

New Program Request Form

CA1

General Information

Institution submitting proposal	Wichita State University Campus of Applied Sciences and Technology
Name, title, phone, and email of person submitting the application <i>(contact person for the approval process)</i>	Dr. Scott Lucas Vice President of Aviation, Manufacturing and Institutional Effectiveness 316.677.9535 slucas@wsutech.edu
Identify the person responsible for oversight of the proposed program	James Hall Dean, Aviation and Manufacturing
Title of proposed program	Manufacturing Technology
Proposed suggested Classification of Instructional Program (CIP) Code	15.0613 Manufacturing Technology/Technician
CIP code description	A program that prepares individuals to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. Includes instruction in machine operations, production line operations, engineering analysis, systems analysis, instrumentation, physical controls, automation, computer-aided manufacturing (CAM), manufacturing planning, quality control, and informational infrastructure.
Standard Occupation Code (SOC) associated to the proposed program	17-3026 Industrial Engineering Technologists and Technicians
SOC description	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.
Number of credits for the degree <u>and</u> all certificates requested	AAS – 65 Credits Certificate A – 24 Credits Certificate B - 33 Credits Certificate C – 53 Credits
Proposed Date of Initiation	August 1, 2022
Specialty program accrediting agency	N/A

Industry certification	OSHA 1910.178 Forklift Operator OSHA/Safety 10 NC3 Certifications in PMI include: <ul style="list-style-type: none">• PMI 1 - Tape and Rule Measurement• PMI 2 - Slide Caliper Measurement• PMI 3 - Gage Measurement• PMI 4 - Angle Measurement• PMI 5 - Micrometer Measurement• PMI 6 - Dial Gage Measurement NC3 Certification Data Analytics NC3 Torque-Electrical and Mechanical NC3 Meter-525 Potential for various other certification depending on the training products selected-NIMS, SACA, MSSC, NC3-Festo, FANUC,
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Signature of College Official  _____ Date 10/13/21 _____

Signature of KBOR Official _____ Date _____

Narrative

Completely address each one of the following items for new program requests. Provide any pertinent supporting documents in the form of appendices, (i.e., minutes of meetings, industry support letters, CA1-1a form).

Program Rationale

Provide an overall explanation and background surrounding the development of the proposed program. Include where the idea came from, who was involved, and why the program is needed.

WSU Tech New Program Development Overview

WSU Tech develops new programs through a process that ensures the launch of sustainable, relevant technical programs in high-demand industries. The method includes input from internal and external stakeholders to meet student needs and the needs of employers at the local, regional and statewide levels. New program development at WSU Tech is a multi-step process (see below) that is fluid enough to provide flexibility but with enough structure to ensure successful program approval and implementation. The appropriate Academic Vice President oversees the development of a new program from idea to implementation with support from the department dean throughout the process. Faculty and subject matter experts provide their expertise during the curriculum development and implementation stages. The Academic Services Department provides support at various points in the process, with its primary responsibilities being guiding the program through the approval processes and curriculum development/design. The financial analysis phase includes input/review from multiple college areas, including academics, finance, financial aid and facilities. Additionally, the financial analysis includes significant collaboration between Executive Director, Finance and the appropriate Academic Vice President and occurs in conjunction with the final pieces of benchmarking and throughout the curriculum development phases. In addition, other college departments, including student services, financial aid, institutional research, IT, grants department, registrar's office, and marketing, are engaged at the appropriate time during the process.

- Idea Conception and Research
- Benchmarking
- Financial Analysis
- Curriculum Development
- Approvals
- Implementation

Manufacturing Technology Integration with New Program Development Process

The proposed Manufacturing Technology program entered the idea conception and research phase during the Fall of 2020 based on conversations between Vice President of Manufacturing and Aviation (Dr Scott Lucas) and members of Wichita Manufacturer's Association, industry interactions, and multiple WSU Tech Industry Advocate Teams (IAT). These conversations plus research into relevant industry trends indicated that the manufacturing sector in the United States has been showing signs of a shift toward what is known as Industry 4.0 skills (Smart factories, automation Industrial Internet of Things IIoT). The onset of Covid- 19 pandemic has hastened the shift across the sector as employers work to ensure they have end to end supply chain management and fast track automation programs to address working shortages. Through the spring and summer of 2021 additional research completed for a potential grant and collaboration opportunity (see Appendix A) indicated that while there is the growing demand for advanced manufacturing jobs and the move towards Industry 4.0 careers and options in automation by local business and industry, there is also a consistent and concrete need for entry-level workforce in manufacturing.

Chart A provides a snapshot of entry-level or two-year or below education related jobs that were listed in Wichita from May thru July 2021 (see Appendix A). This table emphasizes the need for a new approach to preparing individuals for these manufacturing careers.

Chart A

Position Posted	# Of Jobs
Maintenance Tech or Mechanic	117
Assembler	84
Material Handler	43
Production Worker	43
Quality Inspector	28
Production Manager	18
Forklift Operator	14
Deburr Operator	12
Machine Operator	6
TOTAL	365

The proposed program entered the benchmarking phase in the late summer of 2021 with a regional review of similar programs and a Fall 2021 survey of local employers including among others Cox Machine and Lincoln – Electric (see Appendix B). In this survey employers were asked to identify the importance of skills and training such as use of hand tools and more advanced skills (Industry 4.0 skills) such as motor control and basic robotics. With this research in hand the proposed program entered the curriculum design phase. Participants in this phase included the VP of Manufacturing/Aviation, Deans of Manufacturing/Aviation and Academic Services, and faculty serving as subject matter experts. This phase resulted in a well-balanced course sequence which addresses the need to provide a core of common entry level skills leading to more advanced industry 4.0 skills and knowledge.

As indicated in the overview of the WSU Tech program development process the financial analysis of the proposed program occurred simultaneously as the program moved through the benchmarking and curriculum development phases. The financial analysis phases phase includes the Executive director, Finance, Vice President of Manufacturing and Aviation as well as the Dean of Manufacturing and Aviation. Internal and external approvals occurred in October of 2021 and implementation will begin with program approval.

Program Description

Provide a complete catalog description (including program objectives) for the proposed program.

This program provides graduates with a well-rounded education in basic manufacturing processes and then progresses them through multiple manufacturing concepts to more advanced automation skills including industry 4.0 concepts. All students will experience a core curriculum focused on the foundational skills in manufacturing processes including precision measuring, blueprint reading quality control, and basic design concepts. Different pathways allow students to learn on state-of-the-art industrial trainers and systems to match industry skills in assembly, operations, fabrication, maintenance, and automation. Onsite networks allow the building of virtual factories, buildings, and other smart components. Students will create integration scenarios, troubleshooting activities, root-cause analysis, and other real-world scenarios.

Program level Outcomes

- Identify the basic procedures and processes associated with manufacturing
- Identify the basic metallurgical principles as they relate to manufacturing
- Demonstrate advanced systems technology skills as they relate to manufacturing
- Apply safe and approved practices in the workplace
- Analyze, interpret, modify and prepare drawings used in the manufacturing process
- Solve quality problems using process planning, technical knowledge, teamwork, mathematics, and critical thinking
- Apply appropriate mathematical skills to solve real-world problems
- Demonstrate the ability to utilize tools and equipment used in the manufacturing environment
- Demonstrate the ability to safely operate manufacturing joining, cutting, and bending
- Perform assembly tasks utilized in a wide-range of manufacturing processes
- Identify potential maintenance issues with basic production systems.
- Demonstrate the basics of electrical wiring and AC/DC principles
- Identify potential fluid system issues which will require maintenance personnel to correct
- Perform basic PLC programming
- Analyze and solve manufacturing production issues utilizing machine automation solutions

List and describe the admission and graduation requirements for the proposed program.

Admission Requirements:

The requirements for admission to the Manufacturing Technology program are:

- Attainment of 16 or more years of age
- Documentation of high school graduation or satisfaction of high school equivalency certificate requirements, or students currently enrolled in high school or GED program and have attained junior status.
- Completion of application and related procedures

Transfer Students

- Admission of transfer students to the Manufacturing Technology program contingent upon their meeting the following requirements:
 - Regular admission and good standing at a regionally accredited technical certificate or degree granting institution and proper completion of applications and related procedures.

Program Requirements

- 24 – 53 semester credits for a technical certificates A – C and 65 semester credits for the associate applied sciences degree with an overall GPA of 2.0 or higher.
- A passing grade in all courses (grade of C) within the student’s declared program of study.
- Completion of all skill competencies with a minimum grade of 80%
- At least 25 percent of credits must be earned at WSU Tech.
- Recommendation for graduation by the registrar.

Graduation Requirements

To be awarded an AAS degree or technical certificate, 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 2.0. WSU Tech urges students to continuously monitor their educational progress. Prior to the final semester or registration period, students must meet with an Academic Advisor to ensure that all requirements will be finished prior to the anticipated graduation date.

Demand for the Program

Using the Kansas Department of Labor's Long Term Occupational Outlook, (<https://klic.dol.ks.gov>) Identify employment trends and projections: occupational growth, occupational replacement rates, estimated annual median wages, and typical education level needed for entry.

A crosswalk provided by the National Center for Education Statistics associates Manufacturing Technology/Technician (CIP 15.0613) with Industrial Engineering Technologist and Technicians (SOC 17-3026). The Kansas Department Labor's Long – Term Occupational Outlook indicates the projected openings between 2016 and 2026 for SOC Code 17-3026 are 264 in the Southcentral Region and 472 statewide. The majority of these openings will be the result of transfers or exits in the Southcentral Region (158 transfers and 10 exits) and the same is true for the state overall with 298 positions open due to transfers and 18 positions due to exits. For the ten-year period associated with this report there will be openings for 27 graduates in the Southcentral region annually with 47 openings annually statewide.

This same data source indicated an average state-wide median wage of \$52,228 and slightly higher annual median -wage in the Southcentral region of \$56,640. Both the state-wide and southcentral region data indicate the typical education needed for entry level position is an associate degree.

In support of the Kansas Department of Labor's Long-Term Occupational outlook for Kansas and in particular South-Central Kansas is the Sedgwick County data from JobsEQ. This data indicates a total demand of 79 Manufacturing Technician positions in 2021, the results of transfer (52) and exits (27). See Appendix C

Show demand from the local community. Provide letters of support from at least three potential employers, which state the specific type of support they will provide to the proposed program. See Appendix D-J

Describe how the proposed program supports the Perkins Comprehensive Local Needs Assessment.

The proposed Manufacturing Technology program is aligned with the Perkins Career and Technical (CTE) Program Comprehensive Regional Needs Assessment for the Wichita Region (February 1, 2020). The proposed program provides graduates with skills listed in multiple sectors experiencing gaps in demand vs post-secondary concentrators including Precision Production/Manufacturing, Construction /Design Pathway and Engineering Technologies and Engineering Related Fields. In the Precision Production/Manufacturing sector the proposed program will provide courses in precision measuring, CNC operations and three courses in manufacturing processes and production techniques. The gap data for this area indicates that secondary concentrators meet only 4% of current annual demand. The proposed program will offer courses in Solidworks and 3D printing which correlates to the design/construction sector. The data for this sector indicates a 95% gap in this area. Lastly, the data for Engineering Technologies and Engineering-Related Fields shows there is a 75% gap between employer demand and graduates indicating there are not enough concentrators at the post-secondary level to meet the local demand. The proposed program will address the gap by providing students with courses in automation, robotics and manufacturing maintenance.

Describe/explain any business/industry partnerships specific to the proposed program.

If a formal partnership agreement exists, an agreement explaining the relationship between partners and to document support to be provided for the proposed program must be submitted to the Board office independently of the CAI materials for review purposes. The agreement will not be published or posted during the comment period.

The College will continue developing working relationships with area businesses and industry to establish clinical sites, and guaranteed interviews for program participants/ graduates. These partnerships are of tremendous benefit for placement upon graduation and obtainment of the available certifications. Below is a list of the current business and industry representatives that will work with the proposed program. The willingness of these business and educational institutions working with WSU Tech to create this program speaks to the value WSU Tech places on industry and other partnerships.

List of Manufacturing Technology IAT Members

*indicates attended meeting

NAME	COMPANY
Josh Thieme*	Lincoln Electric
Rachel Tate	Express Employment Professionals
Jorge Martinez*	JR Custom Metal Products
Michael Dymond*	Fiber Dynamics Inc
Anthony Gormley	Metal-Fab Inc
Andrew Woodruff	Kaman Composites
Jim Barnes	Harlow Aerostructures
Brad Haas*	KOMT
Brad Lampton	Lampton Welding Supply
Lyndon Davis*	Webco Manufacturing Inc
Kari Porter	ICM
Eric J. Gilman	Superior Air Products/Kansas Filtration
Ryan Altendorf*	Heritage Cutter
Mark Soucie*	Ferroloy Inc
Ronald Le Fevre	Excel Inds
Cheryl Childers	Cox Machine Inc
Mona Martin	HM Dunn AeroSystems Inc
Troy Ross	Great Plains Industries Inc
Matt Marner	CNH Industrial
Doug Dorrrough	Johnson Controls
Brian Franz*	Millennium Machine & Tool Inc.

Duplication of Existing Programs

Identify similar programs in the state based on CIP code, title, and/or content. For each similar program provide the most recent K-TIP data: name of institution, program title, number of declared majors, number of program graduates, number of graduates exiting the system and employed, and annual median wage for graduates exiting the system and employed.

Name of Institution	Name of the Program	CIP Code	# declared majors	Number of program graduates	Number of Graduates Exiting the System and Employed	Annual Median Wage for Graduates Exiting the System and Employed
Barton Community College	Manufacturing Engineering Technology/Technician	15.0613	*	*	*	*
Hutchinson Community College	Manufacturing Engineering Technology/Technician	15.0613	41	5	*	*
Flint Hills Technical College	Manufacturing Engineering Technology /Technician	15.0613	18	8	5	\$46,733
Butler Community College	Manufacturing Engineering Technology /Technician	15.0613	5	*	*	*
Washburn Institute of Technology	Certified Production Technician	15.0613	83	38	*	\$49,225

* Number suppressed

Was collaboration with similar programs pursued: Please explain the collaboration attempt or rationale for why collaboration was not a viable option.

