work with KCKCC to help fulfill the needs of the manufacturing industry and KCKCC.

Amsted Rail has worked with KCKCC for several years to obtain customized training for their employees. In support of this program, an Amsted Rail representative now serves on the program advisory committee and provide a monetary donation to purchase equipment. The intention of Amsted Rail is to send employees to KCKCC to train in the Automation Engineer (Advanced Technology) program.

INX International Ink Company has been supporting KCKCC since 2016. Their support for this program is shown through serving on the program advisory committee and providing training opportunities for current and potential employees. They have stated their commitment to the local community by hiring within the community.

Business and Industry Partnerships

KCKCC does not have any partnerships with business and industry at this time.

Duplication of Existing Programs

Johnson County Community College
- Automation Engineer Technology/Technician (CIP 15.0406)
- Number of Declared Majors – 51
- Number of Program Graduates – 5
- Number of Graduates Exiting and Employed – ^
- Annual Median Wage of Graduates Exited and Employed –^

Hutchinson Community College
- Automation Engineer Technology/Technician (CIP 15.0406)
- Number of Declared Majors – 34
- Number of Program Graduates – 5
- Number of Graduates Exiting and Employed – ^
- Annual Median Wage of Graduates Exited and Employed – ^

^ = Small cell suppression used to protect student privacy in accordance with FERA and HEOA guidance.

Johnson County Community College and Hutchison Community College both offer the Automation Engineer Technology/Technician program. Although the common courses must be alike, the remaining curriculum and program layout that both institutions offer is vastly different then KCKCC. The program KCKCC is offering was developed based on the needs of local industry and offers training in areas not addressed by the other two institutions such as welding, machining and lean manufacturing to name a few. As stated previously in the program narrative, quarterly surveys and outreach calls conducted over the past few years by Kansas Manufacturing Solutions and the Wyandotte Economic Development Council consistently demonstrate that area manufacturers' top concern is that they cannot find enough skilled workers. Other issues include: lengthy employee learning curves, high turnover, lack of technical training programs, unengaged/unproductive employees, a hiring process that is inadequate and baby boomers getting ready to retire. Considering Wyandotte County is one of the poorest counties in the United States, yet it is the site of over 300 manufacturing companies with some of the region's highest paying jobs, averaging $69,126 annually (JobsEQ.), KCKCC realizes this program would be a huge asset to the local community. Based on this information and input from the advisory committee, KCKCC developed a program that will meet the needs of local industry as well as remain compliant with the requirements of the aligned program. With the vast differences in the programs offered at JCCC and Hutchinson Community College and the one KCKCC is proposing, collaboration was not pursued.

Program Information

Certificate Course Descriptions

AMFT 0101   AC/DC Circuits   4 cr
AC/DC circuits address the basics of direct and alternating current circuits.
Prerequisites: None

AMFT 0131   Actuator and Sensor Systems   3 cr
This course examines types, installation and troubleshooting of industrial actuators and sensors. Contemporary control methods in process control and proportional-integral-derivative (PID) process loops are covered in this course. *Prerequisites: None*

AMFT 0121   Programmable Logic Controllers   3 cr
This course examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program are covered in this course. Students have the ability to test out of this course. *Prerequisites: None*

AMFT 0141   Industrial Robotics   3 cr
This course examines types, applications and troubleshooting of industrial robots and subsystems. Students have the ability to test out of this course. *Prerequisites: None*

AMFT 0112   Industrial Fluid Power   3 cr
This course examines theory, applications and operation of industrial hydraulic and pneumatic systems. The inspection, maintenance and repair of the various components are covered in this course. Interpretation of the various schematic symbols used in hydraulic and pneumatic circuit diagrams will be discussed. *Prerequisites: None*

AMFT 0100   Safety/OSHA 10   2 cr
Through a variety of classroom and/or lab learning and assessment activities, students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS). *Prerequisites: None*

AMFT 0130   GMAW (Gas Metal Arc Welding / Mig Welding)   3 cr
Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation.; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds. *Prerequisites: AMFT 0100 or equivalent*

AMFT 0108   Machinist 1   3 cr
This course will introduce the learner with skills to properly identify, set-up, and operate metal turning and milling equipment safely. Utilization of a hands-on approach as well as classroom activities to familiarize the student with the process to complete job task analysis. Common mathematical formulas that will be implemented in to the curriculum to achieve expected learner outcomes will also be covered. *Prerequisites: None*

AMFT 0115   AutoCAD Concepts   4 cr
The purpose of this class is to use AutoCAD as a means of learning fundamental 2D computer aided drafting design and modification. This course will cover opening and saving CAD files according to standard CAD Library methodologies. Navigation tools to create and modify drawing files will be covered. Layer and object properties, Hatching, Attributes, as well as creating and importing from black

libraries. Several trade specific and engineering CAD files will be created and modified such as electrical, mechanical and architectural. Instruction on moving from model space to paper space and utilize viewports to create drawings to specification that will be printed. The various styles and approaches of adding dimensions to CAD files will be covered. Students have the ability to test out of this course. *Prerequisite: None*

AMFT 0150   Electrical Motor Controls   3 cr

This class examines the principles and theory of AC and DC electrical motors as well as electrical controls circuitry. Utilizing wiring principles and wiring from Schematic Diagrams to control operational specification will be covered in this course. Wiring electrical components for control such as switches, relays, contactors, motor starters and variable frequency drives will be utilized to create and troubleshoot Motor Control systems. Controls components and wiring to disable, enable Motor Control as well as changing speed on variable frequency drives. The students will create useful schematic from specification and test in lab for correct operation. Students have the ability to test out of this course. *Prerequisite: None*

AMFT 0221   Advanced Programmable Logic Controllers   4 cr

An introduction to networking and communications, complex programming instructions, coordinating control with different control systems and different programming methodologies. Students will be required to design programs from specification and download to real world manufacturing equipment to test and troubleshoot for proper operation. Topics covered will include HMI (Human Machine Interface) coordinating control of PLC controlled equipment. Students have the ability to test out of this course if they have met the prerequisite requirement. *Prerequisites: AMFT 0121 or equivalent*

AMFT 0170   TQM and Lean Manufacturing Principles   3 cr

The purpose of the course is to discover the history of process development and the improvement of process methodologies using Total Quality Management (TQM) and Lean Manufacturing. Identify the different characteristics of Quality Assurance versus Quality Control. Introduce process tools such as 5S, Six-Sigma, Kaizen as well as value stream mapping for overall continuous improvement and quality standards. Best practice modeling and implementation will be used in real world examples using working manufacturing lab equipment. Process tools will be covered for the machine side as well with Process tools such as Ishikawa fishbone diagram for root cause analysis, downtime and resource management. And finally the class will explore the fundamental differences between Process Management and Project Management. Students have the ability to test out of this course. *Prerequisite: None*

AMFT 0160   Total Productive Maintenance (TPM)   3 cr

This course will introduce Process tools and software to map machine reliability and downtime cost effects on manufacturing operations and production success. TPM methodologies and principles will be introduced and utilized in course labs. Process tools with focus on machine troubleshooting will be utilized to do root cause analysis and continuous improvement to cure problems rather than adapting to them. (CMMS) Computer Maintenance Management Software will be used as a process tool to discover and implement changes regarding both Predictive and Preventative Maintenance. The students will analyze the labs manufacturing equipment and create and close work orders, build preventative maintenance schedules and preventative maintenance schedules in the CMMS software. Projects to calculate lost revenue due to an individual piece of equipment will be practiced. Students have the ability to test out of this course. *Prerequisite: None*

AMFT 0240   Industrial Systems Integration   3 cr

The purpose of this program is to introduce how automated machine processes can be integrated with other systems within a manufacturing environment to control equipment and share it's data information with other systems. This course will introduce networking fundamentals and layout diagrams of both industrial networking and business networking. This course will cover (IioT) Industrial Ethernets of Things; utilizing networking signals rather than electrical handshakes to manipulate electromechanical controls such as Variable Frequency Drives. This course will discuss SAP systems to gain an understanding of how modern manufacturing utilized their sites main operating database to interact with and control machine processes. Finally, the course will discuss utilizing the lab to introduce change machine process thought information received from a database management system. Students have the ability to test out of this course if they have met the prerequisite requirement. *Prerequisite: AMFT 0141, AMFT 0150, AMFT 0221*

AMFT 0230   Project Design and Documentation (Practicum)   **3 cr**
This course will integrate Project design using AutoCAD to create construction specifications and utilize software to implement, monitor and complete the project. Topics covered include creating a project management file in software to set timelines with other teams, task management and coordination, milestone meetings and time management. The course offers real world experience developing a project from a team perspective and assigning different departments to handle different parts of the project and come together to assess the results. The project will be designed in AutoCAD, electrical wired, PLC Programmed, Bracket to be built in the Machine shop and welded to the conveyor and test to see if it meets the intended outcome. The course includes documentation and saving all project CAD files to a CAD Library with a determined naming convention the project team decides. Students will cover how a 360 degree evaluation can be used to do an analysis of the completed project to build a best practice model for future projects. Students have the ability to test out of this course if they have met the prerequisite requirement. *Prerequisite: AMFT 0115, AMFT 0160, AMFT 0170*

AMFT 0250   Automated Manufacturing Systems Capstone   **2 cr**
The purpose of this course is to design a system utilizing methodologies, technologies and skills acquired throughout the AMT Program. 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. 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. *Prerequisite: AMFT 0230, AMFT 0240*

AAS course descriptions

The following course are to be taken in addition to the courses required for the Automation Engineer Technology (Advanced Manufacturing) certificate:

BLUE 0101   Freshman Seminar   1 cr
Better Life Utilizing Education 1 hour credit. This course will include topics designed to acquaint the student with the campus community, classroom expectations, counseling services, testing, and other experiences incidental to a successful adjustment to college life. Also covered are study skills, note taking, stress and fitness, and human relationships. Freshman Seminar: Bettering Life Utilizing

Education is a required course for all freshmen except those who meet one of the six exemptions listed in the KCKCC catalog.

ENGL 0101 Composition
3 cr

Composition 101 is designed to help students achieve language proficiency and write paragraphs and essays which demonstrate unity, coherence, and levels of usage appropriate to the topic, purpose, and audience.

SPCH 0151 Public Speaking –OR– SPCH 0201 Interpersonal Communication

SPCH 0151 Public Speaking
3 cr

This is a basic speech course dealing with the oral communication process through the study of public speaking. Students will learn to select topics, analyze their audience, organize and gather support for a speech, improve delivery skills and reduce communication apprehension, listen for information and evaluation purposes, and distinguish between different types of speeches. Each student will develop and deliver a minimum of four speeches during the course.

OR

SPCH 0201 Interpersonal Communication
3 cr

This is a basic speech course dealing with the oral communication process through the study of interpersonal communication. Interpersonal communication is the study of communication that takes place between two or more persons in day-to day life. This course will help you understand what works and what doesn't in your communication with friends, families, and coworkers. Areas of study include: perception, verbal and nonverbal messages, listening, relationship development, relationship, maintenance, repair, and/or dissolution, and the differences in these things between cultures.

MATH 0103 Business Math -OR- Higher

MATH 0103 Business Math
3 cr

Fundamentals of math as they relate to accounting, banking, finance, merchandising and business are studied. Students develop computational knowledge and applied skills in areas including arithmetical operations, price setting, simple and compound interest, time value of money, banking, payroll, insurance, budgeting, and other consumer-related topics.
Prerequisites: Grade of "C" or higher in MATH-0099 Elementary Algebra OR Accuplacer score of 71 or higher.

Elective Credits *(Must complete 6 credit hours in at least 2 of the 3 areas below)*

Humanities; Natural/Physical Science; Social and Behavioral Sciences
6 cr

Program Outline:

This is a single-track program with exit points at the technical certificate and associates degree levels.

Certificate: Automation Engineer Technology

Semester 1	Fall Semester Year 1	18 Credits
AMFT 0100	Safety OSHA 10	2
AMFT 0130	GMAW (MIG Welding)	3
AMFT 0108	Machinist 1	3
AMFT 0101	AC/DC Circuits	4
AMFT 0112	Industrial Fluid Power	3
AMFT 0121	Programmable Logic Controllers	3

Semester 2	Spring Semester Year 1	16 Credits
AMFT 0115	AutoCAD Concepts	4
AFMT 0150	Electrical Motor Controls	3
AFMT 0131	Actuators and Sensors Systems	3
AMFT 0160	Total Productive Maintenance (TPM)	3
AMFT 0170	TQM and Lean Manufacturing Principles	3

Semester 3	Summer Semester Year 1	7 Credits
AMFT 0221	Advanced Programmable Logic Controllers	4
AMFT 0141	Industrial Robotics	3

Semester 4	Fall Semester Year 2	8 Credits
AMFT 0230	Project Design and Documentation (Practicum)	3
AMFT 0240	Industrial Systems Integration	3
AMFT 0250	Automated Manufacturing Systems Capstone	2

Exit point for Automation Engineer Technology Certificate: 49

AAS in Automation Engineer Technology:

49 credits of certificate program plus the following:

Academic Core Classes (Gen-ED)		16 Credits
BLUE 0101	Freshman Seminar	1
MATH 0103	Business Math or higher	3
SPCH 0151 or SPCH 0201	Public Speaking or Interpersonal Communication	3
ENGL 0101	Composition 1	3
	Elective credits (must complete hours in 2 of the 3 areas below): Humanities; Natural/Physical Science; Social and Behavioral Sciences	6

Exit point for Automation Engineer Technology AAS: **65 credits**

Program Accreditation:

KCKCC will not be seeking accreditation, as there is no industry accreditation available for this program.

Faculty Requirements

- Trade Specific Certificates related to core courses of the Automation Engineer Technology Program.
- Minimum of Certificate in Automated Engineering, Industrial Technology, Advanced Manufacturing or a closely related area; Associate's degree or higher preferred.
- Minimum 3 years of experience in Automated Engineering, Industrial Technology, Advanced Manufacturing or a closely related area with an emphasis on several or all trade areas.
- Demonstrated experience to troubleshoot Mechanical, Electrical and Automated equipment for various processes.

Cost and Funding for Proposed Program

KCKCC has instituted a 'New Program Cost Center' for standing up new programs. The college is using that cost center as the main source for starting this program. KCKCC was awarded the Kansas Innovation Grant in the amount of $18,000. An additional match from industry in the amount $18,000 will be used to purchase 3 Allen Bradley PLC's. KCKCC is working with Merchant & McIntyre in Washington DC in writing additional grants to submit for future funding.

MapCom has committed to an ongoing annual donation the CMMS (Computer Maintenance Management Software) to the program, with a $15,000 estimated value. This program also utilizes equipment in other established programs such as Welding and Machine Technology. There is not a need to duplicate equipment by purchasing more for this program. The AET program will utilize the established equipment within those programs, allowing the college to realize a cost savings and maximize usage of equipment.

The faculty position will be funded through a vacant faculty position that is no longer needed. Those resources have been reallocated to fund the full-time Automation Engineering Technology faculty.