WSU Tech has not reached out to similar programs for collaboration but is working with USD 259 on creating pathway options for this program for students. As the program builds, future collaboration between local and all state two-year colleges should be a priority as we should align job skills to meet their needs, which clearly shown in the table above from the Jobs Eq report of job openings we are not doing. WSU Tech did reach out to Washburn Tech and KCKCC-Automation Engineer Technology/Technician (15.0406) to inquire about curriculum options that could lead to closely aligned courses.

Program Information

List by prefix, number, title, and description all courses (including prerequisites) to be required or elective in the proposed program.

See Appendix K

If the proposed program includes multiple curricula (e.g., pathways, tracks, concentrations, emphases, options, specializations, etc.), identify courses unique to each alternative.

This program will offer students an AAS and 3 exit points at the Technical Certificate A, B and C. See Appendix K for details on courses offered in each TC.

Provide a Program of Study/Degree Plan for the proposed program including a semester-by-semester outline that delineates required and elective courses and notes each program exit point.

AAS Manufacturing Technology

Semester 1

Course #	Course Title	Credits
MNF 110	<i>CNC Basics</i>	2
MNF 115	<i>Forklift Operations</i>	1
MNF 120	<i>Manufacturing Processes & Production I</i>	3
AVC 104	<i>Quality Control Concepts</i>	1
AVC 110	<i>Safety/OSHA 10</i>	1
AVC 135	<i>Hand Tools</i>	1
AVC 145	<i>Power Island</i>	1
MCD 106	<i>Precision Measuring</i>	2
MCD 130	<i>Basic Solidworks</i>	3
MMG 113	<i>Print Reading</i>	3
MMG 131	<i>Metallurgy</i>	1
PDV 105	<i>Blueprint for Personal Success</i>	2

Semester 2

Course #	Course Title	Credits
MNF 125	<i>Maintenance Training</i>	4
MNF 130	<i>Manufacturing Processes & Production II</i>	3
MCD 137	<i>Introduction to 3D Printing</i>	2
	<i>Communication Elective</i>	3
	<i>Math Elective</i>	3

Semester 3

Course #	Course Title	Credits
MNF 135	<i>Electrical Concepts</i>	3
MNF 140	<i>Basic PLC's</i>	3
MNF 145	<i>Fluid</i>	2
MNF 150	<i>Automation in Manufacturing</i>	3
	<i>Social Science Elective</i>	3

Semester 4

Course #	Course Title	Credits
MNF 160	<i>Manufacturing Processes & Production III</i>	3
MNF	<i>Manufacturing Technology Electives - 3 Credits</i>	3
ROB 100	<i>Introduction to Robotics</i>	3
ENG 101	<i>Composition I</i>	3
CED 115	<i>Computer Applications</i>	3

Manufacturing Technology Electives

Course #	Course Title	Credits
MNF 155	<i>Digital Electronics</i>	3
MNF 165	<i>Automated Supply Chain</i>	3
MNF 170	<i>Drones and Data Analysis</i>	3
MNF 175	<i>Manufacturing Technology Applied Learning Experience</i>	3

TC Manufacturing Technology - Certificate C

Semester 1

Course #	Course Title	Credits
MNF 110	<i>CNC Basics</i>	2
MNF 115	<i>Forklift Operations</i>	1
MNF 120	<i>Manufacturing Processes & Production I</i>	3
AVC 104	<i>Quality Control Concepts</i>	1
AVC 110	<i>Safety/OSHA 10</i>	1
AVC 135	<i>Hand Tools</i>	1
AVC 145	<i>Power Island</i>	1
MCD 106	<i>Precision Measuring</i>	2
MCD 130	<i>Basic Solidworks</i>	3
MMG 113	<i>Print Reading</i>	3
MMG 131	<i>Metallurgy</i>	1

Semester 2

Course #	Course Title	Credits
MNF 125	<i>Maintenance Training</i>	4
MNF 130	<i>Manufacturing Processes & Production II</i>	3
MCD 137	<i>Introduction to 3D Printing</i>	2
PDV 105	<i>Blueprint for Personal Success</i>	2
	<i>Math Elective</i>	3

Semester 3

Course #	Course Title	Credits
MNF 135	<i>Electrical Concepts</i>	3
MNF 140	<i>Basic PLC's</i>	3
MNF 145	<i>Fluid</i>	2
MNF 150	<i>Automation in Manufacturing</i>	3

Semester 4

Course #	Course Title	Credits
MNF 160	<i>Manufacturing Processes & Production III</i>	3
MNF	<i>Manufacturing Technology Electives - 3 Credits</i>	3
ROB 100	<i>Introduction to Robotics</i>	3

Manufacturing Technology Electives

Course #	Course Title	Credits
MNF 155	<i>Digital Electronics</i>	3
MNF 165	<i>Automated Supply Chain</i>	3
MNF 170	<i>Drones and Data Analysis</i>	3
MNF 175	<i>Manufacturing Technology Applied Learning Experience</i>	3

TC Manufacturing Technology Certificate B

Semester 1

Course #	Course Title	Credits
MNF 110	<i>CNC Basics</i>	2
MNF 115	<i>Forklift Operations</i>	1
MNF 120	<i>Manufacturing Processes & Production I</i>	3
AVC 104	<i>Quality Control Concepts</i>	1
AVC 110	<i>Safety/OSHA 10</i>	1
AVC 135	<i>Hand Tools</i>	1
AVC 145	<i>Power Island</i>	1
MCD 106	<i>Precision Measuring</i>	2
MCD 130	<i>Basic Solidworks</i>	3
MMG 113	<i>Print Reading</i>	3
MMG 131	<i>Metallurgy</i>	1

Semester 2

Course #	Course Title	Credits
MNF 125	<i>Maintenance Training</i>	4
MNF 130	<i>Manufacturing Processes & Production II</i>	3
MCD 137	<i>Introduction to 3D Printing</i>	2
PDV 105	<i>Blueprint for Personal Success</i>	2
	<i>Math Elective</i>	3

TC Manufacturing Technology Certificate A

Semester 1

Course #	Course Title	Credits
MNF 110	<i>CNC Basics</i>	2
MNF 115	<i>Forklift Operations</i>	1
MNF 120	<i>Manufacturing Processes & Production I</i>	3
AVC 104	<i>Quality Control Concepts</i>	1
AVC 110	<i>Safety/OSHA 10</i>	1
AVC 135	<i>Hand Tools</i>	1
AVC 145	<i>Power Island</i>	1
MCD 106	<i>Precision Measuring</i>	2
MCD 130	<i>Basic Solidworks</i>	3
MMG 113	<i>Print Reading</i>	3
MMG 131	<i>Metallurgy</i>	1
MTH 020	<i>Math Fundamentals</i>	3
PDV 105	<i>Blueprint for Personal Success</i>	2

List any pertinent program accreditation available: N/A

Currently there is no appropriate program level accreditation. However, WSU Tech will continue to review accreditation opportunities as they become available.

Faculty

- Describe faculty qualifications and/or certifications required to teach in the proposed program. Upon approval the Manufacturing Technology program will become part of the WSU Tech Manufacturing Department. Oversight for the day-to-day operations of the proposed program will be the responsibilities of James Hall, Dean, Aviation and Manufacturing

James Hall

- MBA-Friends University
- 10 years teaching experience as a faculty member
- 20+ years manufacturing industry experience

This program is a compilation of courses currently in the WSU Tech curriculum inventory, redesigned courses based on current curriculum inventory and newly developed courses. WSU Tech current faculty across multiple disciplines have the expertise to effectively teach these courses. The WSU Tech faculty for each teaching area were selected based on their relevant industry experience in the subject matter, education, and teaching experience.

Industrial Automation

Ralph Hudgens – Faculty, Industrial Automation

- o Education - AAS – Electronics/Computer Maintenance and BS – Industrial Engineering
- o Higher Education Experience -5 years teaching experience as a faculty member at WSU Tech
- o Industry Experience - 25 years of industry experience in Industrial Automation

Aviation Manufacturing

Christine Parks – Faculty, Aviation/Composites

- o Education -BS – Friends University
- o Higher Education Experience- 5 years teaching in Aviation Manufacturing and Composites Technology programs at WSU Tech
- o Industry Training Experience- 10 years of industry training experience at the Boeing Company
- o Industry Experience- 30 years of experience in Aerospace Manufacturing

Michael Arredondo - Faculty, Aviation

- o Higher Education Experience- 2 years teaching experience as a faculty member at WSU Tech
- o Industry Training Experience- 15 years of industry training in aviation manufacturing
- o Industry Experience - 25 Years of experience in the manufacturing of aircraft

Machining

Michael Corby – Program Director: Machining Technology

- o Education - AAS – Machining Technology – WSU Tech
- o Higher Education Experience - 5 years teaching in Machining Technology Program at WSU Tech
- o Industry Training Experience - 15 years of experience as an industry trainer at Spirit AeroSystems and The Boeing Company
- o Industry Experience - 43 years of experience in the machining industry at Spirit AeroSystems and The Boeing Company

Design/Precision Instrumentation

Jeremy King, Faculty Design

- o Education - AAS – Design, WSU Tech
- o Higher Education Experience 13 years of teaching experience at WSU Tech
- o Industry Experience 5 years of design experience

Robotics

Randy Thon, Program Director Robotics and Industrial Automation

- Education
- BS – Mechanical Engineering - University of North Dakota
- AAS – Computer Programming – Butler Community College
- Teaching/Education Experience – two years of higher education experience
- Industry experience - 30 + years of experience in Manufacturing industry working in engineering and automation areas.

Supply Chain

Kurt Siklar, Program Director LGM, Design & CATIA

- Education - MA – International Management Studies, Business, MBA- Business Management, BS –Management
- Teaching/Education Experience –22 years of teaching experience in high education
- Industry experience - 25+ years of experience in the logistics and supply chain industry including small and export merchant firm, a mid-size high-tech manufacturing firm and a large exporting paper mill

Unmanned Aircraft Systems (Drones)

Grant Janzen, Faculty, Unmanned Aircraft Systems

- Education - BS – Kansas State University: Unmanned Aircraft Systems
- Teaching/Education Experience –2 years of experience as a flight instructor at the post-secondary level
- Industry experience - 5 years of experience in UAS data collection and Flight Instructor

General Education Courses will be taught by existing faculty members who meet or exceed the following standards:

Transferable General Education Faculty:

Master's Degree or higher from a regionally accredited college or university in the teaching discipline or subfield, **OR** any master's degree plus 18 graduate or undergraduate credit hours in the teaching discipline or subfield.

Qualified faculty are identified primarily by credentials, but other factors may be considered in addition to the degree earned. For example, the ability to design curricula or develop and implement effective pedagogy through years of teaching with satisfactory performance.

Bachelor's Degree in the teaching discipline or subfield combined with 3+ years teaching experience in the discipline or subfield will be considered in lieu of a completed master's degree. A professional development plan to include a master's degree must be developed and pursued

Cost and Funding for Proposed Program

Provide a detailed budget narrative that describes all costs associated with the proposed program (physical facilities, equipment, faculty, instructional materials, accreditation, etc.).

Advising Services

Advising prospective students will be shared between the Dean, Aviation and Manufacturing for the Manufacturing Technology program and the college's Student Services staff. As with other programs offered by the college, Student Services personnel provide general information, assist students with admission to the college, and transfer credits. Program personnel supply detailed information about the Manufacturing Technology program. Financial aid advising is provided by the Financial Aid Specialist.

Additional services:

WSU Tech supplies a variety of services to students designed to ensure they are successful in their educational pursuits. There is no charge for any of these services.

Online Services: WSU Tech supplies many online support services designed to effectively support the hybrid and online instructional environment.

- NetTutor – available when the student is ready NetTutor is a 24/7 online tutoring service that provides effective as needed tutoring in all topic areas including general education discipline and technical areas such as nursing and engineering.
- Technology support for WSU Tech online students includes:
 - Enhanced WIFI hot spots at all WSU Tech locations available 24/7
 - *Student Laptop Loan service* available for nominal fee (\$50.00 per semester) students may rent a Windows device through the WSU Tech IT Department
- WSU Tech Online Orientation – Online Orientation is designed to provide students with access to comprehensive orientation and college success materials when it fits their schedule. The materials include topics such as what to expect in an online or hybrid course and effective study skills.
- Online Student Services Support: All student services including academic advising, enrollment, and financial aid are available to students in the online environment.
- Library – extensive online database services such as EBSCOhost and ProQuest are available to all WSU Tech students.

WSUTech provides wrap around services to ensure students have access to the resources that need to be fully prepared for the rigors of college coursework. Provided services include:

- Library: The Library is located on the South campus while the NCAT facility includes a shared space which houses both library and tutoring. Additionally, online library services are available to all students and include access to extensive database services such as EBSCOhost and ProQuest. Students can also access several databases by signing up for the Kansas Library Card.
- Tutoring Hub: Services are provided at both the NCAT and South Campuses. Typical general education topics such as Math, English, and writing as well as technical topics such as Blueprint Reading and Accounting, are available. Tutoring services for science-based disciplines and health care programs are located on the South and Old Town campuses.
- Mentoring: WSUTech provides a formalized academic mentoring program for students with academic risk factors. This program pairs students with faculty volunteers and they work together to ensure students meet their academic obligations and goals.
- Academic Success Week: At the beginning of the Fall and Spring semesters WSUTech hosts a week of workshops and events designed to engage students in the academic side of college. Topics include notetaking skills, dealing with stress, test taking skills, using library and technology resources such as the IT help desk and the Colab.

TRIO Student Support Services: For students who meet the college's TRIO eligibility requirements, WSU Tech provides a package of services designed to help students maximize their potential and meet

their educational goals. These services include academic coaching, tutoring, financial planning, transfer assistance, culture enrichment, career exploration, and mentoring.

The Department of Student Engagement: This department provides students with opportunities to engage in college life outside the classroom. Activities include student organizations and clubs such as Skills USA, Veterinary Nursing and Esports clubs. Other activities include welcome week events such as “Doughnuts with Your Dean” and lecture series on current topics.

The Office of Disability Services: coordinates services for students with disabilities.

Career Services: provides students with assistance in defining career goals, exploring personal interests, and career/general counseling.

Collaboration Lab: The Collaboration Lab (CoLab) provides students, faculty, and staff access to the latest technologies to enhance the learning experience. The technologies include HoloLens’s, green screens, a recording studio with audio and visual capabilities, online and on-ground meeting spaces equipped with up-to-date technology providing collaboration and recording capabilities. While physically located at the WSU Tech South Campus, the CoLab technologies are available at other WSU Tech locations via a mobile version of the lab.

Personnel

One new Faculty position is budgeted for FY23. This position will teach specific MNF courses. Faculty position is earmarked to be paid through a proposed grant via the City of Wichita. Should WSU Tech not receive the grant, this will be paid for through a pool of institutional funds known as new program development funds. This fund is dedicated to for new program start-up costs.

institutional funds would be used. Non-MNF courses will be taught by existing faculty as part of normal course loads.

Physical facilities:

WSU Tech will house the Manufacturing Technology program at the National Center for Aviation Training (NCAT 4004 N Webb Road). There is more than sufficient classroom and lab space available at this facility to accommodate the proposed program.

A proposed satellite location is also being considered with a partnership with Nextstep/Goodwill to provide access to entry-level job skills to be team taught along with ABE/GED skills.

Instructional Equipment

During the implementation year the proposed program will spend \$53,000 for program equipment. This will be paid for through a pool of institutional funds known as new program development funds. This fund is dedicated to for new program start-up costs.

In years two and three the proposed program will spend \$150,000 for equipment. These costs will be funded by City of Wichita Grant. Should WSU Tech not receive the grant, state grant dollars, Perkins, and institutional dollars would be used.

-Hand/Power Tools-\$11000-year 1

-Forklift simulators-\$22000-year 1

-Table top printers/cnc-\$20000-year 1 and 2

-Small space/enclosed cutting systems-\$23000-year 2

- Assembly training system-\$40000-year 2
- Electrical training system-\$32000-year 2
- Certified Production training system-\$40000-year 2
- Hydraulics training system-\$15000-year 2

\$10000 for instructional supplies and technology is allotted in each year 1-3 to cover simulation licensing and new developments in hybrid instruction. They are earmarked to be paid through Institutional Funds and Student Fees respectively. Some of the licensing is already covered through institutional contracts with instructional content providers such as 180 Skills and SME-ToolingU.

Instructional Materials: The proposed program will be distributed a budget from the general fund and have access to new program development funds for any start up costs. Associated materials fees paid by the students are listed below. The fees will allow WSU Tech to pay for student's versions of software and third-party publisher content needed for effective teaching and learning. The proposed program will use a number of third-party curriculum vendors such as Amatrol, ToolingU, Festo-LabVolt, and 180Skills to provide web-based content to students. These fees are included in course costs as is WSU Tech's practice instead of having fees outside of program costs.

Chart B – Materials Fees

Course Number	Course Title	Associated Materials Fees
MNF 110	CNC Basics	\$100
MNF 115	Forklift Operations	\$100
MNF 120	Manufacturing Processes & Production I	\$200
MNF 125	Maintenance Training	\$300
MNF 130	Manufacturing Processes & Production II	\$200
MNF 135	Electrical Concepts	\$200
MNF 140	Basic PLC's	\$250
MNF 145	Fluid	\$250
MNF 150	Automation In Manufacturing	\$300
MNF 160	Manufacturing Processes & Production III	\$350
MNF 155	Digital Electronics	\$200
MNF165	Automated Supply Chain	\$350
MNF 170	Drones and Data Analysis	\$600
MNF 175	Manufacturing Technology Applied Learning Experience	\$75
AVC 104	Quality Control Concepts	\$30.00
AVC 110	Safety/OSHA 10	\$ 90.00
AVC 135	Hand Tools	\$31.00
AVC 145	Power Island	\$30.00
MCD 106	Precision Measuring	\$ 87.00

MCD 130	Basic Solidworks	\$80.00
MCD 137	Introduction to 3D Printing	\$45.00
MMG 113	Print Reading	\$125.00
MMG 131	Metallurgy	\$26.00
ROB 100	Introduction to Robotics	\$260.00
PDV 105	Blueprint for Personal Success	\$30.0
	15 credits of General Education	\$0.0

- Provide details on **CA-1a form**.

Appendix L

- Provide Excel in CTE fee details on the **CA-1b form**.

Appendix M

- If the program is requesting Perkins funds, provide details on the **CA-1c form**.

Appendix N

- If the program is requesting KS Promise Act eligibility, provide details on the **CA-1d form**.

Appendix O

Describe any grants or outside funding sources that will be used for the initial startup of the new program and to sustain the proposed program.

WSU Tech, in collaboration with USD 259, has submitted a proposal to the City of Wichita to leverage ARPA funds to fund the startup of this program. WSU Tech’s portion of the grant proposal would cover the initial year cost of the faculty member, year 1 and year 2 equipment costs, curriculum development, program marketing, and instructional support for Nexstep. WSU Tech should know by end of the calendar year (December 2021), the results of the proposal.

Program Review and Assessment

Describe the institution’s program review cycle.

The Manufacturing Technology program will go through the same assessment and Program Review processes used for all other programs throughout the college. WSUTech utilizes a curriculum management system called WIDS (World Wide Instructional Design) to house the curriculum and assessment documentation. Inside WIDS, faculty working with the Dean of Academic Services and the Director of Assessment map program outcomes to courses and assessment activities. Faculty evaluate students throughout the program for mastery of knowledge and technical skills using various assessment activities, including written exams, demonstrations, projects, and other evaluation techniques. Data from the assessment activities is collected and aggregated using specialized assessment software (EAC) located in the Learning Management System (Blackboard). The faculty utilize the data to identify student learning trends, achievements and challenges, and the appropriate instructional revisions. The assessment processes are documented via Program Assessment Plans (OAP’s) and Analysis (OAP/Analysis) completed annually and housed in the WIDS.

A program Industry Advocate Team (IAT) annually reviews program content, admission requirements, equipment, program outcomes, objectives, and competencies. Members of the IAT team provide input

designed to ensure the program curriculum is current and relevant to industry needs. In addition, the college implements any state-aligned curriculum within the required deadlines.

Each program conducts a formal review to ensure that its objectives and competencies are achieved and a level of accountability in place. These reviews take place over a three-year cycle. The program review considers all the information produced about the program and brings it together in one evaluation. The program review allows programs and departments to identify their strengths, pinpoint areas for improvement, and discuss other resources that impact the instructional department. The structure of program review is very much like program self-study. Each program review is made up of six major components: program information, curriculum, advisory committee, resources, program outcomes, and summary. For each area, faculty describes or provides feedback on specific aspects, providing data and support documentation when available. In addition, the institutional research department provides supplemental data from student course and program evaluations, student satisfaction surveys, student and employer assessment surveys, and graduate placement statistics. Faculty complete the program review documentation and submit it to the appropriate Dean for review. After any necessary adjustments are completed, the program review is submitted to the Program Review Committee, consisting of the Academic Vice Presidents and the Director of Assessment. After reviewing the documentation, the Program Review Committee meets with program leadership to identify a course of action to improve the program based on recommendations within the program review.

Program Approval at the Institution Level

- Provide copies of the minutes at which the new program was approved from the following groups:
Appendix P-R

- Program Advisory Committee 10/8/2021
(including a list of the business and industry members)
- Faculty Senate Committee 10/20/2021
- WSUTech Board 10/21/2021
(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

Supporting Manufacturing & Advanced Manufacturing Jobs in our Community



Wichita State University Campus of Applied Sciences & Technology dba WSU Tech,
4004 North Webb Road, Wichita, KS 67226

And

Unified School District 259-Wichita Public Schools dba USD 259
903 South Edgemoor, Wichita, KS 67218

2. Primary point of contact for proposal and project:

Name: Dr. Scott Lucas, WSU Tech

Title: Vice President, Aviation, Manufacturing & Institutional Effectiveness

Phone: 316-677-9535

Email: slucas@wsutech.edu

And

Name: Kelly Bielefeld, USD 259

Title: Executive Director of College and Career Readiness

Phone: 316-973-4511

Email: kbielefeld@usd259.net

Growing the local workforce to meet post-pandemic needs

This project proposal seeks to assist the greater-Wichita community by implementing new programming that will impact the manufacturing workforce coming out of the COVID-19 pandemic. During the initial shut-down and subsequent re-start and follow-up, many areas of need came to light when education was forced to abruptly move from providing face-to-face learning to online-only learning and industry had to shift towards precautions while continuing essential employment. This project will help individuals enrolled in targeted manufacturing pathways to grow the local workforce who have been negatively impacted by the COVID-19 pandemic. The joint-venture by WSU Tech and USD 259, along with other community partners, proposes to implement additional equipment, curriculum development, and applied learning opportunities to target educational and employment opportunities in manufacturing impacted by the COVID-19 pandemic.

A study by McKinsey and Company¹, asks the question, “How will manufacturing and its supply chains look after COVID-19?” The answer is companies are much more likely to look for digital and technological solutions as a response to the crisis. Industry leaders are leveraging Industry 4.0 solutions: 39 percent have implemented a technology-oriented approach to increase end-to-end supply-chain transparency, and around a quarter are fast-tracking automation programs to STEM worker shortages arising from COVID-19. This project focuses on basic manufacturing skills and accelerates students through more advanced automation skills to match the Industry 4.0 skills that are needed in the post-pandemic workforce. Industry 4.0—which includes connectivity, advanced analytics, automation, and advanced-manufacturing technologies was gaining momentum before COVID-19, helping companies transform their operations in everything from production efficiency to product customization, with improvements in speed to market, service effectiveness, and new-business model creation.

While WSU Tech was meeting the needs of providing high-tech, high-touch learning to the future workforce of Wichita pre-pandemic, the availability of those opportunities was limited. The proposed actions by WSU Tech and USD 259 would leverage these funds to assist the manufacturing workforce to gain the skills needed. All equipment and supplies requested is focused on building and sustaining a pipeline to support local manufacturers who have continued to produce goods and services with a limited workforce as a direct result of the COVID-19 pandemic. The manufacturing industry in Sedgwick County lost 22% (or 10,565 employees) of their workforce from March 2020 to March 2021. Targeted programs are designed for students to enter the workforce and be immediately effective at their employer. Advanced manufacturing has been especially hit hard to the COVID-19 pandemic, and the manufacturing workforce, which were deemed essential, are critical and integral to continuing to build and produce their goods and services.

The institution’s regional and niche industries’ economic needs related to the need for jobs

The Advanced Manufacturing sector in the region includes commercial and general aviation, agriculture machinery, advanced materials, pharmaceuticals, and precision manufacturing. There are clusters of employers in each of these sub-sectors, creating significant economic impact in South Central Kansas. Not only is it the largest sector with nearly 49,000 Sedgwick County residents employed, but it also creates an additional 2.18 jobs for every manufacturing job created.² Additionally, there are more than 1,200 small-to-medium-sized manufacturers (SMMs) in the 10-county region surrounding Wichita.

Moreover, of the 100 largest US metropolitan areas, the Greater Wichita region is #1 in the percentage of manufacturing jobs (compared to all jobs in the region) and #3 in percentage of “Very High-Tech” manufacturing jobs. The Greater Wichita region was identified as the #3 US Advanced Industry Hotspot for Research & Development and STEM-worker intensive industries powering regional and national economic success.³

Despite the large number of people working in manufacturing and correlating high wages (average wage is \$66,729), there is a continuous need to find skilled workers to fill existing positions in all aspects of the

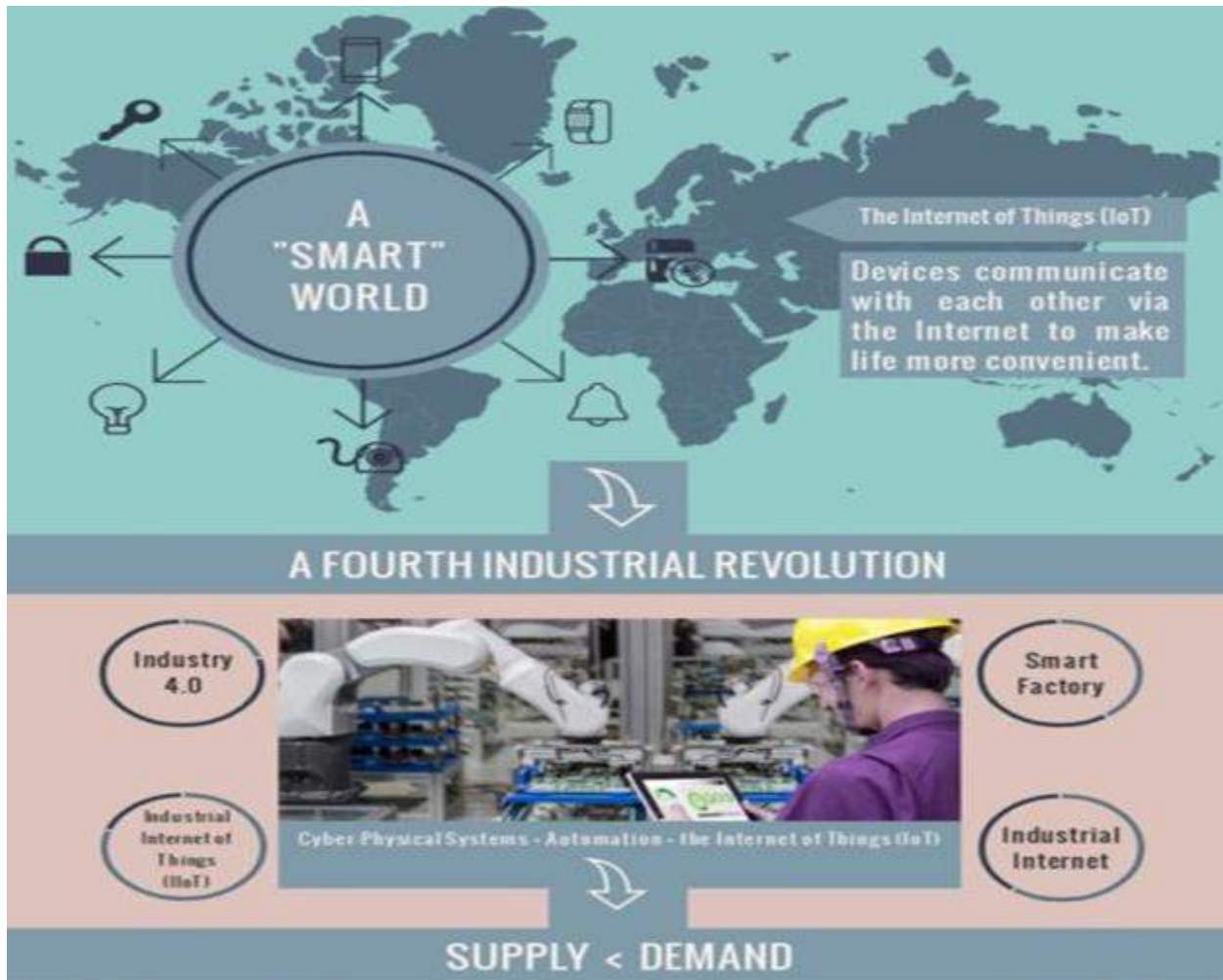
¹ <https://www.mckinsey.com/business-functions/operations/our-insights/industry-40-reimagining-manufacturing-operations-after-covid-19>