Once the program is approved for Perkins funding, additional equipment and professional development can be funded through it. SB143 will cover $125,000 of the equipment during AY21/22, with additional funds from SB143 during AY22/23 allocated to the program.

Program Review and Assessment

KCKCC has a comprehensive program review cycle and assessment process. Programs are placed on a program review schedule and will be reviewed in 4-year cycles. Each program completes a self-study with the help of a mentor, presents their findings to the program review committee, discussion of an action plan, and implementation of a final action plan to address challenges and maintain strengths of the program. Programs submit annual reports on the progress of the review with any changes, updates, and new data results. The purpose of the committee is to make recommendations for improvement and/or to sunset programs.

The college has adopted TaskStream as the online management tool for gathering, updating, and maintaining assessment items. The Assessment Team at KCKCC works with each program to assess program outcomes, create assessment plans, report assessment findings and create action plans. The process of assessment occurs annually, at the course and program level, and is monitored by the academic deans and the Office of Assessment

Program Approval at the Institution Level
- Provide copies of the minutes at which the new program was approved from the following groups:
  - Program Advisory Committee
    (including a list of the business and industry members)
  - Curriculum Committee
  - Governing Board
    (including a list of all Board members and indicate those in attendance at the approval meeting)

Submit the completed application and supporting documents to the following:
Director of Workforce Development
Kansas Board of Regents
1000 SW Jackson St., Suite 520
Topeka, Kansas 66612-1368

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

Institution: Kansas City Kansas Community College

Proposed Program: Automation Engineer Technology

IMPLEMENTATION COSTS				
Part I. Anticipated Enrollment			Implementation Year	
Please state how many students/credit hours are expected during the initial year of the program?				
		Full-Time		Part-Time
A. Headcount:		10—41 credits		10—21 credits
Part II. Initial Budget		Implementation Year		
A. Faculty		Existing:	New:	Funding Source:
Full-time	#1	$	$69,145	Reallocation of funding for vacant FT Faculty Position
Part-time/Adjunct	#1	$	$27,000	Reallocation of funding for vacant Adjunct position
		Amount	Funding Source	
B. Equipment required for program		$500,000	KCKCC New Program Cost Center, Vocational Education Capital Outlay funds, $36,000 funded via grants; utilization of already existing equipment in other programs.	
C. Tools and/or supplies required for the program		$35,000	KCKCC New Program Cost Center	
D. Instructional Supplies and Materials		$15,000	KCKCC New Program Cost Center	
E. Facility requirements, including facility modifications and/or classroom renovations		$11,000	KCKCC New Program Cost Center	
F. Technology and/or Software		$15,000	Donated by MapCom	
G. Other *(Please identify; add lines as required)*				
Total for Implementation Year		$668,145		

KBOR Fiscal Summary for Proposed Academic Programs

PROGRAM SUSTAINABILITY COSTS (Second and Third Years)				
Part I. Program Enrollment		Second and Third Years		
Please state how many students/credit hours are expected during the first two years of the program?				
		Full-Time	Part-Time	
A. Headcount:		20—90 credits	20—49 credits	
Part II. Ongoing Program Costs		First Two Years		
A. Faculty		Existing:	New:	Funding Source:
Full-time	#1	$69,145	$69,145	Local, tuition
Part-time	#2	$27,000		Local, tuition
		Amount	Funding Source	
B. Equipment required for program		$0		
C. Tools and/or supplies required for the program		$10,000	Tuition/fees, Perkins, Donations	
D. Instructional Supplies and Materials		$2,500	Tuition/fees	
E. Facility requirements, including facility modifications and/or classroom renovations		$0		
F. Technology and/or Software		$15,000	MapCom donation	
G. Other *(Please identify; add lines as required)*				
Total for Program Sustainability		$192,790		

Please indicate any additional support and/or funding for the proposed program:

KCKCC has instituted a 'New Program Cost Center' for standing up new programs. The college is using that cost center as the main source for starting this program. KCKCC was awarded the Kansas Innovation Grant in the amount of $18,000. An additional match from industry in the amount $18,000 will be used to purchase 3 Allen Bradley PLC's. KCKCC is working with Merchant & McIntyre in Washington DC in writing additional grants to submit for future funding.

MapCom has committed to an ongoing annual donation the CMMS (Computer Maintenance Management Software) to the program, with a $15,000 estimated value. This program also utilizes equipment in other established programs such as Welding and Machine Technology. There is not a need to duplicate equipment by purchasing more for this program The AET program will utilize the established equipment within those programs, allowing the college to realize a cost savings and maximize usage of equipment.

The faculty position will be funded through a vacant faculty position that is no longer needed. Those resources have been reallocated to fund the full-time Automation Engineering Technology faculty.

Once the program is approved for Perkins funding, additional equipment and professional development can be funded through it. SB143 will cover $125,000 of the equipment during AY21/22, with additional funds from SB143 during AY22/23 allocated to the program.

KBOR Fiscal Summary for Proposed Academic Programs

Submit the completed application and supporting documents to the following:

Director of Workforce Development
Kansas Board of Regents
1000 SW Jackson St., Suite 520
Topeka, Kansas 66612-1368

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

Institution: _Kansas City Kansas Community College_____

Proposed Program: __Automation Engineer Technology_____

IMPLEMENTATION COSTS					
Part I. Anticipated Enrollment			Implementation Year		
Please state how many students/credit hours are expected during the initial year of the program?					
			Full-Time		Part-Time
A. Headcount:			10—41 credits		10—21 credits
Part II. Initial Budget			Implementation Year		
A. Faculty			Existing:	New:	Funding Source:
Full-time		#1	$	$69,145	Local, tuition
Part-time/Adjunct		#1	$	$27,000	Local, tuition
			Amount	Funding Source	
B. Equipment required for program			$500,000	Grants, tuition/fees, Vocational Education Capital Outlay funds	
C. Tools and/or supplies required for the program			$35,000	Grants, Local	
D. Instructional Supplies and Materials			$15,000	Tuition/fees	
E. Facility requirements, including facility modifications and/or classroom renovations			$11,000	Capital Outlay, grants	
F. Technology and/or Software			$4,000	Donated	
G. Other *(Please identify; add lines as required)*					
Total for Implementation Year			$657,145		

PROGRAM SUSTAINABILITY COSTS (Second and Third Years)					
Part I. Program Enrollment			Second and Third Years		
Please state how many students/credit hours are expected during the first two years of the program?					
			Full-Time		Part-Time
A. Headcount:			20—90 credits		20—49 credits
Part II. Ongoing Program Costs			First Two Years		
A. Faculty			Existing:	New:	Funding Source:
Full-time		#1	$69,145	$69,145	Local, tuition
Part-time		#2	$27,000		Local, tuition
			Amount	Funding Source	
B. Equipment required for program			$0		
C. Tools and/or supplies required for the program			$10,000	Tuition/fees, Perkins, Donations	
D. Instructional Supplies and Materials			$2,500	Tuition/fees	
E. Facility requirements, including facility modifications and/or classroom renovations			$0		
F. Technology and/or Software			$2,500	Tuition/fees, Perkins	
G. Other *(Please identify; add lines as required)*					
Total for Program Sustainability			$180,290		

KBOR Fiscal Summary for Proposed Academic Programs

Please indicate any additional support and/or funding for the proposed program:

Numerous grants applied for:

1. EDA grant, pending - $1.614 million in conjunction with Wyandotte Economic Development Council, Workforce Partnership, and Kansas Manufacturing Solutions.
2. Kansas Department of Commerce Higher Education Advanced Manufacturing grant, pending - $500,000 for equipment
3. Kansas Innovation Grant, awarded - $18,000. Match from industry $18,000 for 3 Allen Bradley PLC's.

MapCom donating the CMMS (Computer Maintenance Management Software) to the program - $4,000 estimated value.

Other support and/funding: Perkins, Donations, Vocational Education Capital Outlay, tuition/fees.

Submit the completed application and supporting documents to the following:

> Director of Workforce Development
> Kansas Board of Regents
> 1000 SW Jackson St., Suite 520
> Topeka, Kansas 66612-1368

LETTERS OF SUPPORT

AUTOMATION ENGINEER TECHNOLOGY

Advisory Committee members

Donald Lauf – Exide; <donald.lauf@exide.com>;

Matt Morrow – Inxintl; <Matt.Morrow@inxintl.com>;

Victoria Purvis – Brillinc; <Victoria.Purvis@brillinc.com>;

Teneca Nicole Clark – Coca Cola; <TClark@heartlandcocacola.com>;

Andrea Gilchrist – Coca Cola; <Andrea.Gilchrist@heartlandcocacola.com>;

Tavares Harney – Coca Cola; <tharney@heartlandcocacola.com>;

Bruce Tubbs – Coca Cola; <btubbs@heartlandcocacola.com>;

Norman Kump – KCNSC DOE; nkump@kcnsc.doe.gov

Amber Mangiaracino – Tippins; amber.mangiaracino@tippins.net

Eric Young – Amsted Rail; <eyoung@amstedrail.com>;

Vance Brison – Faith Technologies; Vance.Brison@faithtechnologies.com

Kansas City Kansas Community College Technical Education Center
AMT Advisory Committee Meeting

Attendance:

Donald Lauf – Exide; Matt Morrow – Inxintl; Victoria Purvis – Brillinc; Teneca Nicole Clark – Coca Cola; Andrea Gilchrist – Coca Cola; Tavares Harney – Coca Cola; Bruce Tubbs – Coca Cola; Norman Kump – KCNSC DOE; Amber Mangiaracino – Tippins; Eric Young – Amsted Rail; Vance Brison – Faith Technologies; Lori Chaffin – KCKCC-TEC; Rich Piper – KCKCC-TEC; Alexandria Pennewell – KCKCC-TEC

Opened at 1:00

ITEM	DISCUSSION	ACTION
Introduction & Welcome	Everyone introduced themselves and what they do. Discussed background of how the Diesel Tech program came to be.	No action.
KBOR / FAME overview	Discussed KBOR and FAME model requirements for program. Discussed differences between required/support courses.	No action.
Washburn Course Description	Overview of the potential classes.	Decided to add predictive maintenance, tools and concepts, vibrations and ultrasound analysis, PDMA, electrical motor analysis.
Robotics	Overview on need for robotics.	Decided there needed to be a robotics class.
Advisory chair meeting	Overview of advisory meeting setup and requirements.	No action.
Equipment	Overview of equipment sent out, what's been purchased and what's planned to be purchased.	No action.
Space / Room	Discussed 21-22 program start. Working on downtown space, will start at TEC.	No action.
Funding	Discussed future funding needs; discussed resources already funding program. Went over Perkins, taxes and grants.	No action.
Graduate expectations	Discussed what industry wanted to see graduates doing.	No action.

Potential Schedule	Discussed student schedules, incorporating non-sponsored/regular students and internships	Decided two days of class (Mon-Tues) then three days of internship.
Layout of Program	Discussed program layout and scheduling for different groups.	Decided program can only be laid out one way; possible to have two different schedules for two different groups.
Due Dates	Discussed dates to return items to Lori and next meeting times.	Decided to meet again in a month. Decided to nominate chair/co-chair then.
Close out		

Closed at 2:00PM.

Kansas City Kansas Community College Technical Education Center
AMT Advisory Committee Meeting
June 24, 2020

Attendance:

Donald Lauf – Exide; Matt Morrow – Inxintl; Victoria Purvis – Brillinc; Teneca Nicole Clark – Coca Cola; Andrea Gilchrist – Coca Cola; Tavares Harney – Coca Cola; Bruce Tubbs – Coca Cola; Norman Kump – KCNSC DOE; Amber Mangiaracino – Tippins; Eric Young – Amsted Rail; Vance Brison – Faith Technologies; Lori Chaffin – KCKCC-TEC; Rich Piper – KCKCC-TEC; Alexandria Pennewell – KCKCC-TEC

Opened at 1:00

ITEM	DISCUSSION	ACTION
Introductions		No action.
Grant overview	Discussed matching grants and donations from government, Amsted Rail and Heartland Coca Cola.	No action.
Assessments	Discussed students having personalized assessments; when assessments would happen.	Instructors will decide how to assess students.
Communication with employer	Talked about how grades/other items would be discussed with employers.	Liaison and/or lead faculty point person per company.
Math class needs	Discussed what students needed to know re: general math. Need LEAN, TPM and Quality.	Decided to create math class tailored to advanced manufacturing.
Robotics and Automation	Discussed knowledge requirement for this, how many credits needed.	Decided students needed a general overview; no need for Robotics II.
Subcommittee creation	Discussed pathway subcommittee creation. Decided on chair/cochair for advisory committee.	Eric Young (chair) and Victoria Purvis (cochair). Will create subcommittee.
Due Dates	Discussed support letters, meeting and syllabi edit due dates.	Decided mid-july would be the final date.
Partnership & Support letter differences	Discussed the differences between the two and potential for having both.	No action.
Math Prerequisite	Discussed differences between assessment test score and technical math.	Decided on Intermediate Algebra.

Elective courses	Discussed students could be put into specific programs depending on their industry. AMT students could go with Machine Technology to learn Lathe/Mill/Grind instead of making it a requirement for all.	Decided to put students with normal programs depending on industry need. Set up bank of electives so as needs change, classes can.
Closeout		

Closed at 2:10PM.

Amsted Rail

Amsted Rail Kansas City
7111 Griffin Road
Kansas City, KS66111

Kansas Board of Regents,

Amsted Rail is committed to participating in the Federation for Advanced Manufacturing Education's (FAME) Advanced Manufacturing Technician (AMT) program in conjunction with Kansas City Kansas Community College. We have a continuous need for hiring local qualified candidates with advanced manufacturing skills, and have had success in developing the skills of our workforce through previous Industrial Maintenance Training, such as the short-term cohorts funded by the Workforce Aide grant and provided by KCKCC. We have also sent more than ten incumbent workers to KCKCC for welding training and certification. Through consistent correspondence and collaboration with KCKCC, we look forward to continued training of our employees through FAME AMT program, and hope to see this solution in place by KCKCC in 2021.

Amsted Rail's support of the FAME AMT program has been demonstrated through a monetary donation of $13,000 that will be used to purchase a PLC simulator for the program. Along with this, a member of Amsted Rail serves as the Co-Chair for the FAME AMT Academic Advisory Board. Amsted Rail has been a part of the Industrial Maintenance Training Advisory Committee and now the FAME AMT Advisory Committee since both of their inceptions at KCKCC.

From a company perspective, we typically have one to three positions that need to be filled from this talent pool each year and expect this to be an ongoing need. We have committed internally to a Maintenance Trainee program to develop and upskill our hourly workforce into Maintenance Technicians. We intend to use the FAME AMT program as a feeder program to help fill both the Maintenance Trainee positions and Maintenance Technician roles within our company. Our intent would be to hire students out of high school, have them work at our company, along with attending the FAME AMT program (this is the standard FAME model), then transition to full time employees when the scholastic portion of the program is complete.