² Labor market data provided by JobsEQ from Chmura Economics & Analytics, data retrieved August 31, 2020

³ [America’s Advanced Industries, Brookings Institution, 2015](#)

workforce especially in the development and maintenance of automated equipment. During the second quarter of 2020, there were 339 total jobs (194 of the jobs required an Associate Degree or Technical Certificate) posted for employment in the Advanced Manufacturing industry through the KansasWorks website.⁴ The higher skilled the position, the longer time it takes to fill.⁵

As the manufacturing industry moves towards the future and further into Industry 4.0, the need to create higher-skilled positions in automation, specifically in relation to Smart Factories and the Industrial Internet of Things (IIOT), is prevalent. These two areas are key to technological improvements within manufacturing moving to Industry 4.0. To assist with this, Wichita State University Campus of Applied Sciences and Technology (WSU Tech) seeks to expand equipment, curriculum, and offerings in program areas related to Industry 4.0 and beyond skills.



At the same time there is the growing demand for advanced manufacturing jobs and the move towards Industry 4.0 careers and options in automation by local business and industry, there is also a consistent and concrete need for entry-level workforce in manufacturing. A recent visit by Governor Kelly⁶ to Airxcel to announce their expansion is one many examples of the growth of manufacturing jobs in our

⁴ <http://workforce-ks.com/wp-content/uploads/2015/05/Manufacturing-Career-Pathway-Q4-2017.pdf>

⁵ <http://burning-glass.com/wp-content/uploads/The-Skills-Gap-in-Production-Roles.pdf>

⁶ <https://www.kansascommerce.gov/2021/06/governor-laura-kelly-announces-airxcel-expansion-to-create-nearly-370-jobs-in-wichita/>

community and the needs to assist business and industry with building pathways into entry-level workforce.

The Table below provides a snapshot of entry-level or two-year or below education related jobs that were listed in Wichita from May thru July 2021⁷. This table emphasizes the need for new approach to preparing individuals for these manufacturing careers.

Position Posted	# of Jobs
Maintenance Tech or Mechanic	117
Assembler	84
Material Handler	43
Production Worker	43
Quality Inspector	28
Production Manager	18
Forklift Operator	14
Deburr Operator	12
Machine Operator	6
TOTAL	365

With the impact of the Coronavirus on the workforce, more employers are developing and expanding their capabilities in the automation and smart technology realm. This shift will create different jobs that will continue to require the foundational skills, but also additional knowledge and skills needed to work in the new environment. WSU Tech and USD 259 students must be equipped with the foundational skills to enter the workforce and be prepared for the addition of automation technology that will give employers the flexibility to adapt to the changing environment. The other aspect of these new programs and courses is to build opportunities for students to participate in Applied Learning activities such as internships, earn and learn, and other work-based activities to reinforce skills taught in the classroom.

How the two institutions will work together to target key components to create opportunities for individuals to build manufacturing skills and advanced manufacturing skills and credentials relevant to our community

WSU Tech and USD 259 are both well positioned to aid and support regional manufacturing employers by offering programs or exploratory courses in manufacturing career and technical education areas such as Machining, Welding, Design and Drafting, and pre-Engineering. Two manufacturing pathways areas that are not fully developed through curriculum and programming either at WSU Tech or USD 259 or both are Manufacturing Assembly and Operations and Maintenance and Automation. These two areas address the current need specified by business and industry and the future need that will be growing due to the move towards more automation.

This project proposes a plan for developing these pathways, launching new programs, creating a plan for marketing them to younger students, and prioritizing manufacturing careers and programming at both the secondary and post-secondary level.

⁷ Labor market data provided by JobsEQ from Chmura Economics & Analytics, data retrieved July 27, 2021
WSU Tech and USD 259 Manufacturing Jobs – Proposal

USD 259 and WSU Tech have history together developing and launching new curriculum, recently working together with other local schools to create and implement the Kansas Department of Education (KSDE) Aviation Pathways. These pathways provide high school students exploratory and career-readiness courses in aviation manufacturing, aviation maintenance, and related aerospace areas. Although there are currently manufacturing courses at KSDE, a different approach to delivery of these courses is envisioned.

The Future Ready Center, a recently renovated former grocery store, located adjacent to Wichita North High School opened last year with the first endeavor being the plane-build partnership project between USD 259, the Airbus Foundation, TangoFlight, and WSU Tech. The second of its kind in the state, this project combines Aerospace Engineering courses for high school students while building a kit airplane, with mentorship and support offered by Airbus employees and community supporters. The Airbus Foundation Flying Challenge is a global program that leverages aviation to inspire young people to continue their education, find their professional vocation and realize their dreams through mentoring with Airbus employee volunteers. Mentoring focuses on introducing the students to the world of aviation, aircraft design and construction. Along the way the students also learn the need for teamwork to complete complex tasks.

Borrowing from this partnership, the next phase of the partnership begins this fall with the launching of the Aviation Manufacturing Pathway application courses at the Future Ready Center. Courses will be offered in precision measuring, tool usage, blueprint reading, aviation systems, sheetmetal assembly, and composite fabrication and will be taught by WSU Tech faculty.

The next phase would be the creation and implementation of the manufacturing and advanced manufacturing pathways.

PROJECT IMPLEMENTATION PLAN		
Time Period	Activity	Equipment - Facilities
Fall 2021	<ul style="list-style-type: none"> -Follow all internal purchasing procedures to begin purchase of equipment -Submit program requests to Topeka and other agencies -Begin curriculum design -Layout classroom and lab space -Develop Industry Advisory Committees 	Purchasing Started/ Equipment Ordered
Spring 2022	<ul style="list-style-type: none"> -Continue to order equipment -Finalize facility and infrastructure needs -Create a marketing plan and work with high school counselors to generate student interest and enrollment for 21-22 school year -Update industry partners, boards, and other community members of plans for Future Ready Center 	Remaining Equipment Ordered

	-Finalize Curriculum	
Summer 2022	-Offer Teacher Training programs -Market post-secondary opportunities to the community	Finalize lab and classroom space and install
Fall 2022	-Start new program pathways -Maintain communication with industry and community partners -Begin field trip opportunities for K-8 students. -Submit Progress Report	Begin utilizing equipment
Spring 2023	-Market programs for 22-23 school year -Work with KSDE on Manufacturing pathway options -All funds expended -Submit Progress Report	Review any equipment needs based on full year of usage. Prepare for year two.

One facet of this project that is different than previous projects is the creation of a plan to market and generate interest in manufacturing careers in elementary and middle schools utilizing the Future Ready Center space as a showroom. The project plans to borrow from [Flight Works Alabama](#), a comprehensive aerospace exhibition and education center located in Mobile. Housed in a 15,000-square-foot facility, the partnership was established between Airbus, the state of Alabama, and group of educational and commercial partners that created a facility that includes a hands-on exhibition and interactive learning space, which features more than 40 high-tech exhibits to provide a comprehensive look at the aviation and aerospace industry. In addition to the exhibition space at Flight Works Alabama, a specially designed classroom, workshops, and fabrication areas provide the educational infrastructure needed to educate and train potential future aviation workers — from middle school age to veteran industry professionals. The primary purpose of Flight Works Alabama is to teach and stimulate individuals of the future of working in the aerospace industry. This project hopes to recreate some of the look and feel of Flight Works Alabama in the Future Ready Center with the focus of careers in Manufacturing with hands-on exhibits and interactive space that would allow for tours and other events to be held to showcase pathways and opportunities in manufacturing. They would draw from the careers being highlighted in the educational pathways being taught in the facility. The goal is to have an Exploration Place feel to some of the exhibits and interactions that represent the careers and training that are taking place in the Future Ready Center. WSU Tech has experience in this area via the FutureMaker Mobile Learning Lab. The result of a partnership between WSU Tech and Goodwill Industries, Inc, the goal of this mobile lab is to educate Kansans by bringing in-demand careers to their doorsteps using technology. In this mobile lab students will experience actual and virtual tools that are used in STEM (Science, Technology, Engineering and Math) careers identified as high demand throughout Kansas and the United States. The lab will capture the interest of all ages through exploration of STEM education using virtual reality, information technology and hands-on experiences and challenges. The plan also includes dollars to create materials that discuss career options and progressions, in coordination with the in-person hands-on, interactive learning experiences in high-demand technical fields for a field trip experience for students who get the opportunity to visit the Future Ready Center. This exploration of technical careers will ultimately lead more Kansans into career pathways such as Aviation, Advanced Manufacturing and Engineering. Students

will get a similar experience with a trip to the Future Ready Center with a focus on the pathways in aviation, manufacturing, and automation.

In addition to the Future Ready Center, an additional community partner will be utilized to expand the opportunities for individuals to gain manufacturing training. Goodwill Industries/ NextStep Alliance (NextStep), is affiliated with WSU Tech through a long-standing memorandum of understanding and has space that can be utilized. This allows for multiple opportunities within the community for access to underserved populations, alternative scheduling, and other non-traditional methods of delivery. WSU Tech and NextStep already have a successful program entitled, Unlocked. This program helps Kansans exiting the criminal justice system successfully maintain their freedom by providing the opportunity to study a technical career and earn their high school diploma at the same time. With guidance, they will move into an in-demand career to support their goals and family.

The plan also includes dollars to continue support for teacher training for summer workshops to ensure that industry needs are being matched in the classroom.

Students expected to benefit from the upgraded or expanded program.

The number of students reached by program would extend to all USD 259 high schools. School to Future Ready Center bussing would be in place as well as high school friendly schedules of courses.

The plan for coordination of efforts resulting in strengthening their capacity to support the state's economy with manufacturing education, training, recruitment, and learning experiences. Skill options include employability skills, foundational manufacturing skills, operations and assembly, automation and advanced robotics, augmented and virtual reality (as applied to manufacturing), fabrication, cutting, laser, machining, joining, maintenance, and applications with IT integration relation to industrial internet of things (IIoT)-Smart Manufacturing.

WSU Tech and USD 259 faculty, via the added capability of the requested equipment, will be better equipped to train tomorrow's manufacturing workforce from foundational skills to Industry 4.0 capabilities. New models of curriculum and instruction would be developed that starts all students in a core curriculum that focuses on basic level skills such as safety, precision measuring, tool usage, blue print reading, quality, and other fundamental competencies. Different pathways would allow for students to learn on trainers and systems to match industry skills in assembly, operations, fabrication, maintenance, and automation. An example is the development and implementation of encapsulated onsite networks that will allow faculty to build virtual factories, buildings, and other smart components and using the requested equipment can prepare students by creating integration scenarios, troubleshooting activities, root-cause analysis, and other real-world scenarios.

Once the facilities have the equipment and curriculum in place, WSU Tech and USD 259 can work with industry partners to better understand some of the real-world scenarios they are facing and how they match with the curriculum and training tools. Some of the requested components allow us the flexibility to better deliver the curriculum from foundational skills to Industry 4.0 instruction in-person or via an online/hybrid modality. This will allow faculty to share best practices and experiences with other educational secondary partners and other two-year faculty including train the trainer or bootcamp style training events.

A detailed budget including equipment, supplies, marketing/PR, professional development, and administration with their proposal.

The equipment at USD 259 and WSU Tech must be purchased to provide students the tools and laboratory experiences need to develop the new knowledge and skills. Many of the items come with training or curriculum components built-in. This includes e-learning capability for students to utilize in a virtual setting.

- Core Curriculum - Semester one for all students- focuses on foundational skills in the manufacturing process. Includes hand tools, safety, precision measuring, torque, blueprint, design, basics of soldering, employability skills, and quality concepts.
- Manufacturing - Semester two for Manufacturing Technician students. Expands design elements into 3D printing, incorporates manufacturing cutting processes, machine operations, production assembly skills, basics of CNC and mill operations, and Forklift Simulation training.
- Manufacturing and Maintenance - Semester three for Manufacturing Technician students. Explores basics of AC/DC, electronics, fluid power, and the production assembly process with a focus on maintenance.
- Advanced Manufacturing and Maintenance - Semester two for Advanced Manufacturing Technician students. Explores basics of AC/DC, electronics, fluid power, and the production assembly process with a focus on maintenance. Expands systems knowledge of sensors, relays, and basic robotics.
- Advanced Manufacturing and Automation - Semester three for Advanced Manufacturing Technician students. Expands digital and smart manufacturing concepts and assembly including vision and barcode systems. Introduces Robotic programming and PLCs to include Robotic Station and material handling.

Other areas included in the budget

- Staffing support to develop and launch pathways at all three locations
- Curriculum Development and Consulting work to ensure that the equipment, lab, lessons, and overall program aligns with industry needs and student levels.
- Instructor Training to provide knowledge to teach subject matter on the equipment identified.
- Marketing - Develop resources and other items to recruit students, support industry, and showcase the career pathways being taught at the locations.
- Kiosk, displays, and signage to allow for hands-on learning experiences for visitors, student field trips and others to gain a better understanding of the career options available in manufacturing.

The detailed budget is below.

FUTURE READY CENTER Budget Item	Primary Program	Total
EQUIPMENT		
Core Curriculum-NC3-Snap-on trainers, hand tools, soldering kits, grinders, and design software	All Pathways	\$95,000
Manufacturing Foundational Skills-3D printers, cutting machines, CNC Desktops, Press Brakes, Forklift Simulators, Production Assembly trainers	Manufacturing Pathway	\$388,400
Maintenance Skills-Amatrol Ignite training system, Skills Boss-Certified Production Technician trainers	Manufacturing Pathway/Advanced Manufacturing Pathway	\$325,000
Automation Skills-Robotic Programming, Robotics, UAS systems	Advanced Manufacturing Pathway	\$129,000
Marketing of Targeted Programs to prospective students through established platforms	All Programs	\$75,000
Staffing	All Programs	\$70,000
Curriculum Development and Consulting	All Programs	\$75,000
Instructor Training	All Programs	\$25,000
Kiosks, Displays, Signage	All Programs	\$175,000
TOTAL AT FUTURE READY CENTER		\$1,357,400

NEXTSTEP Budget Item	Primary Program	Total
EQUIPMENT		
Core Curriculum-NC3-Snap-on trainers, hand tools, soldering kits, grinders, and design software	All Pathways	\$21,000
Manufacturing Foundational Skills-3D printers, cutting machines, CNC Desktops, Press Brakes, Forklift Simulators, Production Assembly trainers	Manufacturing Pathway	\$104,600
Maintenance Skills-Amatrol Ignite training system, Skills Boss-Certified Production Technician trainers	Manufacturing Pathway	\$86,000
Staffing	All Programs	\$35,000
Marketing	All Programs	\$15,000
TOTAL AT NEXTSTEP		\$261,600

WSU TECH Budget Item	Primary Program	Total
EQUIPMENT		
Staffing	All Programs	\$65,000
Curriculum Development	All Programs	\$25,000
TOTAL AT WSU TECH		\$90,000

TOTAL PROJECT BUDGET	\$1,709,000
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Upon approval of the project and instructions on accessing funds, WSU Tech and USD 259 will follow institutional procurement procedures to create purchase orders and place orders for the approved equipment. Delivery and installation of equipment will within the proposed timeline and we will communicate with the appropriate department on any delay in the supply chain that may affect the proposed timeline.

Manufacturing Technician Program Industry Needs Survey

Please rate the importance of skills and training in each of these areas for entry-level employment for your company.

Skill	Not Important		Neutral		Important		Total	Importance Rating Weighted Average
Blueprint reading	0%	0	11%	3	89%	25	28	5.89
CNC operations	4%	1	4%	1	93%	25	27	6.15
Design	27%	7	31%	8	42%	11	26	4.08
Electrical fundamentals	38%	10	7%	2	54%	14	26	4.31
Forklift operation	19%	5	31%	8	50%	13	26	4.62
Grinding/Deburr	4%	1	7%	2	88%	23	26	5.69
Hydraulic installation	31%	8	23%	6	46%	12	26	4.04
Knowledge of materials	11%	3	4%	1	85%	23	27	5.63
Laser operations	13%	3	17%	4	71%	17	24	5.25
Multi-meter usage	15%	4	19%	5	67%	18	27	4.96
Plasma/Water Jet	15%	4	23%	6	62%	16	26	5
Plastic mold/injection	38%	9	29%	7	33%	8	24	3.58
Precision measuring	4%	1	4%	1	93%	26	28	6.07
Press brake operations	8%	2	23%	6	69%	18	26	5.15
Quality concepts	0%	0	7%	2	93%	25	27	6.07
Quality inspection	4%	1	7%	2	89%	24	27	5.89
Safety	0%	0	0%	0	100%	28	28	6.64
Soldering	46%	12	19%	5	35%	9	26	3.65
Torque	7%	2	37%	10	56%	15	27	5.07
Use of hand tools	4%	1	11%	3	86%	24	28	5.82
Use of power tools (including pneumatics)	4%	1	7%	2	89%	24	27	5.89
Wire installation	33%	9	7%	2	59%	16	27	4.15

Please rate the importance of skills and training in each of these areas for mid-level, maintenance and/or automation employment for your company.

Skill	Not Important		Neutral		Important		Total	Importance Rating Weighted Average
Additive manufacturing	12%	3	20%	5	68%	17	25	4.92
Basic robotic operations	12%	3	12%	3	76%	19	25	5.2
Data Analysis	20%	5	8%	2	72%	18	25	4.96
Design	15%	4	15%	4	69%	18	26	4.92
Electronics	12%	3	12%	3	76%	19	25	5.52
Hydraulic/Pneumatic repair	12%	3	20%	5	68%	17	25	5.24
Motor controls	13%	3	4%	1	83%	19	23	5.65
PLCs	12%	3	23%	6	65%	17	26	5.31
Sensors/Vision	17%	4	17%	4	67%	16	24	5.17
Troubleshooting of assembly line operations	12%	3	12%	3	76%	19	25	5.64

Manufacturing Technician Program Industry Needs Survey

Which applied learning opportunities would you be interested in offering?

Applied Learning Experience	Responses	
Apprenticeships	47%	8
Earn and Learn	65%	11
Internships	71%	12
Job Shadows	71%	12
Total		17

Companies Responding
CNH Industrial
Cox Machine, Inc.
Excel Inds
Express Employment Professionals
Ferroloy, Inc.
Fiber Dynamics Inc.
Great Plains Industries inc.
Harlow Aerostructures
Heritage Cutter
HM Dunn AeroSystems, Inc.
ICM
J R Custom Metal Products
Johnson Controls
Kaman Composites
KOMT
Lampton Welding Supply
Lincoln Electric
Metal-Fab, Inc
Millennium Machine & Tool Inc.
Superior Air Products
Webco Manufacturing, Inc.
Total - 21/28

Manufacturing Tech in Sedgwick County, Kansas, 2021Q1¹

SOC	Occupation	Current		5-Year History		5-Year Forecast								
		Empl	Mean Ann Wages ²	LQ	Unempl Rate	Unempl	Online Job Ads ³	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	329	\$35,900	1.09	26	7.5%	9	-66	-3.6%	154	59	115	-20	-1.3%
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	289	\$35,900	2.53	27	8.9%	17	-96	-5.6%	137	57	97	-17	-1.2%
17-3026	Industrial Engineering Technologists and Technicians	168	\$67,600	1.55	8	5.4%	15	-38	-4.0%	79	27	53	-2	-0.2%
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	110	\$35,700	0.96	12	10.1%	n/a	-6	-1.0%	55	14	49	-9	-1.6%
49-9043	Maintenance Workers, Machinery	106	\$47,700	0.96	11	10.0%	n/a	-6	-1.0%	50	20	28	1	0.3%
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	78	\$43,800	2.96	10	11.4%	1	-47	-8.9%	28	12	25	-9	-2.3%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	74	\$39,600	0.32	9	10.3%	n/a	3	0.9%	37	13	25	-2	-0.5%
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	63	\$58,400	1.06	8	11.5%	n/a	-18	-4.8%	30	8	25	-3	-1.1%
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	56	\$53,300	2.03	7	11.7%	3	-20	-6.0%	24	9	19	-4	-1.4%
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	42	\$34,200	0.86	5	10.0%	1	-5	-2.2%	16	5	14	-3	-1.5%
51-4199	Metal Workers and Plastic Workers, All Other	40	\$44,400	1.12	5	11.8%	n/a	-34	-11.7%	17	7	13	-3	-1.3%
51-4192	Layout Workers, Metal and Plastic	33	\$52,200	2.47	4	12.3%	n/a	-11	-5.8%	14	5	11	-2	-1.5%
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	23	\$42,500	0.99	3	10.1%	n/a	-13	-8.7%	7	3	7	-3	-2.7%
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	23	\$44,200	1.51	2	9.8%	2	-34	-16.3%	9	4	7	-3	-2.3%
15773	Manufacturing Tech	1,436	\$43,600	1.17	136	9.1%	48	-391	-4.7%	656	245	489	-78	-1.1%
00-0000	Total - All Occupations	251,519	\$49,000	1.00	23,384	9.2%	15,977	-12,824	-1.0%	140,662	53,752	87,695	-786	-0.1%

Source: JobsEQ®

Data as of 2021Q1 unless noted otherwise

Note: Figures may not sum due to rounding.

1. Data based on a four-quarter moving average unless noted otherwise.

2. Wage data are as of 2020 and represent the average for all Covered Employment

3. Data represent found online ads active within the last thirty days in the selected region; data represents a sampling rather than the complete universe of postings. Ads lacking zip code information but designating a place (city, town, etc.) may be assigned to the zip code with greatest employment in that place for queries in this analytic. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list).

Exported on: Wednesday, September 15, 2021 3:22 PM



**Collaboration Agreement between
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and Ryan Altendorf**

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Background

This MOU serves as notification that Ryan Altendorf recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose

This MOU will establish the role of and scope of agreed involvement for Ryan Altendorf in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Ryan Altendorf undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

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- Provide a guaranteed interview opportunity to graduates of the following program(s):
Manufacturing Technology at one of WSU Tech Campuses or at industry partner facility.
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Reporting of Outcomes

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Duration

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Notice of Nondiscrimination

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Legal Citation

Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)





This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Ryan Altendorf to provide the above checked services for the Manufacturing Technology programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Heritage Cutter
Partner Representative Name: Ryan Altendorf
Position Title: Territory Manager
Address: 237 N Tyler Rd. Wellington, Ks 6
Telephone: 620-393-1173
Signature Ryan Altendorf
Date: 10/11/21

Digitally signed by Ryan Altendorf
Date: 2021.10.11 09:36:17 -05'00'

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature Ryan Altendorf
Date: 10/11/21

Digitally signed by Ryan Altendorf
Date: 2021.10.11 09:37:18 -05'00'



Cliff Nelson

From: Ryan Altendorf <ryanaltendorf@heritagecutter.com>
Sent: Monday, October 11, 2021 9:41 AM
To: Scott Lucas PhD
Subject: RE: WSU Tech-Manufacturing Technology Program
Attachments: WSU Tech Master MOU Man-Tech10-11-2021.pdf

See attached. Please note that I didn't check very many of the boxes because I am in sales and office from home. My cooperate offices are in Millersburg, PA. I do have a strong manufacturing background, so I am happy to help in anyway I can.

From: Scott Lucas PhD <SLucas@wsutech.edu>
Sent: Monday, October 11, 2021 9:05 AM
To: Ryan Altendorf <ryanaltendorf@heritagecutter.com>
Subject: RE: WSU Tech-Manufacturing Technology Program

Yes name in the blanks.
Check the boxes, where you would support the program
Sign it.

From: Ryan Altendorf <ryanaltendorf@heritagecutter.com>
Sent: Monday, October 11, 2021 9:03 AM
To: Scott Lucas PhD <SLucas@wsutech.edu>
Subject: RE: WSU Tech-Manufacturing Technology Program

Good morning Scott,

Am I just supposed to put my name is all of the blanks and then sign at the bottom?

From: Scott Lucas PhD <SLucas@wsutech.edu>
Sent: Monday, October 11, 2021 7:33 AM
To: josh_thieme@lincolnelectric.com; Rachel.Tate@ExpressPros.com; Pkoehler@jrcmp.com; mdymond@fiberdynamics.net; agormley71@gmail.com; andrew.woodruff@kaman.com; jbarnes@harlowair.com; brad_haas@kومت.com; brad@lampton.com; lyndond@webcomfg.com; kari.porter@icminc.com; eric@superiorairproducts.com; Ryan Altendorf <ryanaltendorf@heritagecutter.com>; mark@ferroloy.com; ron.lefevre@excelii.com; cchilders@coxmachine.com; mona.martin@hmdunn.com; Tross@gplains.com; matthew.marner@cnhind.com; doug.w.dorrough@jci.com; brianf@mmtinc.net; eric@kansasfiltration.com; Kelly Bielefeld <kbielefeld@usd259.net>; Chris Stanyer <cstanyer@wsutech.edu>; slj@airxcel.com; Jmartinez@jrcmp.com
Cc: James Hall <jhall5@wsutech.edu>
Subject: WSU Tech-Manufacturing Technology Program

Hello all,
Thanks to all that could join us on Friday at the initial Industry Advocate Team meeting for the new Manufacturing Technology program. For those of you that were not able to attend. I have attached the outline of the program and am

available to answer any questions or concerns you may have. The industry members that were able to join us on approved moving the program forward for submittal.

One of the next steps is to provide industry backing in the form of letters that demonstrate support for the program. Attached you will find WSU Tech's Master MOU that we use in place of industry letters of support. We are more than happy to accept your letter of support or you can complete the MOU provided. Please be sure to mark the appropriate box on anything you would be willing to partner with us on regarding the Manufacturing Technology program.