As these employees grow with our company, we would expect their average full-time starting wage to be about $25/hour and would expect this figure to be closer to $30/hour after three years of service. Along with monetary promotions, employees that complete this program have the opportunity to be promoted internally, based off of their performance and leadership skills.

Amsted Rail will continue to work with Kansas City Kansas Community College to ensure AMT programs meet our needs for an entry-level AMT position. We would value the skillset acquired through the FAME AMT program when considering entry-level candidates at our facility.

Sincerely,

[signature] 7-9-20

Eric Young
Operations Manager
501-428-5232
eyoung@amstedrail.com

July 9, 2020

Heartland Coca-Cola
10001 Industrial Blvd.
Lenexa, KS 66215

Kansas Board of Regents,

Heartland Coca-Cola has partnered with Kansas City Kansas Community College (KCKCC) by participating in the Federation for Advanced Manufacturing Education's (FAME) Advanced Manufacturing Technician (AMT) program. We have a continuous need for hiring qualified, local candidates with advanced manufacturing skills, and have had success in developing the skills of our workforce through previous Industrial Maintenance Technician (IMT) Training. The 11-week cohort was funded by the Kansas Department of Commerce Workforce Aide Grant, and provided by KCKCC. In addition, Heartland Coca-Cola committed four maintenance mechanics, who graduated from KCKCC 's IMT Certification Program.

Heartland Coca-Cola's support of the FAME AMT program has been demonstrated through a monetary donation of $5,000 that will be used to purchase a PLC simulator for the program. Four of Heartland Coca-Cola's Lenexa Hometown Production staff also serve as members of the FAME AMT Academic Advisory Board. Heartland's Lenexa Production Hometown has been a part of the FAME AMT Advisory Committee since its inception at KCKCC, in 2019.

Heartland intends to use the FAME AMT program in two ways:

1. To create a pipeline for Maintenance Mechanic roles that may need to be filled.

   and

2. To align with our internal commitment to our Maintenance Mechanic program, by developing and building capability within our hourly workforce. Our goal would be to potentially hire KCKCC students in internship roles while they attend the FAME AMT program (this is the standard FAME model). We anticipate that these graduates would then be viable candidates to transition to full-time employees when the scholastic portion of the program is complete.

Building a skilled candidacy pool is of high importance to Heartland as a large percentage of our Maintenance personnel are extremely tenured. Developing mechanics and maintenance leaders of the future is a crucial part of Heartland's long-term business plan. We expect that individuals that become full time members of our Heartland family will have the opportunity to grow with our company, receive a livable wage, and impactful benefits.

Heartland Coca-Cola will continue to work with Kansas City Kansas Community College to ensure the AMT program meets our needs for developing and hiring talent, and their needs of support and engagement. We would value the skillset acquired through the FAME AMT program when considering entry-level candidates at our facility and look forward to a lasting partnership with KCKCC.

Sincerely,

Teneca Clark
Director of Plant Operations
Heartland Coca-Cola
tclark@heartlandcocacola.com

Matt Morrow
INX International Ink Co.
2647 South 96th Street
Edwardsville, KS, 66111
Direct 913-667-1170
Mobile 913-207-2451
Matt.Morrow@inxintl.com

July 20, 2020

Dear Kansas Board of Regents,

As a member of the IMT advisory board representing INX International Ink Company. I am excited about our ongoing partnership with KCKCC Technical Center. The partnership came about through our involvement with the Wyandotte EDC and with our recent manufacturing warehouse expansion project in 2016. Since then our commitment to the local community has strengthen and we look forward to the potential of hiring from within the local area.

We currently have a need for hiring local qualified candidates with advanced manufacturing skills. Within the past year we have participated in the Cohorts Electrical Maintenance Course. Through collaboration with KCKCC and other manufactures in the local area, we look forward to the possibility of continued training opportunities of our employees to participate in the current and future training programs. We are excited about assisting and growing the program the into the FAME model.

INX International is an essential business as part of the supply chain for food and pharmaceutical packaging and print media used for vital communications. We are very busy fulfilling commitments to our customers, while still following safe practices related to hygiene, social distancing, and remote work. INX is hiring and seeking talented candidates to support our business development. INX International offers completive wages, insurance, paid time-off all items that you would expect from a world class company.

The current programs that KCKCC are currently providing is an ideal resource to enhance the education of local applicants. We understand and welcome further conversation between Kansas City Kansas Community College and the establishment of the FAME USA model.

Thank you for the opportunity to provide necessary educational technology to serve the highly in demand position of Manufacturing of necessity goods. We look forward to filling our hiring needs for advanced manufacturing technicians through local talent and provide sustainable career opportunities with educational growth to those individuals that participate in the training.

Sincerely,

Matt Morrow
Facilities Manager
INX International Edwardsville

Industrial Engineering Technologists and Technicians
in 3 Kansas Counties

Contents

What is Emsi Data?

Industrial Engineering Technologists and Technicians (SOC 17-3026):
Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May perform time and motion studies on worker operations in a variety of industries for purposes such as establishing standard production rates or improving efficiency.

Sample of Reported Job Titles:
Manufacturing Technician
Industrial Maintenance Technician
Industrial Engineering Technician
Quality Control Engineering Technician (QC Engineering Technician)
Project Engineer
Production Staff Worker
Process Technician
Process Engineer
Process Documentation and Methods Analyst
Methods Specialist Engineer

Related O*NET Occupation:
Industrial Engineering Technicians (17-3026.00)

Emsi data is a hybrid dataset derived from official government sources such as the US Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. Leveraging the unique strengths of each source, our data modeling team creates an authoritative dataset that captures more than 99% of all workers in the United States. This core offering is then enriched with data from online social profiles, resumés, and job postings to give you a complete view of the workforce.

Emsi data is frequently cited in major publications such as *The Atlantic, Forbes, Harvard Business Review, The New York Times, The Wall Street Journal*, and *USA Today*.

The Atlantic   Forbes   Harvard Business Review   The New York Times   WSJ   USA TODAY

Report Parameters

1 Occupation

17-3026   Industrial Engineering Technologists and Technicians

3 Counties

20091   Johnson County, KS   20209   Wyandotte County, KS
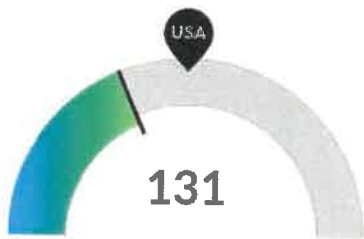
20103   Leavenworth County, KS

Class of Worker

QCEW Employees

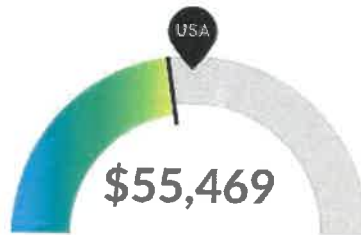The information in this report pertains to the chosen occupation and geographical areas.

Executive Summary

## Aggressive Job Posting Demand Over a Thin Supply of Regional Jobs

131
Jobs (2015)

Your area is not a hotspot for this kind of job. The national average for an area this size is 196* employees, while there are 131 here.

$55,469
Compensation

Earnings are about average in your area. The national median salary for Industrial Engineering Technologists and Technicians is $56,555, compared to $55,469 here.
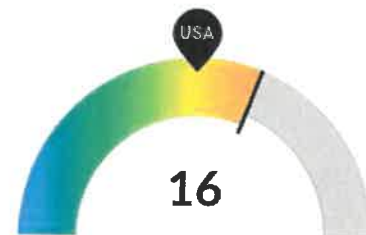
16
Job Posting Demand

Job posting activity is high in your area. The national average for an area this size is 11* job postings/mo, while there are 16 here.
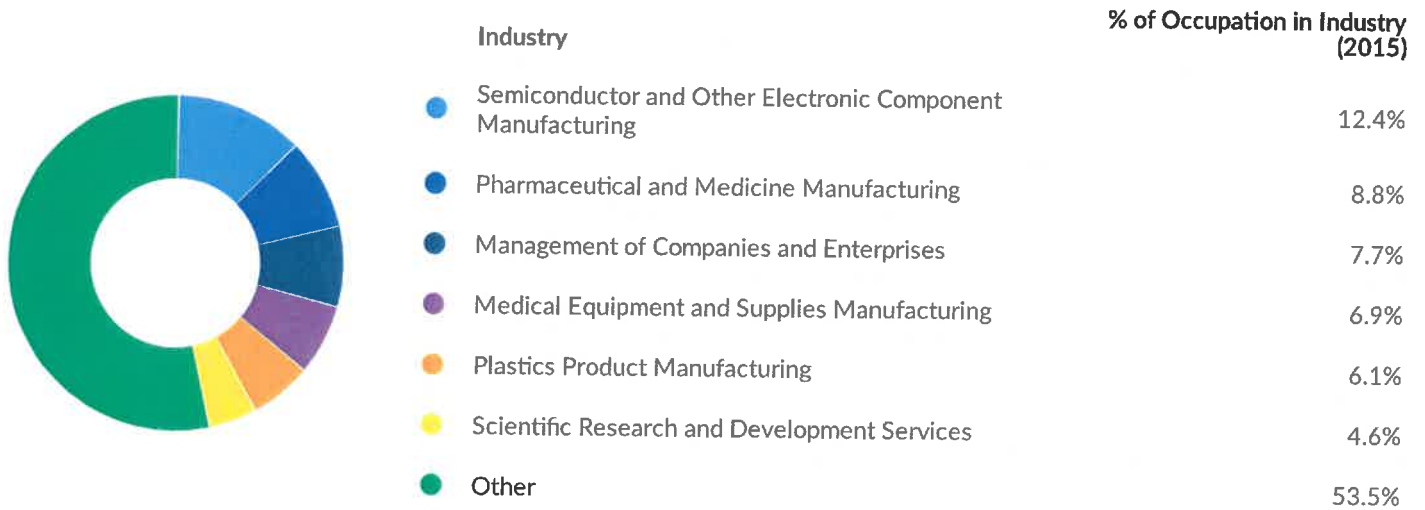
*National average values are derived by taking the national value for Industrial Engineering Technologists and Technicians and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Jobs

Regional Employment Is Lower Than the National Average

An average area of this size typically has 196* jobs, while there are 131 here. This lower than average supply of jobs may make it more difficult for workers in this field to find employment in your area.
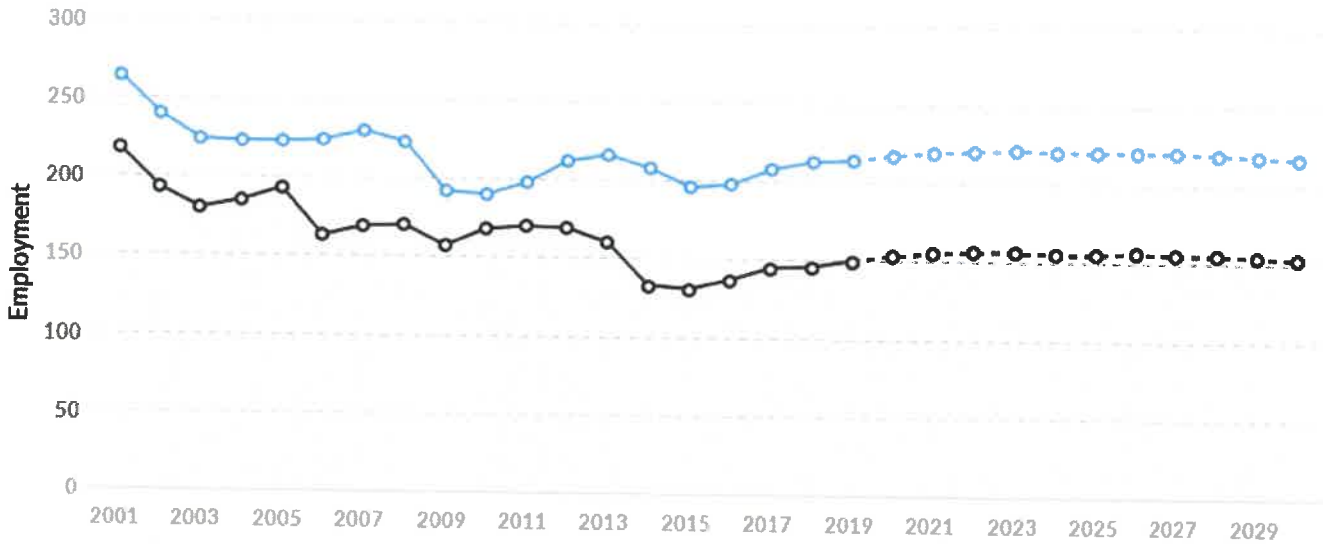
	Region	2015 Jobs	2020 Jobs	Change	% Change
●	3 Kansas Counties	131	153	22	16.9%
●	National Average	196	217	22	11.0%

*National average values are derived by taking the national value for Industrial Engineering Technologists and Technicians and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Regional Breakdown

| County	2015 Jobs
Johnson County, KS	94
Wyandotte County, KS	32
Leavenworth County, KS	<10

Most Jobs are Found in the Semiconductor and Other Electronic Component Manufacturing Industry Sector

Industry	% of Occupation in Industry (2015)
Semiconductor and Other Electronic Component Manufacturing	12.4%
Pharmaceutical and Medicine Manufacturing	8.8%
Management of Companies and Enterprises	7.7%
Medical Equipment and Supplies Manufacturing	6.9%
Plastics Product Manufacturing	6.1%
Scientific Research and Development Services	4.6%
Other	53.5%

Compensation

Regional Compensation Is 2% Lower Than National Compensation

For Industrial Engineering Technologists and Technicians, the 2019 median wage in your area is $55,469, while the national median wage is $56,555.
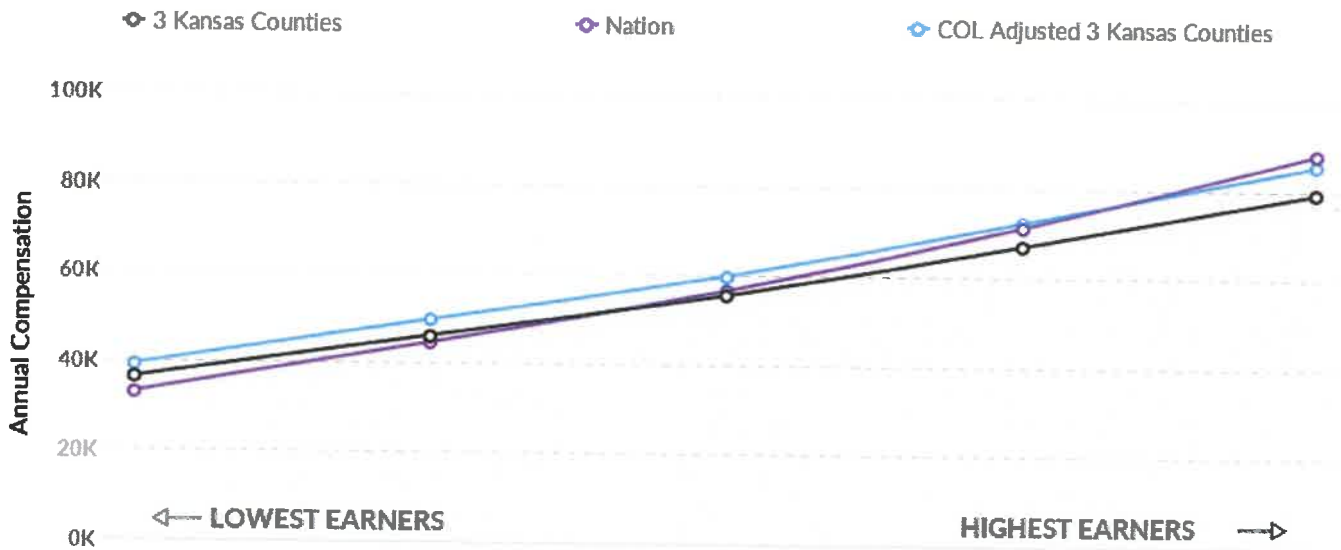
Job Posting Activity

749 Unique Job Postings

The number of unique postings for this job from Sep 2016 to Aug 2020.