In order for us to officially submit this program for approval to the state we need your support, please complete the MOU, sign it and email it back to myself by this **Friday, October 15.**

Thanks again for your support of this program and WSU Tech. Together we hope to continue to build the future manufacturing workforce for south central Kansas

-Scott

Scott Lucas PhD | WSU Tech

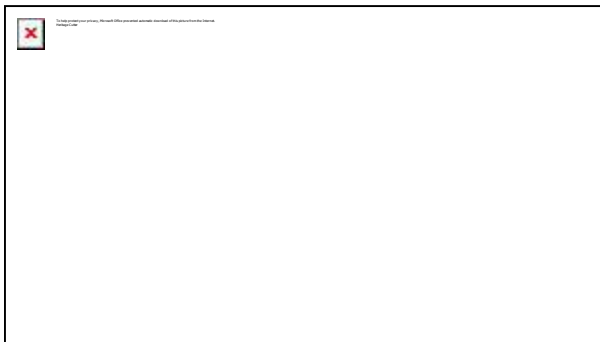
Vice President of Aviation, Manufacturing & Institutional Effectiveness | SLucas@wsutech.edu

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
Tel 316.677.9535 | www.WSUTECH.edu
[Facebook](#) | [Instagram](#) | [LinkedIn](#)

Ryan Altendorf
Territory Sales Manager - Kansas, Oklahoma & NW Missouri
Heritage Cutter
200 Front St.
Millersburg, PA 17601

Office:
Mobile:620-393-1173

<http://www.heritagecutter.com>



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**Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Cox Machine, Inc.**

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Cox Machine, Inc. to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background

This MOU serves as notification that Cox Machine, Inc. recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose

This MOU will establish the role of and scope of agreed involvement for Cox Machine, Inc. in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Cox Machine, Inc. undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/Industry Partner will:

- Provide a guaranteed interview opportunity to graduates of the following program(s):
Manufacturing Technology at one of WSU Tech Campuses or at industry partner facility.
- Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
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- Donate to WSU Tech labs (i.e. metal or other materials, tools, machinery, etc.)
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- Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).



Reporting of Outcomes

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Funding

This MOU is not a commitment of funds; however, WSU Tech personnel are available to discuss scholarship opportunities to help business partners grow their own workforce as well as social media marketing and asset donations.

Duration

This MOU is at will and may be modified by mutual consent of authorized officials from WSU Tech and Cox Machine, Inc. . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Cox Machine, Inc. and will remain in effect until modified or terminated by any one of the partners by mutual consent.

Your generosity and collaboration for the students of WSU Tech is greatly appreciated and we are honored to have you as a supporter and partner!

Notice of Nondiscrimination

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Legal Citation

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This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Cox Machine, Inc. to provide the above checked services for the Manufacturing Technology programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Cox Machine, Inc.
Partner Representative Name: Cheryl Childers
Position Title: Human Resource Manager
Address: 5338 W. 21st St., Wichita, KS 67
Telephone: cchilders@coxmachine.com
Signature 
Date: 10/14/20

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature _____
Date: 10/14/20



**Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and**

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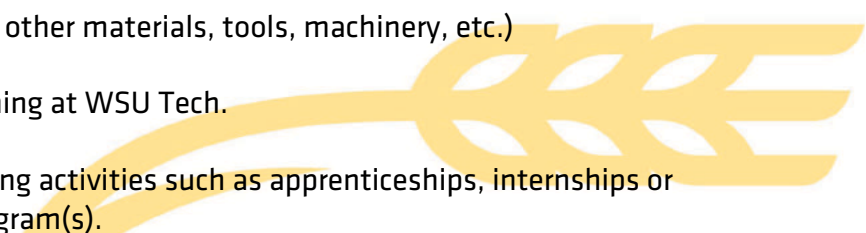
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This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and _____ to provide the above checked services for the _____ programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name:
Partner Representative Name:
Position Title:
Address:
Telephone:
Signature _____
Date:

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
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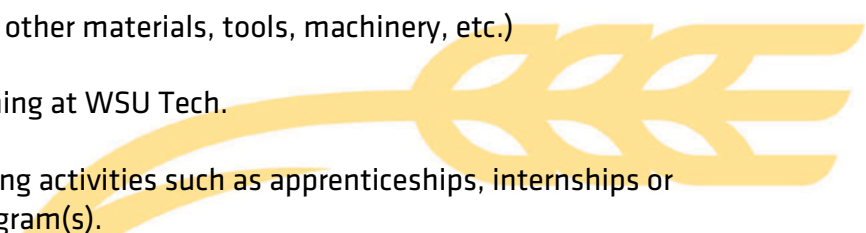
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Position Title:
Address:
Telephone:
Signature _____
Date:

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
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E-mail: mmadasz@wsutech.edu
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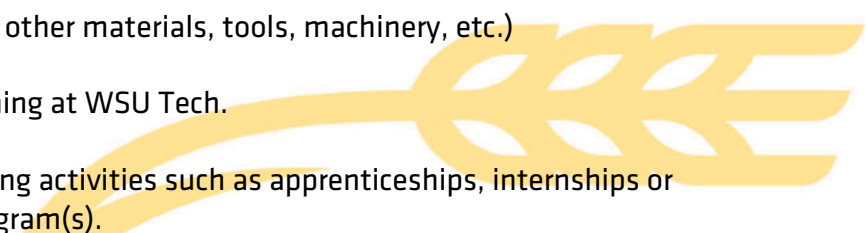
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Notice of Nondiscrimination

The WSU TECH Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of race, color, religion, sex, national origin, ancestry or disability) shall be excluded from participation in, denied the benefit of or otherwise subjected to discrimination under any program or activity of, or employment with WSU Tech. Persons with inquiries may contact the Human Resources Director at 4004 N. Webb Road Wichita, KS 67226 or by phone at 316.677-9500.

Legal Citation

Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)





This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and _____ to provide the above checked services for the _____ programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name:
Partner Representative Name:
Position Title:
Address:
Telephone:
Signature _____
Date:

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature _____
Date:





**Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Wichita Public Schools**

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Wichita Public Schools to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background

This MOU serves as notification that Wichita Public Schools recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose

This MOU will establish the role of and scope of agreed involvement for Wichita Public Schools in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Wichita Public Schools undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/Industry Partner will:

- Provide a guaranteed interview opportunity to graduates of the following program(s):
Manufacturing Technology at one of WSU Tech Campuses or at industry partner facility.
- Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- Provide constructive feedback to interviewed graduates as appropriate.
- Provide information regarding hiring requirements, trends, or changes in requirements to WSU Tech.
- Donate to WSU Tech labs (i.e. metal or other materials, tools, machinery, etc.)
- Refer denied applicants to further training at WSU Tech.
- Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).



Reporting of Outcomes

Reports and evaluation of program effectiveness and adherence to the agreement will be ongoing and communicated to employer partners annually. Any student hired will require the following reporting: date of hire, hourly wage, status of employment 30, 60, 90 days after initial hire, and if no longer employed, the reason for separation.

Additional data may be requested to comply with associated grant requirements.

Funding

This MOU is not a commitment of funds; however, WSU Tech personnel are available to discuss scholarship opportunities to help business partners grow their own workforce as well as social media marketing and asset donations.

Duration

This MOU is at will and may be modified by mutual consent of authorized officials from WSU Tech and Wichita Public Schools . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Wichita Public Schools and will remain in effect until modified or terminated by any one of the partners by mutual consent. .

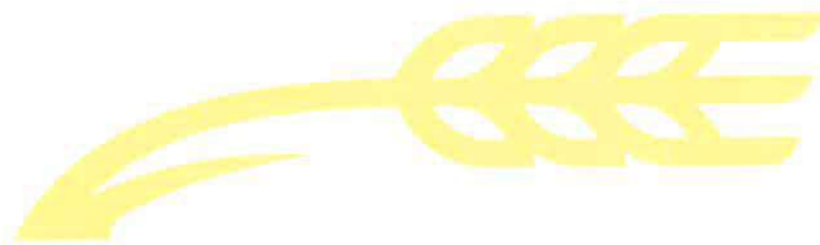
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Legal Citation

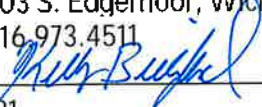
Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)



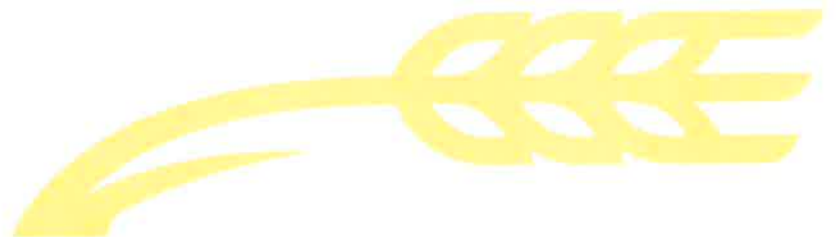


This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Wichita Public Schools to provide the above checked services for the Manufacturing Technology programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Wichita Public Schools
Partner Representative Name: Kelly Bielefeld
Position Title: Executive Director-College and Career Readiness
Address: 903 S. Edgemoor, Wichita, KS 6
Telephone: 316.973.4511
Signature: 
Date: 10/13/21

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature: _____
Date: 10/13/21





**Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Kansas-Oklahoma Machine Tools**

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Kansas-Oklahoma Machine Tools to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background

This MOU serves as notification that Kansas-Oklahoma Machine Tools recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose

This MOU will establish the role of and scope of agreed involvement for Kansas-Oklahoma Machine Tools in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Kansas-Oklahoma Machine Tools undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/Industry Partner will:

- Provide a guaranteed interview opportunity to graduates of the following program(s):
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This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Kansas-Oklahoma Machine Tools to provide the above checked services for the Manufacturing Technology programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Kansas-Oklahoma Machine Tools

Partner Representative Name: Brad Haas

Position Title: Vice President

Address: 3427 W 30th St S Wichita, KS

Telephone: 316-945-6800

Signature 

Date: 10/11/21

WSU Tech

WSU Tech Representative Name: Megan Madasz

Position: Director of Industry & Workforce Collaboration

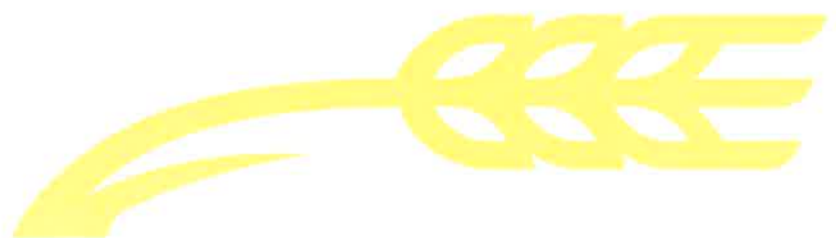
Address: 301 S. Grove Wichita, KS 67211

Telephone: 316.677.1876

E-mail: mmadasz@wsutech.edu

Signature _____

Date: 10/11/21





Manufacturing Technology

Program Course List

Number	Title	Credits	R – Required E- Elective	Description	Pre/Corequisites
MNF 115	Forklift Operations	1	R	This course is designed to train entry level workers in the correct use of a forklift to unload, move, stack, and load materials for shipping and distribution.	
MNF 120	Manufacturing Processes & Production I	3	R	This course is first in a series of three courses designed to provide students with a robust understanding of manufacturing processes and production concepts. During the course the Federally-endorsed and national-endorsed standards required in industry and production are	AVC 110 Safety/OSHA 10 MMG 113 Metallurgy AVC 135 Hand Tools MCD 106 Precision Measuring

				explored. The emphasis is placed on Just-In-Time (JIT) manufacturing principles, communication skills, an overview of Cause and Effect of equipment failure and how to apply the 8 Pillars of Total Productive Maintenance (TPM) methodology.	
MNF 125	Maintenance Training	4	R – Certificate B & C and AAS	In this course the student will learn how to monitor production equipment for both routine and preventive maintenance. The use of OEE (Overall Equipment Efficiency) is introduced; Targeting each fix in a production system under a 'zero fails' mentality. Monitoring includes, analysis of equipment performance, Autonomous Maintenance (AM), and practicing planned stops for CIL's (Clean, Inspect, Lube) and Preventative Maintenance (PM) by recording, evaluating and categorizing failure through the visualization of data.	
MNF 130	Manufacturing Processes & Production II	3	R – Certificate B & C and AAS	In this course students continue their study of current manufacturing processes & production concepts. During the course the Federally-	MNF 120 Manufacturing Processes & Production I

				endorsed and national-endorsed standards required in industry and production are explored. The emphasis is placed on Just-In-Time (JIT) manufacturing principles, communication skills, an overview of Cause and Effect of equipment failure and how to apply the 8 Pillars of Total Productive Maintenance (TPM) methodology.	
MNF 135	Electrical Concepts	3	R – Certificate C and AAS	In this course students will be introduced to basic electrical theory as it relates to the manufacturing environment. Students will be able to demonstrate knowledge of circuit diagrams and applications of safe electrical practices.	
MNF 140	Basic PLC's	3	R – Certificate C and AAS	This course introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, PLC installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting	

				field devices to I/O cards, and PLC safety procedures.	
MNF 145	Fluid	2	R – Certificate C and AAS	In this course students will learn the concepts relating to hydraulic systems. Students will be able to identify fluid movement types and processes and demonstrate knowledge of fluid-based transmission systems.	
MNF 150	Automation in Manufacturing	3	R – Certificate C and AAS	This course in “Automation in Manufacturing” is designed with the primary focus on the design and development of automated systems in the manufacturing. The course introduces various automated systems being used in the manufacturing industry (Industry 4.0).	
MNF 155	Digital Electronics	3	E- Cert C and AAS	This course is designed to provide students with the concepts and terminology utilized in digital electronics. The student will be exposed to the most basic concepts of digital electronics to a wide variety of the fundamentals for circuits used in today’s switching circuits. Once an understanding of the numbering system is achieved the course proceeds to basic logic circuits.	MNF 135 Electrical Concepts