203 Employers Competing

All employers in the region who posted for this job from Sep 2016 to Aug 2020.

43 Day Median Duration

Posting duration is 11 days longer than what's typical in the region.

● Monthly Unique Postings   ● Estimated Hires Per Month*
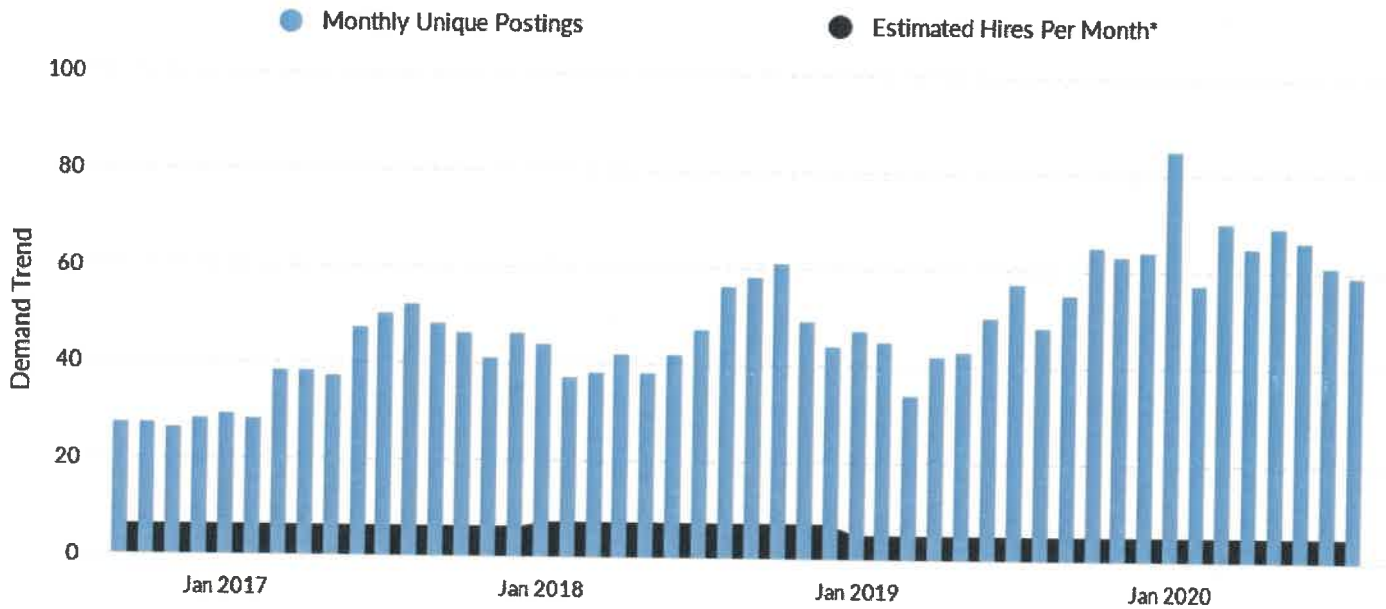
Occupation	Avg Monthly Postings (Sep 2016 - Aug 2020)	Avg Monthly Hires (Sep 2016 - Aug 2020)
Industrial Engineering Technologists and Technicians	48	6

*A hire is reported by the Quarterly Workforce Indicators when an individual's Social Security Number appears on a company's payroll and was not there the quarter before. Emsi hires are calculated using a combination of Emsi jobs data, information on separation rates from the Bureau of Labor Statistics (BLS), and industry-based hires data from the Census Bureau.

Top Companies	Unique Postings	Top Job Titles	Unique Postings
Aerotek, Inc.	56	Quality Control Technicians	116
Black & Veatch Corporation	54	Quality Assurance Technicians	80
Thermo Fisher Scientific Inc	49	Quality Technicians	66
Smithfield Foods, Inc.	21	Technicians	63
Garmin Ltd	20	Engineering Technicians	59
CSM Bakery Solutions LLC	18	Production Technicians	43
Merck & Co., Inc.	17	Sanitation Technicians	36
Kelly Services, Inc.	16	Process Technicians	35
Flowers Foods, Inc.	13	Manufacturing Technicians	29
Tyson Foods, Inc.	13	Packaging Technicians	25

Top Hard Skills

- Frequency in Job Postings
- Frequency in Profiles
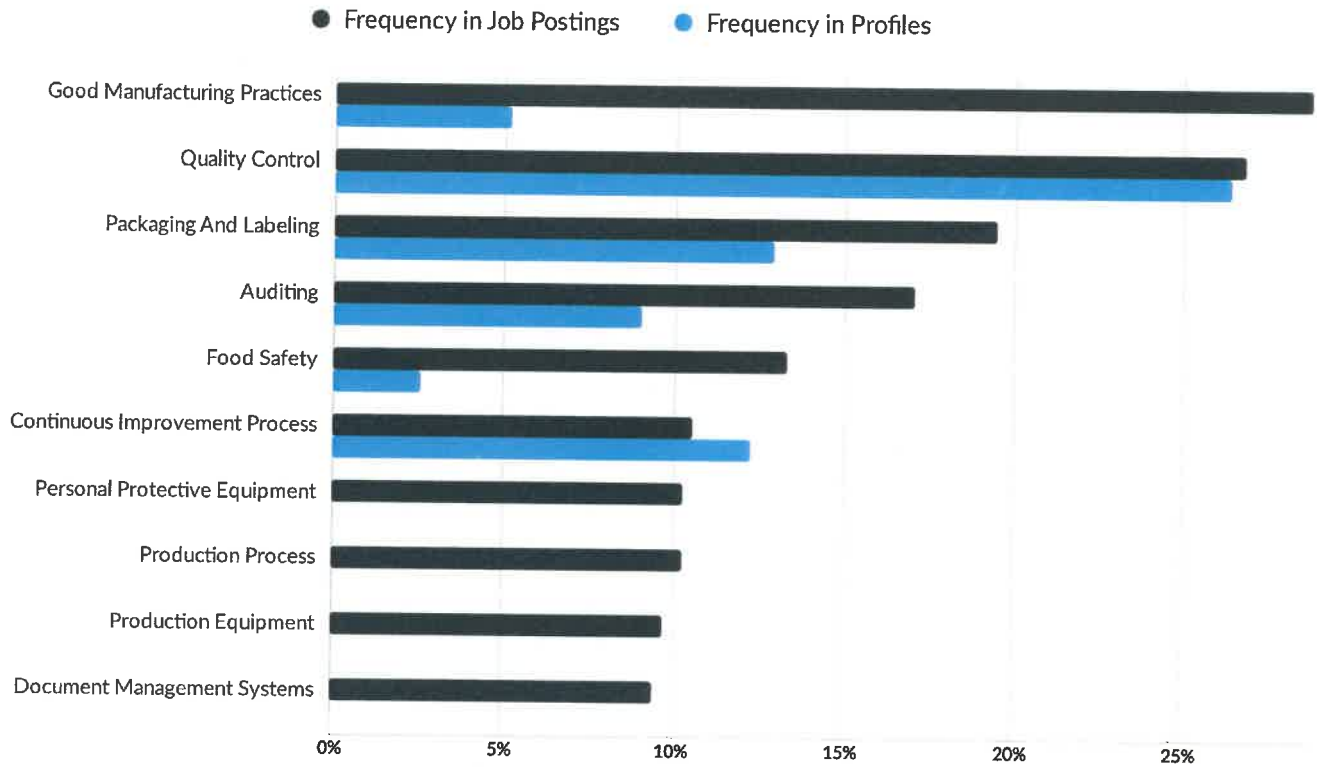
Skills	Postings	% of Total Postings	Profiles	% of Total Profiles
Good Manufacturing Practices	216	29%	8	5%
Quality Control	201	27%	41	26%
Packaging And Labeling	146	19%	20	13%
Auditing	128	17%	14	9%
Food Safety	100	13%	4	3%
Continuous Improvement Process	79	11%	19	12%
Personal Protective Equipment	77	10%	0	0%
Production Process	77	10%	0	0%
Production Equipment	73	10%	0	0%
Document Management Systems	71	9%	0	0%

Top Common Skills

● Frequency in Job Postings   ● Frequency in Profiles
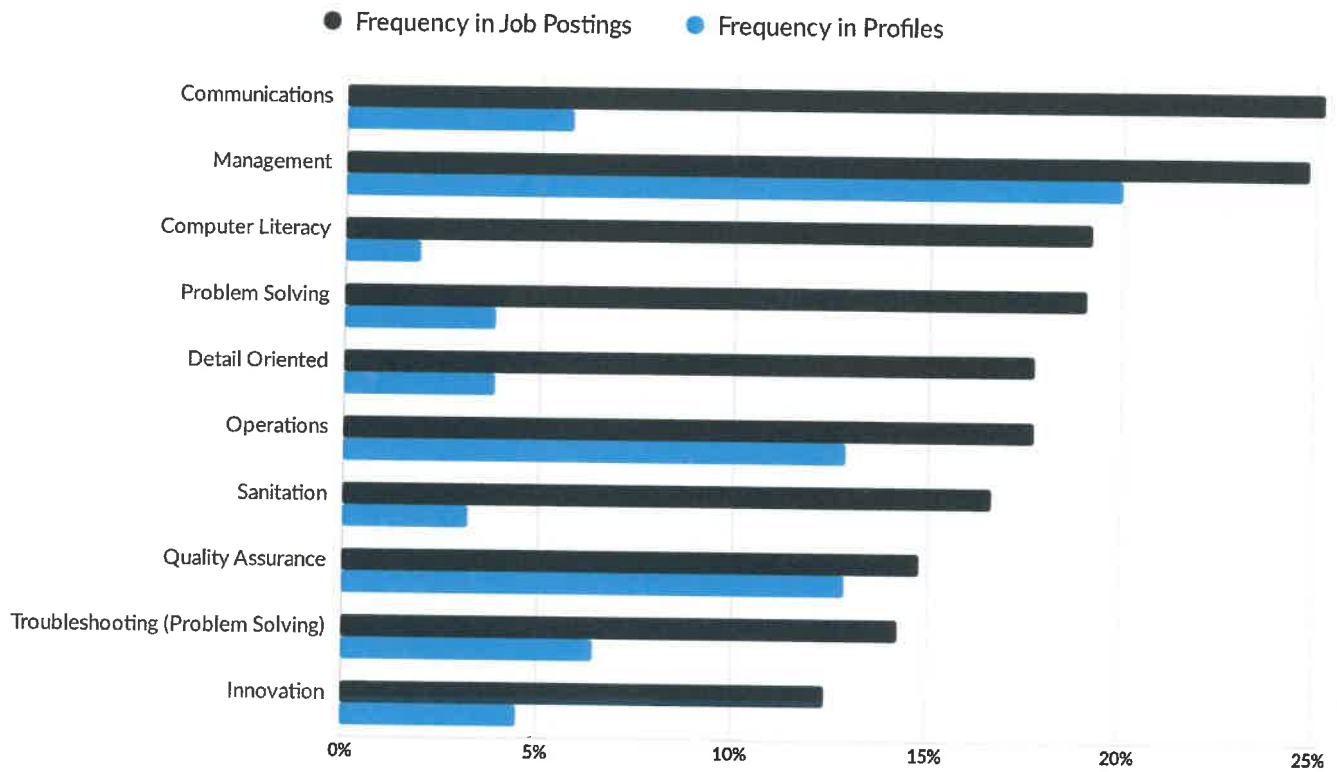
Skills	Postings	% of Total Postings	Profiles	% of Total Profiles
Communications	189	25%	9	6%
Management	186	25%	31	20%
Computer Literacy	144	19%	3	2%
Problem Solving	143	19%	6	4%
Detail Oriented	133	18%	6	4%
Operations	133	18%	20	13%
Sanitation	125	17%	5	3%
Quality Assurance	111	15%	20	13%
Troubleshooting (Problem Solving)	107	14%	10	6%
Innovation	93	12%	7	5%

Demographics

Retirement Risk Is About Average, While Overall Diversity Is About Average

43
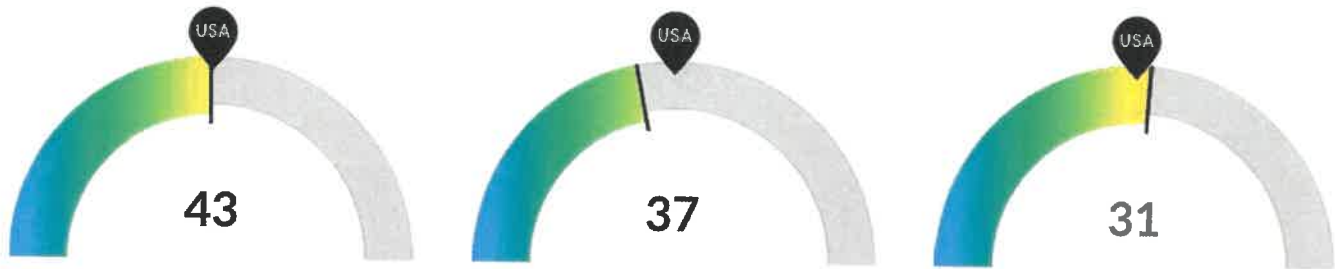
Retiring Soon

Retirement risk is about average in your area. The national average for an area this size is 43* employees 55 or older, while there are 43 here.

37

Racial Diversity

Racial diversity is low in your area. The national average for an area this size is 44* racially diverse employees, while there are 37 here.

31

Gender Diversity

Gender diversity is about average in your area. The national average for an area this size is 29* female employees, while there are 31 here.

*National average values are derived by taking the national value for Industrial Engineering Technologists and Technicians and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Occupation Age Breakdown

		% of Jobs	Jobs
●	14-18	0.2%	0
●	19-24	5.5%	8
●	25-34	18.5%	28
●	35-44	21.6%	32
●	45-54	25.6%	38
●	55-64	23.5%	35
●	65+	5.1%	8
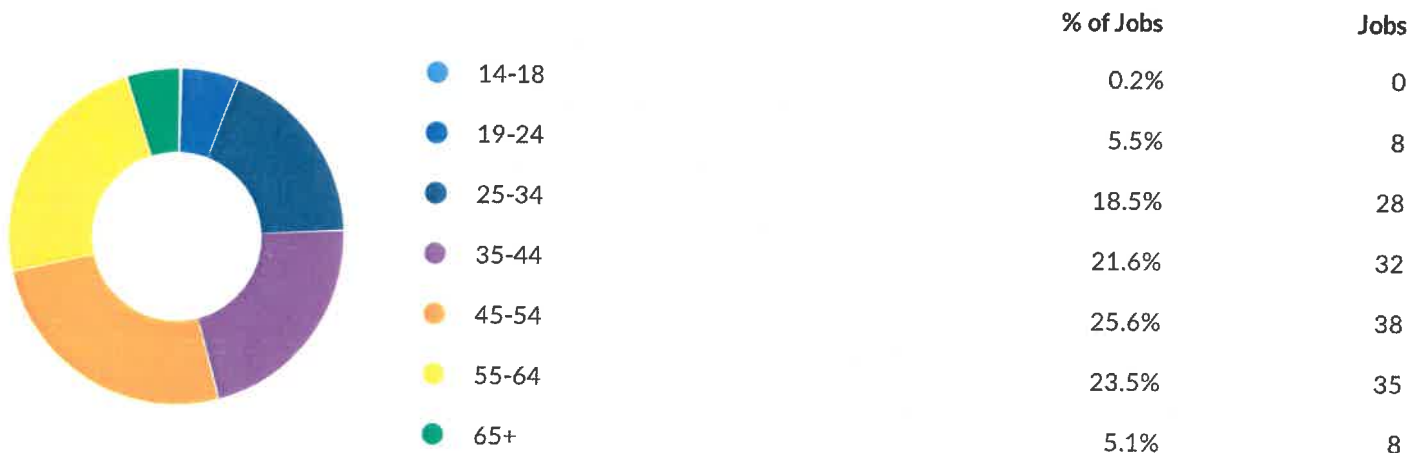
Occupation Race/Ethnicity Breakdown

		% of Jobs	Jobs
●	White	75.4%	113
●	Black or African American	8.3%	12
●	Hispanic or Latino	7.8%	12
●	Asian	6.4%	10
●	Two or More Races	1.5%	2
●	American Indian or Alaska Native	0.4%	1
●	Native Hawaiian or Other Pacific Islander	0.1%	0
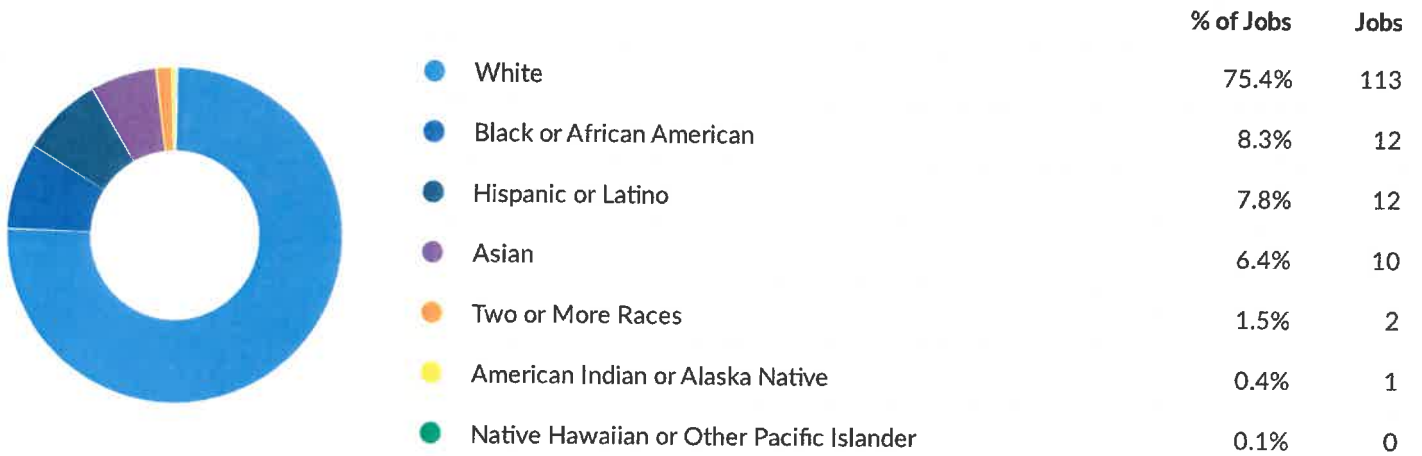
Occupation Gender Breakdown

		% of Jobs	Jobs
●	Males	79.0%	118
●	Females	21.0%	31
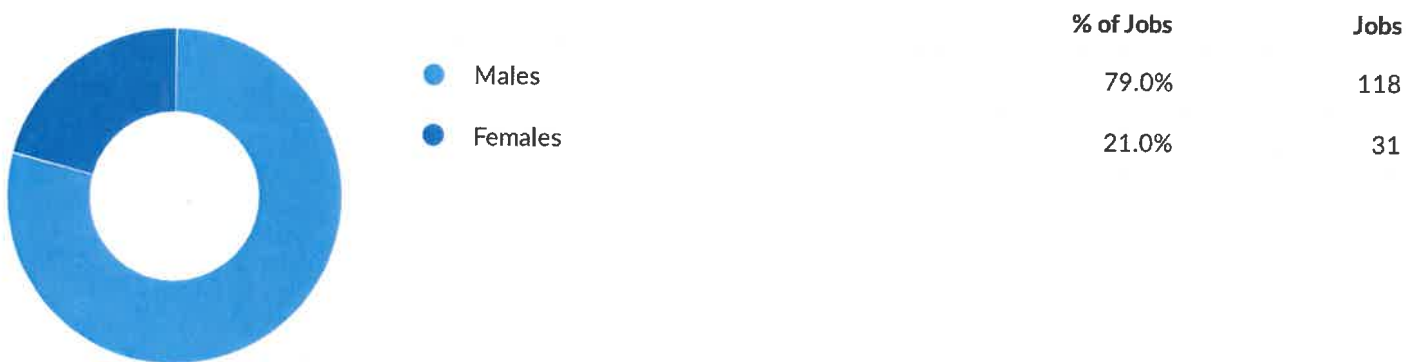
National Educational Attainment

	% of Jobs
● Less than high school diploma	3.2%
● High school diploma or equivalent	22.9%
● Some college, no degree	31.1%
● Associate's degree	22.4%
● Bachelor's degree	16.8%
● Master's degree	2.9%
● Doctoral or professional degree	0.6%
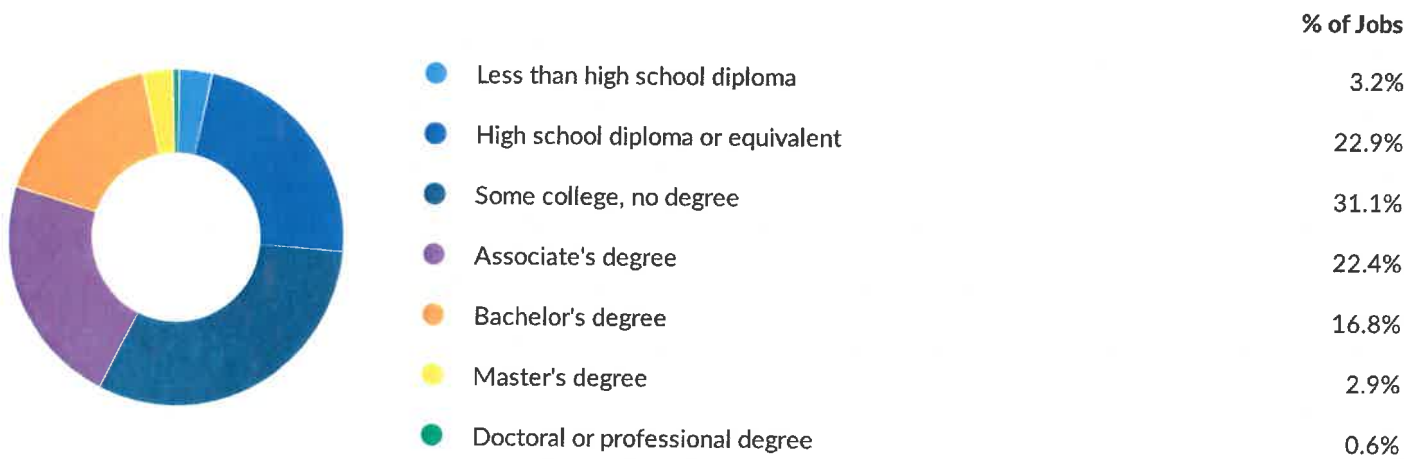
Occupational Programs

1 Program

Of the programs that can train for this job, 1 has produced completions in the last 5 years.

29 Completions (2019)

The completions from all regional institutions for all degree types.

18 Openings (2019)

The average number of openings for an occupation in the region is 89.

CIP Code	Top Programs	Completions (2019)
15.1501	Engineering/Industrial Management	29

Top Schools	Completions (2019)
Grantham University	29

Appendix A - Data Sources and Calculations

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Occupation Data

Emsi occupation employment data are based on final Emsi industry data and final Emsi staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Emsi earnings by industry.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

Cost of Living Data

Emsi's cost of living data is based on the Cost of Living Index published by the Council for Community and Economic Research (C2ER).

Emsi Job Postings

Job postings are collected from various sources and processed/enriched to provide information such as standardized company name, occupation, skills, and geography.

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

MINUTES OF APPROVING

CURRICULUM COMMITTEE

AND

KCKCC BOARD OF TRUSTEES

Call to order at 2:17, quorum established

I. Approval of Minutes: Renee moved to accept minutes, Ian seconded, minutes approved

II. Old Business -

A. Tech- The new programs were requested by industry professionals. The math for the AAS degrees has been changed to "MATH0103 or higher" and BLUE0101 has been moved to the beginning of the program. Sheldon made a motion to accept the tech programs. Frankie seconded. Motion passed.

    1. Surveyor Technician – AAS This would be the only surveyor program in Kansas

    2. Surveyor Technician – Certificate B

    3. Automation Engineer(Advanced Manufacturing) - AAS-

    4. Automation Engineer(Advanced Manufacturing) – Certificate C

    5. Diesel Technician – AAS- Bonner Springs School District and Kincaid partnered and requested this program.

    6. Diesel Technician – Certificate B

    7. Cybersecurity – Certificate A

B. Health professions. Antonio asked about the request to co-list PSYC0115 with MTSC0225, making them the same content. Theresa said this would be similar to what is done with CPR. Antonio needs to work with the mortuary science department to create a common curriculum. Janice said this would need some further discussion, so we could bring this back to the next meeting. Antonio made a motion to accept the LPN program changes. Dagney seconded. Motion passed.

    1. Health Professions Program/Course Modifications – Nursing/Practical Nursing

        NUPN-0100- one credit hour basic health assessment introductory course (replaces 3-credit hour course)

        NUPN-0200- one credit hour clinical judgement course, new course

        ALHT-0120- one credit hour medical terminology pre-requisite to the PN program, new course

        NUPN-0134 – remove from curriculum

    2. Health Professions Program/Course Modifications/New Course – Mortuary Science

        MTSC-0102- This orientation course would replace MTSC-0101

        MTSC-0101 – remove from curriculum

PSYC-0115 – remove from curriculum

Humanities Elective – remove from curriculum

C. Arts and Humanities- There is still not an answer about whether it would transfer. Theresa said this would probably school specific. Students who test out of Spanish I are given credit for the course, so the question was brought up about why students would need this course if they tested out of Spanish I. JCCC, K-State, KU, Wichita State, and others have this in their catalogue, but it is not KBOR aligned. Theresa is going to reach out to the Kansas registrars to see how they handle the class. Janice and Jerry said they would reach out to the KCKCC language department with our questions and concerns.

1. Arts Humanities & Communications - New Course

LANG-0144 – Spanish for Heritage Learners

D. Meeting start time next semester- Frankie has a class from 1:00-2:00, so we will keep the start time at 2:15.

III New Business – None

Adjourned at 2:50

Members present: Deanne Yates, Dagney Velazquez (proxy for Jon Taylor), Ian Corbett, Theresa Holliday, Renee Gregory, Sheldon Guenther, Frankie Davis, Antonio Cutolo-Ring

Guests: Janice Spillman, Jerry Pope

Kansas City Kansas Community College

Mission Statement: Inspire individuals & enrich our community one student at a time.

Vision Statement: Be a national leader in academic excellence & partner of choice in the communities we serve.

KANSAS CITY KANSAS COMMUNITY COLLEGE
Board of Trustees Meeting Minutes
November 17, 2020 – 5:00 P.M.

Meeting Location: Virtual - Zoom Webinar Meeting

1. **Call to Order & Pledge of Allegiance:** Chairman Ray Daniels called the meeting to order at 5:00 p.m. The Pledge of Allegiance was led by Trustee Rosalyn Brown.

   Chair Daniels called for a moment of silence to honor two current KCKCC employees who passed away – Ms. Wendy Lombardi (Adult Education) and Mr. Jose Matias Cantu (Facility Services).

   Chair Daniels read the College's mission statement.

2. **Roll Call:** Indicated the following present – Trustees: Ash, Brown, Brune, Criswell, Daniels, McIntyre, Sutton. All members present.

3. **Approval of Agenda:** Chair Daniels called for a motion to accept the Agenda with approved amendments, making note that there were no errors that needed a vote to change. Vice-Chair Criswell made the motion to accept the agenda. Trustee Brown seconded the motion. **The Motion Carried.**

4. **Audience to Patrons and Petitioners:** There were no patrons or petitioners to address the Board.

5. **Recognitions/Presentations:** Presentations of "I See You" Spotlight Awards, instituted by the Office of Student Activities, were made by Dr. Delfina Wilson, Vice-President of Student Affairs and Mr. Jerry Pope, Interim Vice-President of Academic Affairs.
   - Mr. Robert Beach, Assistive Technology Specialist in Student
   - Ms. Ashley Irvin, Student Success Advisor in Student Success Center at TEC
   - Ms. Carrie Dimino, Coordinator of Tutoring – Writing Center
   - Ms. Adoria Wilson, Technical Assistant in the Learning Commons
   - Ms. Angie Biando, Adjunct Faculty member in Arts, Communications and Humanities and a faculty tutor in the Writing Center

   Chair Daniels congratulated and thanked the awardees for their services on behalf of the

Board. Dr. Mosier echoed the sentiments and extended many thanks for attending the Board meeting.

Additionally, the 2nd Annual KCKCC Board of Trustees Food Drive was presented by Chair Ray Daniels. Dr. Mosier shared a photo of the food collected by the Board to assist with minimizing food insecurity at KCKCC. Dr. Mosier extended many thanks to the Board, KCKCC administration, and MVP Law for their generous contributions.