MNF 160	Manufacturing Processes & Production III	3	R – Certificate C and AAS	In this course students further enhance their understanding of manufacturing process and production including those identified as Industry 4.0 skills. During the course the Federally-endorsed and national-endorsed standards required in industry and production are explored. The emphasis is placed on Just-In-Time (JIT) manufacturing principles, communication skills, an overview of Cause and Effect of equipment failure and how to apply the 8 Pillars of Total Productive Maintenance (TPM) methodology.	MNF 130 Manufacturing Processes & Production II
MNF 165	Automated Supply Chain	3	E- Cert C and AAS	Students will acquire knowledge of supply chain automation to leverage digital technologies such as artificial intelligence (AI), machine learning (ML), optical character recognition (OCR), and robotics to lower the operational cost of delivering a product or service with primary emphasis on warehouse automation, predictive analytics, Internet of Things, and Cloud Logistics.	
MNF 170	Drones and Data Analysis	3	E- Cert C and AAS	This course will provide an introduction into the world of Unmanned	

				Aerial Vehicles (UAVs) and the systems which support UAVs. Students will gain the knowledge and skills to become a drone certified pilot while learning how data collected during UAV operations is analyzed and operationalized in the manufacturing sector.	
AVC 104	Quality Control Concepts	1	R	This course covers quality assurance principles including the history of the quality movement, group problem solving, data collection, control charts, statistical methods such as statistical process control (SPC), process capability studies, and the concepts associated with lean manufacturing.	
AVC 110	Safety/OSHA 10	1	R	The 10- Hour General Industry Outreach training Program is intended to provide entry-level general industry workers broad awareness on recognizing and preventing hazards on a general industry site. The training covers a variety of safety and health hazards which a worker may encounter at a general industry site. OSHA recommends this training as an orientation to occupational safety	

				and health. Workers must receive additional training on hazards specific to their job. Training will emphasize hazard identification, avoidance, control and prevention, not OSHA standards. Instructional time will be a minimum of 10 hours.	
AVC 112	Blueprint Reading	2	R	This course is an introduction to reading and interpreting blueprints. Topics include blueprint views, lines, dimensions and tolerances and blueprint symbols. Working in an interactive online environment students' learn a systematic approach to reading blueprints.	
AVC 135	Hand Tools	1	R	This course provides an introduction to the various hand tools used in aerospace industry. The course also introduces the student to several aerospace fasteners including temporary fasteners, bolts, and lock bolts, Hi-Lok and rivets.	
AVC 145	Power Island	1	R	This course provides the technical knowledge and skills necessary to operate power island equipment. Students are introduced to the equipment using interactive online course content.	

CED 115	Computer Applications	3	R	This course introduces students to the fundamental concepts and operations necessary to use computers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, and introduction to databases.	
	Communication Elective	3	R -AAS	Students may enroll in the following courses to fulfill the communication elective: SPH101 Public Speaking or SPH 111 Interpersonal Communication.	
ENG 101	Composition I	3	R -AAS	This course is designed to improve the reading and writing skills of students. The emphasis is on fundamental principles of written English in structurally correct sentences, paragraphs and expository themes. Critical analysis of essays will be used to aid in developing the student's thinking, support of thesis and style. Students are	ENG 030 English

				introduced to the basic components of research by writing a documented essay in Modern Language Association (MLA) style.	
	Math Elective	3	R – Cert B, C and AAS	To fulfill this elective students may choose between MTH 101 or MTH 112.	
MCD 106	Precision Measuring	2	R	This course is designed to assist multiple technical training disciplines with the proper operation, calibration, and measuring technique's required for utilizing precision measurement equipment effectively. Both SAE and metric measuring instruments will be covered; including steel rules, feeler gauges, precision straight edge, calipers, inside and outside micrometers, angle measurement, small hole gauges, telescoping gauges and dial indicators.	MCD 104 Blueprint Reading for Drafting Or AVC 112 Blueprint Reading or MMG 113 Print Reading
MCD 130	Basic Solidworks	3	R	Students Learn how to use the SOLIDWORKS mechanical design automation software to build parametric models of parts and how to make drawings of those parts.	MCD 104 Blueprint Reading for Drafting Or AVC 112 Blueprint Reading or MMG 113 Print Reading

MCD 137	Introduction to 3D Printing	2	R – B & C certificate and AAS	This course seeks to provide the student with a basic understanding of the industrial design process, using the 3D printer capability to obtain hands-on experience in producing a design from concept to prototype. Major topics covered this introductory course include: Basic Part Design using AutoDesk Inventor; Basic Part Design using Solidworks; 3D Part Modeling	
MMG 113	Print Reading	3	R	Student will learn to identify basic lines, views, and abbreviations used in blueprints, interpret basic 2 D sketches using orthographic projections and blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of a multi-feature part, interpret GDT symbols, frames and datums.	
MMG 131	Metallurgy	1	R	Students learn the metallurgical terms and definitions in an effort to understand the behavior and service of metals in industry. Characteristics during heating, cooling, shaping,	AVC 110 Safety/ OSHA 10 MMG 113 Print Reading

				forming, and the stress related to their mechanical properties are covered, as well as the theory behind alloys, heat treatment processes and wear resistance.	
MNF 110	CNC Basics	2	R	Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.	
MNF 175	Manufacturing Technology Applied Learning Experience	3	E- Cert C and AAS	The applied learning experience represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through workplace participation, direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or	

				field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.	
MTH 020	Math Fundamentals	3	R - A certificate only	This online course provides students a thorough study in the arithmetic of real numbers with elementary applications in consumer math and measurement. Students are introduced to the basic concepts of algebra. Topics include: Whole Numbers and Introduction to Algebra; Integers; Introduction to Equations and Algebraic Expressions; Fractions, Rations, and Proportions; Operations on Fractional Expressions; Decimals and Percents; Measurement, Geometric Figures and Measures of Central Tendency.	
PDV 105	Blueprint for Personal Success	2	R	The professional world is full of challenging situations, including conflicting personalities, miscommunication, and cultural differences. In this course, students will learn about typical	

				<p>workplace etiquette protocols, communication standards, and cultural awareness strategies in order to navigate these common obstacles. This course will prepare students by educating them on the importance of establishing and maintaining their professional image in the workplace. Whether students are working on the manufacturing floor, in a medical facility or in a professional office setting practicing professional etiquette will help ensure that their occupational environment is positive and productive. Students will integrate internal attitudes with external behaviors so that their personal attributes reflect the expectations of their future employers. The course provides a study of human relations and professional development in today's rapidly changing world. The course prepares students for living and working in a complex society through a focus on professionalism, work ethic, teamwork (collaboration) and oral communication. Topics include: Goal Setting, Entry Level</p>	
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				Leadership, Communication, Teamwork and Diversity, Career Management, Lifestyle Design, and Disruption in Industry.	
ROB 100	Introduction to Robotics	3	R – C Certificate and AAS	This course explores basic robotic concepts. Studies robots in typical application environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.	
	Social Science Elective	3	R - AAS only	Students may enroll in the following courses to fulfill the social Science elective: CRJ 101 Introduction to Criminal Justice, CRJ 155 Policing Diverse Cultures, ECO 105 Principles of Macroeconomics, ECO 110 Principles of Microeconomics, POL 101 American Government, PSY 101 General Psychology, PSY110 Child Psychology,	

				PSY 120 Developmental Psychology, SOC 101 Principles of Sociology, GEO 101 Principles of Geography, SOC 115 Social Problems	
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KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

Institution: Wichita State University Campus of Applied Sciences and Technology

Proposed Program: Manufacturing Technology

<u>IMPLEMENTATION COSTS</u>				
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:			20	5
Part II. Initial Budget			Implementation Year	
A. Faculty		Existing:	New:	Funding Source:
Full-time	1	\$	65000	Grant/Institutional Funds
Part-time/Adjunct	#	\$	\$	
		Amount	Funding Source	
B. Equipment required for program		\$53000	Grant/Institutional Funds	
C. Tools and/or supplies required for the program		\$		
D. Instructional Supplies and Materials		\$10000	Institutional Funds/Student Fees	
E. Facility requirements, including facility modifications and/or classroom renovations		\$5000	Electrical upgrades- Institutional Funds/Grant	
F. Technology and/or Software		\$		
G. Other (<i>Please identify; add lines as required</i>)		\$15000	Marketing	
Total for Implementation Year		PROGRAM SUSTAINABILITY COSTS (Second and Third Years)		Grants/Institutional Funds/Perkins/Student Fees
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:			40	15
Part II. Ongoing Program Costs			First Two Years	
A. Faculty		Existing:	New:	Funding Source:
Full-time	#	\$	\$	
Part-time	#	\$	\$	
		Amount	Funding Source	
B. Equipment required for program		\$150000	Grant/Institutional Funds/Perkins	
C. Tools and/or supplies required for the program		\$		
D. Instructional Supplies and Materials		\$10000	Institutional Funds/Student Fees	
E. Facility requirements, including facility modifications and/or classroom renovations		\$		
F. Technology and/or Software		\$		
G. Other (<i>Please identify; add lines as required</i>)				
Total for Program Sustainability		\$160,000	Grants/Institutional Funds/Perkins/Student Fees	

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

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

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

Per statute (K.S.A. 72-3810), the Kansas Board of Regents shall establish general guidelines for tuition and fee schedules in career technical education courses and programs. The Excel in CTE tuition and fee schedule of every technical education program shall be subject to annual approval.
*Please include all costs charged to **high school students** for the proposed new program.*

Institution Name:	Wichita State University Campus of Applied Sciences and Technology
Program Title:	Manufacturing Technology
Program CIP Code:	15.0613

<i>Please list all fees associated with this program:</i> <i>Only list costs the institution is charging students.</i>		
Fee	Short Description	Amount
	Manufacturing Process textbook	\$150

<i>Please list all courses within the program and any fees associated to those courses :</i> <i>Only list costs the institution is charging students. Do not duplicate expenses.</i>		
Course ID	Short Description	Amount
PDV 105	Blueprint for Personal Success	\$ 30.00
	15 credits of General Education	

<i>Please list items the student will need to purchase on their own for this program:</i> <i>Institution is not charging students these costs, rather students are expected to have these items for the program.</i>		
Item	Short Description	Estimated Amount

Carl D. Perkins Funding Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2021)

This application should be used for new programs (currently in the program approval process) or existing programs the institution would like reviewed for Carl D. Perkins funding eligibility.

Program Eligibility

An “eligible recipient” is an eligible institution or consortium of eligible institutions qualified to receive a Perkins allocation.

An “eligible institution” is an institution of higher education that offers CTE programs and will use Perkins funds in support of CTE coursework that leads to technical skill proficiency or a recognized postsecondary credential, including an industry-recognized credential, a certificate, or an associate degree, which does not include a baccalaureate degree.

Any program receiving Perkins funds must be designated as a technical program by KBOR. Definition of a technical program may be found in state statute K.S.A. 72-1802. Criteria adopted by the Board of Regents may be found in their February 20, 2019 meeting packet.

Program Levels:

Educational Award Level	Credit Hours
SAPP	0-15
Certificate A	16-29
Certificate B	30-44
Certificate C	45-59
Associate of Applied Science	60-69

Stand-Alone Parent Programs (SAPPs) must meet the following criteria:

- Minimum of 8 credit hours
- Minimum of 80% tiered credit hours
- Maintain an average of 6 concentrators over the most recent consecutive 2-year period

Certificates and Associate of Applied Science degrees must meet the following criteria:

- Minimum of 51% tiered credit hours
- Maintain an average of 6 concentrators over the most recent consecutive 2-year period
- Comply with Program Alignment – *if applicable*

Carl D. Perkins Funding Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2021)

Name of Institution	Wichita State University Campus of Applied Sciences and Technology
Name, title, phone, and email of person submitting the Perkins Eligibility application (<i>contact person for the approval process</i>)	Dr. Scott Lucas Vice President of Aviation, Manufacturing and Institutional Effectiveness 3166779535 slucas@wsutech.edu
Name, title, phone, and email of the Perkins Coordinator	Lisa Myers Perkins Coordinator and Grants Specialist 316 677 1970 Lmyers1@wsutech.edu
Program Name	Manufacturing Technology
Program CIP Code	15.0613
Educational award levels <u>and</u> credit hours for the proposed request	AAS – 65 Credits Certificate A – 24 Credits Certificate B - 33 Credits Certificate C – 53 Credits
Percentage of tiered credit hours for the educational level of this request	85%
Number of concentrators for the educational level	20
Does the program meet program alignment?	N/A
Justification for conditional approval: (<i>this section must reference information found within the Local Needs Assessment</i>)	The proposed Manufacturing Technology program is aligned with the Perkins Career and Technical (CTE) Program Comprehensive Regional Needs Assessment for the Wichita Region (February 1, 2020). The proposed program provides graduates with skills listed in multiple sectors experiencing gaps in demand vs post-secondary concentrators including Precision Production/Manufacturing, Construction /Design Pathway and Engineering Technologies and Engineering Related Fields. In the Precision Production/Manufacturing sector the proposed program will provide courses in precision measuring, CNC operations and three courses in manufacturing processes and production techniques. The gap data for this area indicates that secondary concentrators meet only 4% of current annual

Carl D. Perkins Funding Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2021)

	<p>demand. The proposed program will offer courses in Solidworks and 3D printing which correlates to the design/construction sector. The data for this sector indicates a 95% gap in this area. Lastly, the data for Engineering Technologies and Engineering-Related Fields shows there is a 75% gap between employer demand and graduates indicating there are not enough concentrators at the post-secondary level to meet the local demand. The proposed program will address the gap by providing students with courses in automation, robotics and manufacturing maintenance.</p>
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Signature of College Official  Date 10/13/21

Signature of KBOR Official _____ Date _____

<p style="text-align: center;"><i>For KBOR Staff use</i></p> <p>Approval effective for Academic Year:</p> <p>Approval effective for Perkins fund spending for Fiscal Year:</p> <p>Perkins Grant reporting required beginning:</p>

Kansas Promise Eligibility Request Form

CA-1d Form (2021)

This application should be used for new programs (currently in the program approval process) or existing programs the institution would like reviewed for Kansas Promise eligibility.