6. **Communications:** With no scheduled communications, Chair Daniels moved to the next agenda item.
7. **Board Committee Reports:** Chair Daniels called for reports from the Board Committees.
   - On behalf of the Board Finance Committee, Vice-Chair Criswell stated the following items were discussed in their meeting on Tuesday, November 10th –
     o Update on Downtown project
     o Update of financial impact of COVID-19
     o SPARKS Funding transfers to College budget
     o Course Fees
     o Introduced a one-page summary report that will be presented by Mr. Michael Beach, Chief Financial Officer, during his report.

Vice-Chair Criswell concluded that the key theme for the College is that it continues to perform very well, particularly with expense tracking and being financially responsible as an organization.
   - On behalf of the Board Policy Committee, Trustee Sutton stated there are policies currently being vetted by all senates. There will be policies to approve at the December Board meeting.
   - Trustee Ash presented the KACCT Update. He shared that he would be forwarding the information regarding the ACCT National Legislative Summit occurring in February 2021. The ACCT Legislative Summit will be virtual and offers a group rate to attend. Trustee Ash invited the Board members to inform Ms. Risala Allen, Executive Administrative Partner to the President and Board of Trustees, if they would like to attend. He shared that there would be anticipated changes in Washington, D.C. shared and that the summit offers an opportunity to talk with Kansas senators. Trustee Ash plans to work with Dr. Mosier and Ms. Allen to set up Zoom meetings with Kansas legislatives which includes Rep. Sharice Davids, Sen. Jerry Moran, and Sen. Roger Marshall or their aids. The upcoming KACCT Quarterly Meeting will be held virtually on Saturday, Dec. 5th. He invited the Board members to email him for more information.

8. **Consent Agenda:** Chair Daniels called for a motion to accept the Consent Agenda. Trustee Brown moved to accept the Consent Agenda. Trustee McIntyre seconded the motion. **The Motion Carried.**
9. **Student Senate Report:** Chair Daniels called for the Student Senate report. Mr. Destin Williams, Student Senate President, reported the following –
   - Hosted 2 Student Senate meetings.

- Hosted the Kids Halloween Drive-In Movie event; there were 20 vehicles in attendance. There were 13 clubs and organizations that helped support this event.
- A third meeting is scheduled with Dr. Shawn Derritt, Dean of Student Success, to discuss student success and other concerns.
- Reviewed 11 new policies since Oct. 23rd.
- Participated and hosted in the Student Town Hall Meeting where the topic was, "Race and Racial Disparities: How is KCKCC Addressing These Topics as an Urban Community College?".
- Final Student Senate meeting of the semester will be held on Nov. 20th at 1:30 p.m.
- Will host 2 Virtual Breakfast with Santa events; the dates are Saturday, Dec. 5th and Saturday, Dec. 12th.
- Campus Wonderland Gift bags will be created for the 34 families.
- Student Veterans Organization hosted a Battle of Branches Food Drive at all campuses.
- Active Minds have been hosting weekly, virtual club meetings.
- Gamers Club meeting twice weekly both face-to-face and virtually.
- The ASL and OQS clubs have been posting weekly virtual meetings.
- Music Club will host the Impact Virtual Music Festival.

Mr. Williams concluded his report and asked the Board for any questions. Trustee Sutton asked for more information concerning the Campus Wonderland donations. Mr. Williams answered that he would confirm the details for donation and follow up with the Board members.

Chair Daniels asked for any final comments or questions. Hearing none, he called for a motion to accept the Student Senate report. Trustee Sutton made a motion to accept the report. Vice-Chair Criswell seconded the motion. **The Motion Carried.**

10. **President's Report:** Chair Daniels called for the President's report. Dr. Mosier reported the following –
- Thanked everyone who participated in the Board's annual food drive.
- HLC Update – the College is still fully accredited; the status is now Accredited-Probation. There is a good plan in place to address the deficiencies identified by HLC. The plans are in place for program review and assessment to ensure that the College is able to collect the desired body of evidence HLC requires. Dean of Academic Support and Assessment, Ms. Cecelia Brewer, and Director of Assessment, Dr. Cynthia Goudeau, have been doing a great job in moving the College forward in this process. It is important the College continues this great work. The HLC follow-up visit will occur in May 2022. All areas discussed in the report will be reviewed. KCKCC's HLC Liaison is Mr. Jerry Pope. Dr. Mosier expressed confidence that the College will improve where needed and will be here for the next 100 years.
- Strategic Plan 3-year review cycle – discussing with President's Cabinet members the need to revisit the plan's KPIs due to COVID-19 impact.

- Mentioned the Student Senate Town Hall meeting on racial inequities was a success and should lead to many more important discussions with the students.
- The College held the Annual President Leadership Circle Breakfast virtually. There was great attendance and follow up with that meeting. Dr. Mosier shared slides about the new economic opportunities coming to Wyandotte County that were shared during the President's Leadership Circle. Student Housing images were also shared. The College is looking to break ground at the end of January or beginning of February 2021. Dr. Mosier also shared updated photos of KCKCC Downtown Community Education Center. The construction cost has been reduced from $52 million dollars to $47 million dollars. There is a potential partner to add a third level on partner building.
- With uptick in COVID-19 cases, each President's Cabinet member will go to a 50/50 mix of virtual and on-site staffing after Fall Break. Staff will be rotating to reduce the physical number of people on-site, but not reducing hours.

Dr. Mosier concluded his report and asked the Board for any questions. Chair Daniels asked how the College is marketing to the businesses that are coming to Wyandotte County regarding the ways in which KCKCC can contribute to their needs. Dr. Mosier answered that the College works closely with the Wyandotte EDC, where the College's program offerings, workforce development and specialized training programs are shared in meetings with these businesses.

Chair Daniels asked for any final comments or questions. Trustee Ash made a motion to accept the report. Vice-Chair Criswell seconded the motion. **The Motion Carried.**

11. **Vice President Academic Affairs Report:** Chair Daniels called for the Vice President of Academic Affairs (VPAA) report. Mr. Jerry Pope, Interim VPAA, highlighted the following items from the Board report –
- Mr. Tom Grady, Director of Center for Teaching Excellence, added a list of professional development opportunities available for faculty to include the Blue Devil Faculty training, Kansas City Professional Development Council's Faculty Development Program, First Fridays Faculty Mentoring sessions, and Two for Tuesdays Mentoring webinars.
- The Digital Imaging and Design students and faculty attended the annual Adobe Max conference. With it being offered virtually this year, more students were able to attend.
- Professor Tasha Haas (English) and Dr. Brian Whitehead (Journalism) have curated the newest edition of *The Scenic Route,* a beautiful magazine that features fine arts and literary contributions from the students and faculty of KCKCC. Student intern, Mr. Caleb Goldbeck, assisted with the publishing of this edition.
- The Culinary Arts students are using CAD to design their own kitchens. There are some amazing pictures from the building projects and community work being done by the students in the Building Maintenance and Technology program.

- Ms. Janel Sanders, Community Education/Continuing Education Coordinator, is developing a partnership with Cornerstones of Care to deliver well-being classes for teenage foster kids.
- The Adult Education department is currently developing a business ESL class in partnership with Plastic Packaging in Kansas City, KS. Classes are planned to begin in January 2021.
- The Health Professions departments are doing a great job in mitigating the effects of COVID among their student and faculty. In fact, KCKCC is doing a good job as an institution in keeping one another safe.
- The PN program is collaborating with Media Services to develop a virtual pinning for the Fall 2020 graduates.
- Math, Science, and Business Technology – the division has collected over 240 items for the KCKCC food pantry, "Blue's Kitchen".
- The KCKCC Enactus team is working with faculty and staff of the college to host Virtual Zoom interviews with seniors from F.L. Schlagle High School on November 19 & 20. The purpose of the interviews is to help prepare them for life skills after high school.
- Aerotek, a regional staffing agency, is partnering with KCKCC to host a virtual career fair.
- Adjunct professor, Dr. Mary Patterson and her team, worked on completing 180 kits to be distributed to the Saturday Academy participants as they go virtual with the Academy this year.
- Social and Behavioral Science – Dan Stluka, Coordinator of the Early Childhood Development and Education program, is currently working on an academic pipeline to allow our Early Childhood Education students to earn their associates degree here and go on to Washburn University to earn their bachelors degree and then on further to K-State to earn their masters degree.

Mr. Pope informed the Board, regarding a few questions they asked about the developmental education student data, that he and Dr. Wilson are working with faculty to make a brief presentation in December 2020 or January 2021. Mr. Pope concluded his report and asked for any questions from the Board.

Vice-Chair Criswell commended Mr. Pope for the CAD design project for the Culinary students. He extended the kudos to Dean Cheryl Runnebaum. Trustee Sutton offered kudos to Ms. Sanders for offering courses to the teenagers in the foster system. She asked whether the classes were virtual. Dean Runnebaum answered that the courses will be offered onsite unless COVID prevents it. She added that in-person courses are more impactful for the foster care students.

Chair Daniels thanked Mr. Pope for his report and for the future report on developmental education. He asked for any final comments or questions. Hearing none, he called for a motion to accept the Vice President of Academic Affairs report. Vice-Chair Criswell made

a motion to accept the report. Trustee McIntyre seconded the motion. **The Motion Carried.**

12. **Vice President Student Affairs Report:** Chair Daniels called for the Vice President of Student Affairs (VPSA) report. Dr. Delfina Wilson highlighted the following items from the Board report –

- Kudos to Student Accessibility and Support Services department who were featured in Community College Daily (CC Daily) to share their provision of accessible materials for students.
- New College Nurse, Ms. Sylvia Gillis, introduced. In early December, the College will have an Associate College Nurse, an LPN, join the ranks to complete the College Nursing Team.
- All campuses are open after Thanksgiving Break. The staff and faculty are here to serve the students. President's Cabinet is looking for the best fit in each area to ensure all areas are covered.
- Extremely proud of the students that participated in the "Race and Racial Disparities" Town Hall. It was a great experience and opportunity to share with and learn with them. KCKCC administration is looking forward to continuing to work with the students and continue these conversations.
- Dr. Mihir Chand and Dr. Wilson have been invited to do a "KC Live" show taping with KSHB. More details to come following Fall Break.
- Emphasized the importance of looking at changes and responding in positive ways to the needs of the College community. One thing that the College is looking to do is to invest time and money to enhance services offered to the diverse community that we serve. One way to do this is via a restructuring of the Intercultural Center to enhance services offered to the students and employees so that everyone feels as though KCKCC is a place where they belong.

Dr. Wilson concluded her report and asked the Board for any questions. Trustee Ash commented on the nice job Dr. Wilson did with the report. He asked if there were any early indications on enrollment for next spring from the high school partners. Dr. Wilson answered that it is still a bit soon to tell. At the December meeting she will share the spring enrollment report and should have a better idea of what is to come with the spring enrollment.

Chair Daniels asked whether the vacancies in Student Affairs division were creating issues to providing services to students. Dr. Wilson answered that the Student Affairs staff were stepping up and supporting one another to be there for the students, although the reduced volume of students it has been manageable. Chair Daniels asked Dr. Wilson to pass on the Board's gratitude for all the staff is accomplishing with fewer people.

Trustee Sutton asked about policies and procedures coming for review by the Board Policy Committee. The Military Policy was previously approved on April 21, 2020. She asked if Dr. Wilson would speak to this and the other policies and procedures to come?

Dr. Wilson answered that the Military Policy needs to go through the process for proper policy numbering. The other policies and procedures are new.

Chair Daniels thanked Dr. Wilson and called for approval of the Vice President of Student Affairs report. Trustee Ash made a motion to accept the report. Trustee Sutton seconded the motion. **The Motion Carried.**

13. **Vice President Strategic Initiatives & Outreach Report:** Chair Daniels called for the Vice President of Strategic Initiatives & Outreach (VPSIO) report. Ms. Tami Bartunek highlighted the following items from the Board report –
    - The link to the article from CC Daily is included in report. Collaboration between departments increasing more and more for supporting students' needs.
    - Received link to National Council for Marketing & Public Relations (NCMPR) Awards Ceremony in October 2020. The area for our district consists of Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, the Canadian province of Manitoba, Puerto Rico and Virgin Islands.
    - Tomorrow online event, "Leveraging LinkedIn," in partnership with KCKCC Foundation occurs. There are more than 200 registrations.
    - "KC Live" show was recorded this morning with Mr. Jerry Pope and Dean Cheryl Runnebaum. They did a fantastic job! As soon as the show is publicly shared, the College will share it as well. Tomorrow, Dr. Mosier and Ms. Bartunek will record KC Live show offering updates about KCKCC programs and projects.
    - Partnering with Kansas State Chamber of Commerce for the 2nd Annual Minority Business Summit on Tuesday, Dec. 8th.
    - KC Scholars cobranding digital billboard in Leavenworth, KS.
    - Shared new tv commercial and radio advertisement.

Ms. Bartunek concluded her report and asked the Board for any questions. Vice-Chair Criswell offered kudos continued progress and expressed gratitude for everything Ms. Bartunek and her team does.

Chair Daniels asked for any final comments or questions. Hearing none, he called for a motion to accept the Vice President of Strategic Initiatives & Outreach (VPSIO) report. Vice-Chair Criswell made a motion to accept the report. Trustee Ash seconded the motion. **The Motion Carried.**

14. **Chief Financial Officer Report:** Chair Daniels called for the Chief Financial Officer (CFO) report. Mr. Michael Beach highlighted the following items from the Board report –
    - Expressed appreciate for the Board's recognition of Mr. Jose Matias Cantu. He was only 31 years young and was admired by many. He chose to share himself and his talents with KCKCC.
    - Final report from Novaks Burks will be shared at the December Board Finance and Board General meetings.

- Announced new Payroll Coordinator, Ms. Angela Maslowski and New Police Officer, Mr. Jonathan Berry.
- Student Housing Update – completed all community charettes with good results.
- Engaged special bonds counsel and expect to offer final resolution for the issuance for the bonds at the December Board meeting.
- In December, there is a need for a separate Board meeting, a budget hearing to amend the 2020-2021 budget to include the SPARKS funding through CARES Act initiatives from the government in the amount of just under $1.5 million dollars. Dr. Mosier added that KCKCC received $25K form Leavenworth County through the CARES Act. The grant will be put to good use at the Pioneer Career Center.
- Bookstore moves forward in preparation for spring.
- Facilities Crew continues to complete great projects across campus.
- Police officers attending and completing training. In efforts to become more financially sustainable, it has been approved to hire security guards to replace some police officer positions. Security guard will be working with the police officers.
- Shared and reviewed the Monthly Financial Summary for November. In the future, the report will be included with the other finance reports.

Mr. Beach concluded his report and asked the Board for any questions. Board members discussed their appreciation for the clarity and ease of use of the new report as well as Mr. Beach's explanations. Vice-Chair Criswell added that she wanted to make sure the Board Finance Committee shares details about the tools being used and provide information.

Chair Daniels asked for any final comments or questions. Hearing none, he called for a motion to accept the Chief Financial Officer report. Vice-Chair Criswell made a motion to accept the report. Trustee McIntyre seconded the motion. **The Motion Carried.**

15. **Chief Human Resources Officer Report**: Chair Daniels called for the Chief Human Resources Officer (CHRO) report. Ms. Christina McGee highlighted the following items from the Board report –
- Benefits information meetings currently happening for the employees. Employees and students are being informed about the Employee Assistance Program (EAP) and Student Assistance Program (SAP) opportunities.
- Several open-enrollment information sessions have been scheduled. New benefit cycle begins on January 1st.
- The COVID Shared Leave pilot program for staff launched Friday. There are currently 370 hours donated to the shared leave program.

Ms. McGee addressed the question from Vice-Chair Criswell last month concerning annual training for information security being offered. It is not offered in the current training platform, Knowledge City, but other means are being explored. Ms. McGee concluded her report and asked the Board for any questions.

Vice-Chair Criswell offered gratitude for the update and for the employees who stepped up to donate leave as a beautiful reflection of hearts of KCKCC employees. Dr. Mosier added that the EAP and SAP are great for the institution and for the people who are here. They are important.

Chair Daniels asked for any final comments or questions. Hearing none, he called for a motion to accept the Chief Human Resources Officer report. Trustee Sutton made a motion to accept the report. Vice-Chair Criswell seconded the motion. **The Motion Carried.**

16. **Chief Information Officer Report:** Chair Daniels called for the Chief Information Officer (CIO) report. Mr. Peter Gabriel highlighted the following items from the Board report –
    - Expressed thanks to Mr. Beach for the new paint and lighting in the Humanities building.
    - Talking with other colleges in Kansas and investigating company, Know Before, on information security training for the College.
    - Thanked Information Services teams for their hard work.
    - Working on standard operation procedures (SOPs) for technology and other Information Services processes.
    - Network connectivity rate on the rise.
    - PaperCut upgrade should be completed this week. This service provides the College a means to securely print and retrieve print jobs anywhere on campus.

    Mr. Gabriel concluded his report and asked the Board for any questions.
    Chair Daniels thanked Media Services for support with Board meetings each month and all meetings in between. He asked for any final comments or questions. Hearing none, Chair Daniels called for a motion to accept the Chief Information Officer report. Trustee McIntyre made a motion to accept the report. Trustee Brune seconded the motion. **The Motion Carried.**

17. **Unfinished Business:** Chair Daniels acknowledged that there was no unfinished business scheduled. The Board moved to the next agenda item.

18. **New Business:**
    a. Mr. Darren Elliott presented the KCKCC Racial Equity Statement to the Board for approval. Trustee Sutton made the motion to adopt the statement. Vice-Chair Criswell seconded the motion. **The Motion Carried.**
    b. Mr. Jerry Pope presented for approval the affidavit for Lansing Correctional Facility as an additional KCKCC educational location. Trustee Brune made the motion to adopt the affidavit. Vice-Chair Criswell seconded the motion. **The Motion Carried.**
    c. Mr. Jerry Pope presented three new academic programs (Diesel Technician Certificate B and AAS; Surveyor Technician Certificate B and AAS; and Automation Engineer (Advanced Manufacturing) Certificate B and AAS) for approval. Trustee

Sutton made a motion to approve the three new academic programs. Trustee Brune seconded the motion. **The Motion Carried.**

d. Dr. Mosier shared the HLC Institutional Actions plan for KCKCC.

19. **Executive Session(s):** Chair Daniels acknowledged that there were no executive sessions action needed for the general meeting.

20. **Adjournment:** Vice-Chair Criswell made a motion to adjourn the meeting. Trustee Ash seconded the motion. **The Motion Carried.**

The meeting of the Board of Trustees adjourned at **7:14 p.m.**

ATTEST: _____

Chairperson, Dr. Ray Daniels

_____

Secretary, Dr. Greg Mosier

SYLLABI

SYLLABUS

DATE OF LAST REVIEW:	10/12/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Safety OSHA 10
COURSE NUMBER:	AMFT 0100
CREDIT HOURS:	2
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	**None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
Through a variety of classroom and/or lab learning and assessment activities, students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; and explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

METHOD 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.   Introduction to OSHA - Two Hours
        A. OSH Act, General Duty Clause, Employer and Employee Rights and Responsibilities, Whistleblower Rights, Recordkeeping basics
        B. Inspections, Citations, and Penalties
        C. General Safety and Health Provisions, Competent Person, Subpart C
        D. Value of Safety and Health

E. OSHA Website, OSHA 800 number and available resources

II. OSH Act Subparts
   A. Walking and Working Surfaces - including fall protection, Subpart D - One Hour
   B. Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection, Subparts E & L - Two Hours
   C. Electrical, Subpart S - Two Hours
   D. Personal Protective Equipment (PPE), Subpart I - One Hour
   E. Materials Handling, Subpart N - Two Hours
   F. Hazard Communication, Subpart Z - One Hour
   G. Hazardous Material (Flammable and Combustible Liquids, Spray Finishing, Compressed Gases, Dipping and Coating Operations), Subpart H
   H. Permit-Required Confined Spaces, Subpart J
   I. Lockout/Tagout, Subpart J
   J. Machine Guarding, Subpart O
   K. Welding, Cutting, and Brazing, Subpart Q
   L. Introduction to Industrial Hygiene, Subpart Z
   M. Bloodborne Pathogens, Subpart Z
   N. Ergonomics
   O. Fall Protection
   P. Safety and Health Programs
   Q. Powered Industrial Vehicles

EXPECTED LEARNER OUTCOMES:

A. The student will be able to explain job/site safety and precautions for job/site hazards.
B The student will be able to conduct job site analysis.
C The student will be able to identify tasks of the job to be performed.
D The student will be able to list possible hazards related to the task.
E The student will be able to list precautions that need to be taken to safely perform tasks
F. The student will be able to determine the uses of personal protective equipment (PPE).
G. The student will be able to describe the type of equipment.
H The student will be able to describe the purpose of the equipment.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff

that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college's policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center, in Rm. 3354 or call at: 288-7670.

SYLLABUS

DATE OF LAST REVIEW:	10/12/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	AC/DC Circuits
COURSE NUMBER:	AMFT 0101
CREDIT HOURS:	4
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	**None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
AC/DC circuits addresses the basics of direct and alternating current circuits. (KBOR ALIGNED)

METHOD 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. Describe and apply Ohms, Watts, and Kirchhoff laws
II. Define, demonstrate, and apply the characteristics of series, parallel, and combination circuits
III. Explain DC theory concepts
IV. Explain AC theory concepts
V. Perform and interpret electrical measurements using industry standard equipment
VI. Explain line voltage and control voltages.

EXPECTED LEARNER OUTCOMES:

A. The student will be able to describe and apply Ohms, Watts, and Kirchhoff laws.
B. The student will be able to define, demonstrate and apply the characteristics of series, parallel, and combination circuits.
C. The student will be able to explain DC theory concepts.
D. The student will be able to explain AC theory concepts.
E. The student will be able to perform and interpret electrical measurements using industry standard equipment.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time. 2.79

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SYLLABUS

DATE OF LAST REVIEW:	01/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Machinist I
COURSE NUMBER:	AMFT 0108
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
E-MAIL	Departmental Syllabus
PREREQUISITES:	N/A

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckcc.bookstore.com for the required texts for your particular class.

COURSE DESCRIPTION:
This course will introduce the learner with the skills to properly identify, set-up, and operate metal turning and milling equipment safely. This course will emphasize hands on approach as well as classroom activities to familiarize the student with the process to complete job task analysis. This course will also cover common mathematical formulas that will be implemented in to the curriculum to achieve expected learner outcomes.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:
I.   Hazards of association.
II.   Work Holding devices and tooling.
III.   Lathe operations.
IV.   Vertical milling machine operations.

EXPECTED LEARNER OUTCOMES:

A.   The student will be able to utilize the machinery's handbook
B.   The student will be able to perform selecting and diluting cutting fluids
C.   The student will be able to perform safety inspections
D.   The student will be able to analyze prints
E.   The student will be able to select cutting fluids.
D.   The student will be able to perform maintenance on equipment
E.   The student will be able to perform engine lathe operations
F.   The student will be able to perform vertical milling machine operations
G.   The student will be able to calculate mathematical formulas.

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.
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be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

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SYLLABUS

DATE OF LAST REVIEW: 10/12/2020

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: Industrial Fluid Power

COURSE NUMBER: AMFT 0112

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: None

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
The course examines theory, applications and operation of industrial hydraulic and pneumatic systems. The inspection, maintenance and repair of the various components are covered in this course. Interpretation of the various schematic symbols used in hydraulic and pneumatic circuit diagrams will be discussed. (KBOR aligned)

METHOD 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.   Calculations required for temperature and pressure conversions.
II.   Calculations for Boyles Law
III.   Calculations for Universal Law of Perfect Gas
IV.   Calculations for equations related to force requirements
V.   ISO symbols used in Fluid Power including Valves, Actuators and Motors
VI.   Identify different valve and actuators types

VII.   Principles of Pneumatic and hydraulic drawings
VIII. Troubleshoot Hydraulic and Pneumatic processes.

EXPECTED LEARNER OUTCOMES:

A.   The student will be able to demonstrate the safety procedures when working with hydraulic and pneumatic systems.
B.   The student will be able to discuss the concepts associated with hydraulic theory.
C.   The student will be able to describe the various types and applications of hydraulic components
D.   The student will be able to interpret a hydraulic circuit drawing
E.   The student will be able to discuss the concepts associated with pneumatic theory
F.   The student will be able to describe the various types and applications of pneumatic components
G.   The student will be able to interpret a pneumatic circuit drawing
H.   The student will be able to demonstrate the process of hydraulic and pneumatic system troubleshooting

SPECIAL NOTES:

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DATE OF LAST REVIEW: 10/12/2020

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: AutoCAD Concepts

COURSE NUMBER: AMFT 0115

CREDIT HOURS: 4

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: N/A

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
The purpose of this class is to use AutoCAD as a means of learning fundamental 2D computer aided drafting design and modification. This course will cover opening and saving CAD files according to standard CAD Library methodologies. This course will show how to navigate tools to create and modify drawing files. The course will cover layer and object properties, Hatching, Attributes, as well as creating and importing from black libraries. Several trade specific and engineering CAD files will be created and modified such as electrical, mechanical and architectural. This course will instruct how to move from model space to paper space and utilize viewports to create drawings to specification that will be printed. Instruction will be provided on the various styles and approaches of adding dimensions to CAD files.

METHOD 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.   Annotations and annotation properties
II.   Attributes and attribute properties

III.	Computer aided Drafting Software programs.
IV.	Describe model space and paper space.
V.	Fundamentals of various instructions
VI.	Identifying Layer principles and properties.
VII.	Inserting and creating blocks.
VIII.	Introduction to Autodesk, AutoCAD software
VI.	Objects and objects properties
X.	Principles of Dimensions
XI.	Principles of hatch
XI.	Principles of plotting
XIII.	Viewport and viewport properties

EXPECTED LEARNER OUTCOMES:

A.	The student will be able to launch and save files from AutoCAD.
B.	The student will be able to utilize various commands and instructions in AutoCAD software to create drawings to specification.
C.	The student will be able to create and edit layers, annotations, blocks, attributes and hatch.
D.	The student will be able to apply dimensions according to specification.
E.	The student will be able to create and edit drawings in model space.
F.	The student will be able to apply paper space principles.
G.	The student will be able to plot drawings.

SPECIAL NOTES:

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SYLLABUS

DATE OF LAST REVIEW: 10/12/2020

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: Programmable Logic Controllers (PLC)

COURSE NUMBER: AMFT 0121

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: None

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This course examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program are covered in this course. (KBOR aligned)

METHOD 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.   Safety procedures when working with programmable logic controllers
II.   Numbering systems in Binary, Decimal, Octal, Hexadecimal and BCD.
III.   Boolean algebra, truth table and logic gate functions
IV.   Programmable logic controller Hardware
V.   PLC wiring principles
VI.   Connect a programmable logic controller to a programming device
VII.   Instructions used in programmable logic controller relay ladder logic
VIII.   Download to PLC
IX.   Online troubleshooting of PLC

EXPECTED LEARNER OUTCOMES:

A. The student will be able to demonstrate the safety procedures when working with programmable logic controllers.
B. The student will be able to identify the types and components of a programmable logic controller.
C. The student will be able to connect a programmable logic controller to a programming device.
D. The student will be able to select the proper wiring and terminations of inputs and outputs.
E. The student will be able to identify the numbering systems used in programmable logic controllers.
F. The student will be able to identify the symbols used in programmable logic controller relay ladder logic.
G. The student will be able to develop a functional programmable logic controller program.
H   The student will be able to document a programmable logic controller program.
I. The student will be able to demonstrate the process of programmable logic controller system troubleshooting.

SPECIAL NOTES:

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<center>**SYLLABUS**</center>

DATE OF LAST REVIEW:	09/2019
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	GMAW
COURSE NUMBER:	AMFT 0130
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	KCKCC issued email accounts are the official means for electronically communicating with our students.
PREREQUISITES:	AMFT 0100

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, www.kckccbookstore.com/ for the required texts for your particular class.

COURSE DESCRIPTION:
Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation.; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

COURSE OUTLINE:
    I. GMAW Processes and equipment
    II. GMAW welding in the flat position
    III. GMAW welding in the horizontal position
    IV. Weld inspection

EXPECTED LEARNER OUTCOMES:
Upon successful completion of this course:
   A. The student will be able to explain gas metal arc welding process (GMAW).
   B. The student will be able to demonstrate the safe and correct set up of the GMAW workstation.
   C. The student will be able to correlate GMAW electrode classifications with base metals and joint criteria
   D. The student will be able to demonstrate proper electrode selection and use based on metal types and thicknesses
   E. The student will be able to build pads of weld beads with selected electrodes in the flat position
   F. The student will be able to build pads of weld beads with selected electrodes in the horizontal position
   G. The student will be able to produce basic GMAW welds on selected weld joints
   H. The student will be able to conduct visual inspection of GMAW welds

ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments and class participation.

SPECIAL NOTES:
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All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to

understand their responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.

SYLLABUS

DATE OF LAST REVIEW: 10/12/2020

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: Actuator and Sensor Systems

COURSE NUMBER: AMFT 0131

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: **None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This course examines types, installation and troubleshooting of industrial actuators and sensors. Contemporary control methods in process control and proportional-integral-derivative (PID) process loops are covered in this course. (KBOR aligned)

METHOD 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. Identify different characteristics of several Industrial Controls Classifications
II. Identify characteristics of open loop controls system and discrete control systems
III. Identify characteristics and types of closed Loop controls systems
IV. Identify considerations regarding sensors and actuators
V. Comprehend laws governing transducer principles
VI. Understand correlation between input signal and output signal
VII. Demonstrate in lab the input variable entered and the output variables received.

EXPECTED LEARNER OUTCOMES:

A.   The student will be able to demonstrate the safety procedures when working with automated controls.
B.   The student will be able to identify the components of a closed loop system.
C.   The student will be able to describe the principles of a proportional-integral-derivative (PID) process loop.
D.   The student will be able to describe the types and operation of control system input devices
E.   The student will be able to describe the types and operation of control system output devices.
F.   The student will be able to select the proper wiring and cabling of actuators and sensors.
G.   The student will be able to demonstrate the operation of actuators and sensors in a closed loop system.
H.   The student will be able to demonstrate the process of control system troubleshooting.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

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SYLLABUS

DATE OF LAST REVIEW:	10/12/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Industrial Robotics
COURSE NUMBER:	AMFT 0141
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	**None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This course examines types, applications and troubleshooting of industrial robots and subsystems. Included in this course is the programming of industrial robotic control software. (KBOR aligned)

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I.   Safety principles of robotics
II.   History of robotics
III.   Identifying hardware components of robot system
IV.   Various robotics application
V.   Software programming principles and types
VI.   Path Planning
VII.   Hardware wiring principles
VIII. Advantages of robotics in an automated manufacturing environment

EXPECTED LEARNER OUTCOMES:

A. The student will be able to demonstrate the safety procedures when working with industrial robotic systems.

B. The student will be able to describe the various types and applications of industrial robots.

C. The student will be able to describe the various types and functions of robotic subsystems.

D. The student will be able to select the proper wiring and terminations of robotic hardware.

E. The student will be able to describe the various types of robotic software programs.

F. The student will be able to demonstrate how to program a representative sample of robotic systems.

G. The student will be able to demonstrate the process of industrial robotic system troubleshooting.

SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

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DATE OF LAST REVIEW:	10/12/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Electric Motor Controls
COURSE NUMBER:	AMFT 0150
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	**None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This class examines the principles and theory of AC and DC electrical motors as well as electrical controls circuitry. Utilizing wring principles and wiring from Schematic Diagrams to controls operational specification will be covered in this course. Wiring electrical components for control such as switches, relays, contactors, motor starters and variable frequency drives will be utilized to create and troubleshoot Motor Control systems. This class will cover controls components and wiring to disable, enable Motor Control as well as changing speed on variable frequency drives. The students will create useful schematic from specification and test in lab for correct operation.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I.   Fundamentals of electrical safety and Lockout – Tagout.
II. Electrical symbols and Schematic Diagrams for motor control circuits. .
III. Pictorial diagrams principles of motor control circuits.

IV.   Principles of line voltage and control voltage for safe and functional design.
V.   Relays, contactors and motor starter components used in motor controls
VI.   Holding circuit principles
VII.   Troubleshooting using a multimeter
VIII.   Troubleshooting with Schematic Diagram
IX.   Sizing motor starter overloads according to specification.
X.   Theory of nuisance tripping
XI.   Start. Stop, forward, Reverse and Jog motor starter circuit principles
XII.   Create and implement a working design for timers and counters for motor control circuits.

EXPECTED LEARNER OUTCOMES:

A. The student will be able to identify Nema Emergency Stop Industry best practice.
B. The student will be able to perform Lockout/Tagout procedure.
C. The student will be able to work with both Schematic and Pictorial Diagrams.
D. The student will be able to describe Motor Control Wiring Principles.
E. The student will be able to size motor starter circuit overload protection.
F. The student will be able to wire labs to specification utilizing switches, relays, contactors, motor starters and other electrical components.
G. The student will be able to utilize electrical diagrams to build and troubleshoot motor control circuits.
H. The student will be able to use multimeter to troubleshoot motor control circuits and test components.

SPECIAL NOTES:
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SYLLABUS

DATE OF LAST REVIEW:	10/12/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Total Productive Maintenance (TPM)
COURSE NUMBER:	AMFT 0160
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	**None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:

The purpose of this course is to introduce Process tools and software to map machine reliability and downtime cost effects on manufacturing operations and production success. This course will introduce TPM methodologies and principles and utilize them in course labs. Process tools with focus on machine troubleshooting will be utilized to do root cause analysis and continuous improvement to cure problems rather then adapting to them. (CMMS) Computer Maintenance Management Software will be used as a process tool to discover and implement changes regarding both Predictive and Preventative Maintenance. The students will analyze the labs manufacturing equipment and create and close work orders, build preventative Maintenance schedules and preventative maintenance schedules in the CMMS software. The students will do projects to calculate lost revenue due to an individual piece of equipment.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs

COURSE OUTLINE:

I.   Fundamentals of Total Productive Maintenance

II. Principles of root cause analysis
III. Fundamentals of predictive and preventative maintenance
IV. Principles of Machine Reliability
V. Principles of Best Practice
VI. Principles and functional use of repeatable machine process
VII. CMMS role in Total Productive Maintenance and Machine Reliability
VIII. Work order functionality
IX. Calculate lost productivity and downtime cost

EXPECTED LEARNER OUTCOMES:

A. The student will be able to utilize various TPM methodologies in lab projects.
B. The student will be able to troubleshoot machine process using root cause analysis.
C. The student will be able to work in group projects to create best practice standards.
D. The student will be able to create and close work orders on schedules in CMMS.
E. The student will be able to create asset tags and use in lab to calculate machine reliability cost.
F. The student will be able to utilize different tools within CMMS to optimize machine process and reliability.
G. The student will be able to perform financial analysis based on data from CMMS in lab.

SPECIAL NOTES:

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SYLLABUS

DATE OF LAST REVIEW: 10/12/2020

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: TQM and Lean Manufacturing Principles

COURSE NUMBER: AMFT 0170

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: **None**

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
The purpose of the course is to discover process improvement methodologies using Total Quality Management (TQM) and Lean Manufacturing. Discover the history of process development in global manufacturing. Identify the different characteristics of Quality Assurance versus Quality Control. Introduce process tools such as 5S, Six-Sigma, Kaizen as well as value stream mapping for overall continuous improvement and quality standards. Best practice modeling and implementation will be used in real world examples using working manufacturing lab equipment. Process tools will be covered for the machine side as well with Process tools such as Ishikawa fishbone diagram for root cause analysis, downtime and resource management. And finally the class will explore the fundamental differences between Process Management and Project Management.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs

COURSE OUTLINE:

I.   Total Quality Management methodologies, history and principles

II.	Introduction to various process development mythologies
III.	Quality Assurance Vs Quality Control
IV.	Best Practice modeling and implementation
V.	Root Cause analysis principles
VI.	Value Stream Mapping principles
VII.	Repeatable Process assessment principles
VIII.	Introduction to various process development mythologies.
IX.	Project management vs. process Management as it relates to continuous Improvement

EXPECTED LEARNER OUTCOMES:

A. The student will be able to describe various TQM methods used in manufacturing.

B. The student will be able to utilize Process tools to define, improve and monitor manufacturing.

C. The student will be able to perform best practice models and work with team to build solutions.

D. The student will be able to utilize 5S to assess lab and projects.

E. The student will be able to work with equipment to perform various Continuous Improvement solutions.

F. The student will be able to calculate financial implications of several TSM Projects.

SPECIAL NOTES:

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SYLLABUS

DATE OF LAST REVIEW: 10/13/20

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: Advanced Programmable Logic Controllers (PLC)

COURSE NUMBER: AMFT 0221

CREDIT HOURS: 4

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: AMFT 0121

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This class will involve an introduction to networking and communications, complex programming instructions, coordinating control with different control systems and different programming methodologies. This course will require students design programs from specification and download to real world manufacturing equipment to test and troubleshoot for proper operation. Topics covered will include HMI (Human Machine Interface) coordinating control of PLC controlled equipment.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs

COURSE OUTLINE:

I. Safety procedures within global networked system
II. Complex instructions such as Timers, Counters, Comparative, Logical
III. Staging equipment through disable/enable electrical handshake
IV. Staging equipment through disable/enable networked handshake
V. HMI (Human Machine Interface) interaction with PLC Systems

VI.   Database manipulation of PLC and Equipment
VII.   Analogue PLC Input/Output closed Loop Control
VIII.   Final Lab project from specification.

EXPECTED LEARNER OUTCOMES:

A.   The student will be able to demonstrate the safety procedures when working with programmable logic controllers.

B.   The student will be able to utilize the Timer instructions to build complex applications.

C.   The student will be able to utilize the Counter instructions to build complex applications.

D.   The student will be able to utilize the Comparative instructions to build complex applications.

E.   The student will be able to use MOV instructions with and without Timer and Counter instructions to build complex applications.

F.   The student will be able to program analogue inputs to coordinate with analogue outputs for proportional control.

G.   The student will be able to program real world proportional control parameters to control speed of a Variable Frequency Drive.

H.   The student will be able to program a PID Loop and test in lab.

I.   The student will be able to create electrical handshakes to enable and disable machine processes separate form main PLC Processor.

J.   The student will be able to utilize networking principles to share data and enable and disable machine separate form main PLC

K.   The student will be able to build HMI application in software.

L.   The student will be able to program HMI touch screen to control real world industrial equipment in lab.

M.   The student will be able to utilize data from an external database to control PLC based equipment.

N.   The student will be able to learn principles of how global manufacturing databases such as SAP or ERP systems control Machine processes thought PLC Design.

O.   The student will be able to design a complex project from specification and test on real world equipment.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

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SYLLABUS

DATE OF LAST REVIEW:	10/13/20
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Project Design and Documentation (Practicum)
COURSE NUMBER:	AMFT 0230
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	AMFT 0115, AMFT 0160, AMFT 0170

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This course will integrate Project design using AutoCAD to create construction specifications and utilize software to implement, monitor and complete the project. Topics covered include creating a project management file in software to set timelines with other teams, task management and coordination, milestone meetings and time management. The course offers real world experience developing a project from a team perspective and assigning different departments to handle different parts of the project and come together to asses the results. The project will be designed in AutoCAD, electrical wired, PLC Programmed, Bracket to be built in the Machine shop and welded to the conveyor and test to see if it meets its intended outcome. The course includes documentation and saving all project CAD files to a CAD Library with a determined naming convention the project team decides. The course will then cover how a 360 degree evaluation can be used to do an analysis of the completed project to build a best practice model for future projects.

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I. Principles of Project Management
II. Principles and function of Job Scope
III. Create digital project file and use to complete project
IV. Assign task within group and asses daily progress
V. Design project mechanical, electrical, controls, pneumatics in AutoCAD as first step of group project
VI. Detail specifications for construction
VII. Perform all task needed for the project to specification
VIII. Update all AutoCAD files and documentation in project file
IX. Team evaluation to assess project performances and document best practices

EXPECTED LEARNER OUTCOMES:

A. The student will be able to utilize project management tools to create digital project file.
B. The student will be able to work as a team and individually to create expected outcomes and specifications.
C. The student will be able to design as a group all AutoCAD electrical, mechanical, controls and pneumatics needed.
D. The student will be able to perform all task such as wiring, welding, machining, pneumatics to complete project construction.
E. The student will be able to perform updates to documentation and submit for client upon project completion.
F. The student will be able to utilize best practice principles to asses project.

SPECIAL NOTES:
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SYLLABUS

DATE OF LAST REVIEW:	10/13/2020
CIP CODE:	15.0406
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Industrial Systems Integration
COURSE NUMBER:	AMFT 0240
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus
PREREQUISITES:	AMFT 0141, AMFT 0150, AMFT 0221

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:

The purpose of this program is to be introduced to how automated machine processes can be integrated with other systems within a manufacturing environment to control equipment and share its data information with other systems. This course will introduce networking fundamentals and layout diagrams of both industrial networking and business networking. This course will cover (IioT) Industrial Ethernets of Things. This course will cover using networking signals rather than electrical handshakes to manipulate electromechanical controls such as Variable Frequency Drives. Also covered will be communication enable and disable of processes within shared systems. This course will discuss SAP systems to gain an understanding of how modern manufacturing utilized their sites main operating database to interact with and control machine processes. Finally, the course will discuss utilizing the lab to introduce change machine process thought information received from a database management system..

METHOD 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, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

    I.   Industrial Networking Principles and Fundamentals.
    II.   Basic Computer networking fundamentals
    III.   Communications wiring and cabling practices
    IV.   (IioT) "Industrial Internet of Things" introduction
    V.   Control using electrical signal vs. digital signal
    VI.   HMI (Human Machine Interface) & PLC Design concepts
    VII. Exchanging Data between equipment vs. manufacturing business data base system
    VIII. Networking Principles and design considerations
    IX.   Diagrams and documentation for network architecture
    X.   SAP and ERP Systems concepts

EXPECTED LEARNER OUTCOMES:

A.   The student will be able to discuss networking hardware and software.
B.   The student will be able to interpret network diagrams.
C.   The student will be able to utilize computer commands to test network connectivity.
D.   The student will be able to establish communications between various control systems.
E.   The student will be able to establish communications to exchange data from data base.
F.   The student will be able to connect separate control systems together to change machine process.
G.   The student will be able to connect control systems to data base to change machine process.
H.   The student will be able to complete labs to specification and make diagrams.

SPECIAL NOTES:

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SYLLABUS

DATE OF LAST REVIEW: 10/13/20

CIP CODE: 15.0406

SEMESTER: Departmental Syllabus

COURSE TITLE: Automated Manufacturing Systems Capstone

COURSE NUMBER: AMFT 0250

CREDIT HOURS: 2

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: Departmental Syllabus

PREREQUISITES: AMFT 0230, AMFT 0240

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

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.

METHOD 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, and 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

EXPECTED LEARNER OUTCOMES:

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.

SPECIAL NOTES:
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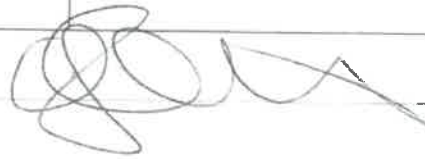
PERKINS ELIGIBILITY REQUEST FORM

Carl D. Perkins Funding
Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2020)

Name of Institution	Kansas City Kansas Community College
Name, title, phone, and email of person submitting the Perkins Eligibility application *(contact person for the approval process)*	Cheryl Runnebaum Dean of Career and Technical Education (913) 288-7811 crunnebaum@kckcc.edu
Name, title, phone, and email of the Perkins Coordinator	Donna Shawn Director, Technical Programs/Perkins Coordinator (913) 288-7805 dshawn@kckcc.edu
Program Name	Automation Engineer Technology
Program CIP Code	15.0406
Educational award levels and credit hours for the proposed request	Certificate C: 49 credits AAS: 65 credits
Percentage of tiered credit hours for the educational level of this request	Certificate C: 93.88% AAS: 70.77%
Number of concentrators for the educational level	This is a new program. The projected enrollment for year one is 10 full-time and 10 part-time
Does the program meet program alignment?	Yes
Justification for conditional approval: *(this section must reference information found within the Local Needs Assessment)*	The Kansas Department of Labor 10 Year Job Outlook for 2016 - 2026 projects there will be 453 annual openings. KCKCC has been approached by local manufacturers to start a training program.

Signature of College Official _____ Date 12.15.20

Signature of KBOR Official _____ Date

Last updated: 3/23/2020