A complete list of approved Promise Eligible programs may be located at:
https://www.kansasregents.org/students/student_financial_aid/promise-act-scholarship

Program Eligibility

2021 House Bill 2064, section 2, (7) (A) identifies promise eligible programs as (i) Information Technology and Security, (ii) Mental and Physical Healthcare, (iii) Advanced Manufacturing and Building Trades, (iv) Early Childhood Education and Development.

Section 3, (c) allows for the postsecondary educational institution to designate an additional promise eligible program that corresponds to a high wage, high demand, or critical need occupation. The Act further states the postsecondary educational institution shall maintain the promise eligible program for at least three consecutive years.

Name of Institution	Wichita State University Campus of Applied Sciences and Technology
Name, title, and email of person responsible for Academic program	Scott Lucas VP, Aviation, Manufacturing, and Institutional Effectiveness 316-677-9535 Slucas@wsutech.edu
Name, title, and email of Financial Aid contact	Lacey Ledwich, Senior Director Financial Aid 316.677.9421 lledwich@wsutech.edu

Add programs under the appropriate category the institution would like reviewed for Kansas Promise Eligibility. Add additional rows as needed.

Information Technology and Security			
CIP Code	Program Name	Type of Award (AAS, AA, AS, AGS, Certificate)	Scholarship Effective Date (FA21, SP22, SU22)

Mental and Physical Healthcare			
CIP Code	Program Name	Type of Award (AAS, AA, AS, AGS, Certificate)	Scholarship Effective Date (FA21, SP22, SU22)

Kansas Promise Eligibility Request Form

CA-1d Form (2021)

Advanced Manufacturing and Building Trades			
CIP Code	Program Name	Type of Award (AAS, AA, AS, AGS, Certificate)	Scholarship Effective Date (FA21, SP22, SU22)
15.0613	Manufacturing Technology	AAS Certificate A Certificate B Certificate C	Fall 2022

Early Childhood Education and Development			
CIP Code	Program Name	Type of Award (AAS, AA, AS, AGS, Certificate)	Scholarship Effective Date (FA21, SP22, SU22)

The postsecondary educational institution may designate an additional promise eligible program that corresponds to a high wage, high demand, or critical need** occupation.

College Designated Program				
CIP Code	Program Name	High Wage, High Demand, or Critical Need	Type of Award (AAS, AA, AS, AGS, Certificate)	Scholarship Effective Date (FA21, SP22, SU22)

**If the above program is considered “critical need,” please provide supporting documentation:

Signature of College Official  _____ Date 10/13/21

Signature of KBOR Official _____ Date _____

Special Note to Kansas Independent Colleges:

Please carbon copy the KICA contact below when submitting this application to the Kansas Board of Regent office:

Matt Lindsey, President KICA
matt@kscolleges.org



Manufacturing Technology Program Industry Advocate Team

Friday, October 8, 2021
4004 N. Webb Rd. Bldg. 200, Room M109 & Zoom

Minutes

Attendees:

Name	Industry	Name	Industry
Josh Thieme	Lincoln Electric	Jorge Martinez	JR Custom Metal Products
Michael Dymond	Fiber Dynamics, Inc	Brad Haas	KOMT
Lyndon Davis	Webco Manufacturing Inc	Ryan Altendorf	Heritage Cutter
Mark Soucie	Ferroloy Inc	Cheryl Childers	Cox Machine Inc
Scott Lucas	WSU Tech	Jim Hall	WSU Tech
Kurt Siklar	WSU Tech	Joe Kean	WSU Tech
Randy Thon	WSU Tech		

- I. Welcome by Dr. Scott Lucas – Welcomed everyone and thanked everyone for attending on Friday afternoon
- II. Introductions – Everyone introduced themselves, both in-person attendees and Zoom attendees
- III. Program Overview
 - a. Program that Scott and Jim have been working off and on for a few years. Industry tours that the two of them have been on, and have realized that our programs don't quite fit local industry needs. Dug in deeper and started looking at data and Jobs EQ to determine open job needs, and entry-level positions. There was a gap in what WSU Tech was providing vs. what was needed in the industry. So, what could we do to fill that gap? Started having conversations with USD 259 and discussing what else could work in the space in the old Dillon's at 13th and Waco, now called, Future Ready Center. Currently, they are partnered with Airbus Foundation and are building an airplane. But there is a lot of extra space in the renovated building. USD 259 approached WSU Tech to see what could be done to assist aviation and manufacturing. The model they have currently is to send their students from the HS to our campuses, but new model would send students from their HS to the Future Ready Center.

- b. Reviewed KBOR Sequencing for the Program (Handout 1) and Program Design (Handout 2) and Program Course List (Handout 3)
 - i. Where can we take this program? Looking at North Wichita, evening program
 - ii. Portion of the Future Ready Center will be set up as displays and hands-on to be open for elementary and middle school students to come and visit
 - iii. Will be marketing campaign to tap into younger kids to help them understand what manufacturing is
 - iv. Students will walk away with certificates from WSU Tech, and industry credentials such as NC3
 - v. Will offer full program at WSU Tech, will offer full program with USD 259, and Cert A with NexStep

IV. Industry Input

- a. Q: How many participants are we expecting? A: Cohorts of 20
- b. Q: What is Power Island? A: Class that teaches safety for anything that plugs into the wall.
- c. This will be a good start for HS, and is a really good foundation of future workers offering them a broader experience/foundation.
- d. Q: Are there other districts coming on board? A: Not currently, but will continue to have conversations.

V. Program Approval

- a. Official Motion to accept and move forward with program was made by Mark Soucie
Motion Seconded by Ryan Altendorf
Motion carried unanimously

VI. Letters of Support

- a. Jim requested letters of support from industry

Meeting adjourned at 4:16pm

WSU Tech
Faculty Senate
Meeting Minutes
October 20, 2021

Opening

The regular meeting of the WSU Tech Faculty Senate was called to order at 3:35 pm on October 20, 2021 by President Linda Sessions in the WSU South Colab.

Present

Linda Sessions, Penny Seiwert, Vrenda Pritchard, Brandie Thompson, Scott Simpson, Linda Grossman, Scott Lucas, Randy Thon, Jim Hall, Cliff, Nelson, Denice Klassen, Pam Layman, Lynn Loveland, Julie Misak, and Lauren Thornhill.

Opening Remarks from President Linda Sessions

Welcome and thank you for attending the faculty senate meeting.

Updates from Vice President Scott Lucas.

Scott Lucas made the following updates:

- ✓ A co-curricular assessment team has been formed to review OAP's and outcomes, capture learning, evaluate student groups, leadership, and cultural/social development. The co-curricular assessment team was implemented to follow-up on specific requests from the HLC. June 2022 is the deadline for the committee's report to the HLC.
- ✓ Academic Learning Team meeting focused on a creating a new hybrid classroom observation form.
- ✓ ITAS will be collecting WE/ME – Chad Littlefield reporting information for faculty and placing it on the Innovation Café. ITAS will have the Chad Littlefield information ready by the end of October 2021.
- ✓ Integration of Chad Littlefield information was clarified to include video engagement as well as reflections or write-ups on processes used in the classroom. The Colab and mobile Colab are important parts of the We/Me integration material.
- ✓ A rubric is still in development for the implementation of the We/Me into courses. The rubric will be available for the Spring 2022 semester.
- ✓ New textbook systems are being looked at by the administration. There will be no change for Spring 2022.
- ✓ Program sheets will be broken into printable recruiting-specific and academic/student services specific. Easier to read recruiting program sheets which can be easily handed out and explained was the goal.

- ✓ Lauren Thornhill and Linda Sessions will be meeting with the Vice Presidents on November 8, 2021.

Scott Lucas, Manufacturing Technology Associates Program Information, Discussion, and Approval

Scott Lucas, Vice President, Career and Technical Education, talked about the Manufacturing Technology Program Associates which will be presented to KBOR for approval.

After questions, Vrenda Pritchard moved to forward the Manufacturing Technology Program Associates program to KBOR for their approval. The motion was seconded by Denice Klassen. The vote passed unanimously.

Scott Lucas, Robotics Associates Degree Program Information, Discussion, and Approval

Scott Lucas, Vice President, Career and Technical Education, talked about the Robotics Associates Degree Program Associates which will be presented to KBOR for approval.

After questions, Scott Simpson moved to forward the Robotics Associates Degree Program to KBOR for their approval. The motion was seconded by Lauren Thornhill. The vote passed unanimously.

Faculty Feedback Survey sent 9/13/21 due 9/24/21

President Linda Sessions talked about the Faculty Feedback Survey results. Lauren Thornhill and Linda Sessions will meet with President Sheree Utash the week of October 25, 2021, to discuss the survey results

The main points taken from the Faculty Survey included lack of raises to meet the cost of living, lack of communication, trust problems, and purchasing excesses.

Committee Reports

Assessment Committee – Shelby Loewen is the new Assessment Committee Head. The first meeting consisted of getting Shelby acclimated to the Committee.

BLT – meeting is Thursday, October 21, 2021.

ALT – A discussion ensued about ownership of adjunct class content. The policy is unclear and will be researched. A meeting with Judy Mount was discussed to ask about and clear up policies.

It was also brought up that during the HLC's previous visit the committee requested the faculty have some type of faculty grievance policy implemented.

Open Discussion

The simple syllabus was brought up and discussed as being extremely problematic for instructors and department heads.

Adjournment

Meeting was adjourned at 4:55 pm by President Linda Sessions. The next faculty senate meeting will be held at 3:30 pm on November 17, 2021, in the Wichita South Colab.

Minutes submitted by: Penny Seiwert

Approved by: Linda Sessions

WSU Tech Board of Trustees
Board Minutes
October 21, 2021
Face to Face ▪ Virtual Board Meeting

	<p>WSU Tech Board of Trustees met face to face with a virtual option at 3:04 p.m., on October 21, 2021.</p> <p>Present: Meredith Olson, Pete Meitzner, Cindy Claycomb, Patty Koehkler and Doug Stark</p> <p>Virtual: John O’Leary, Maggie Topping, Matt Hesse, Kevin Colborn and Kristin Robert</p> <p>Absent: Jay Hohl</p> <p>Guest: Dr. Rick Muma</p>
Public Communications	<p>All proper notifications have been sent out and we have no speakers signed up to speak under Public Communications</p> <p>No requests</p>
Make A Difference Student Award – Justin Pfeifer	<p>Christopher Jump, Automotive program</p> <p>He was laid off at Spirit AeroSystems after 2 years. Chris is in the TAA Program, has a 4.0 GPA, lost his leg in an accident, but doesn’t use that as an excuse. The only day he missed class was due to the surgery for his leg. He will graduate in December.</p>
Consent agenda	<p>a. BOT Meeting Minutes Recommendation action: Approval of the WSU Tech Meeting Minutes for August 19, 2021, were provided to the Board electronically.</p> <p>The consent agenda item(s) were considered and discussed and thereupon on motion of Board member Cindy Claycomb seconded by Patty Koehler the Board minutes from August 19, 2021, were approved with change noted as Lyndon Wells was not present at this meeting.</p> <p>Motion Carried: 10-0 Jay Hohl noted absent</p> <p>b. <u>Board review & ratification of employment offers – May/June 2021</u></p> <p>Rick Blyseth, Program Director, Professional Pilot Program <u>Employment History:</u> Aircraft Manufacturing Inspection and Certification, Johnson Gage and Inspection, 9 mos. Chief Pilot, Fishkind and Associates, 13 years. Commercial Contract Pilot, Air Mobile Advantage, 3 years. Flight Instructor, Air Orlando, 3 years. Teacher, USD 261 Haysville Middle School, 7 years. Delta Connection Academy, Commercial Pilot, Flight Instructor</p> <p><u>Education/Credentials:</u> Master of Arts, Friends University BA Education, Wichita State University Preliminary Course Work, Butler County Community College.</p> <p>Brad Bailey, Faculty, Aviation Maintenance Technology <u>Employment History:</u> Maintenance Instructor III, FlightSafety International, 11 years QA Manager & Night Shift Lead, L-3 Vertex, 4 years. Fleet Manager, Raytheon Aircraft Charter Management, 1 year Technical Support, Raytheon Aircraft Co., 5 years Fleet Manager Beechjet, Raytheon, 2 years. Senior Aircraft Maintenance Technician, Engine Field Service Rep, Mechanic, Flight Line Mechanic, Raytheon Aircraft Co., 8 years.</p> <p><u>Education/Credentials:</u> Aviation Certificate, Houston Community College Multiple aircraft related technical certificates & certifications.</p>

Kennedy Harsh, Digital Marketing Specialist

Employment History:

Content Marketing Specialist, Velvet Caviar, 1 year, 4 mos
Freelance Designer, 6 years
Social Media Manager, KX TIX, 1 year
Professional Non-Profit Fundraiser, New Canvassing Experience, 1 year
Music Journalist Intern, MIX 247 EDM

Education/Credentials:

Bachelor of Arts in Advertising, University of Oklahoma
Social Marketing Certification

Ashley Redetzke, Admissions Counselor

Employment History:

Admissions Officer, Wichita State University, 2 years
Asst Manager, Regal Theatres, 2 years
Asst Manager, Warren Theatres, 8 years

Education/Credentials:

Bachelor's of Business Administration, Wichita State University

Rebecca Brownlee, Test Proctor

Employment History:

Owner/Operator, Scarlett Candles, LLC, 2 years
Booking Officer, Ford County Sheriff's Dept, 6 years
Juvenile Supervision Officer, Youth Center of the High Plains, 2 years

Education/Credentials:

Associate of Applied Science, Criminal Justice/Police Science

Elliott Ray, Admissions Counselor

Employment History:

Cashier/Sales Associate, Ze German Markt, 1 year
Brass Specialist/Sales Associate, Wichita Band Instrument Co, 6 years

Education/Credentials:

Bachelor of Arts, English Language & Literature, Wichita State University

Sarah Floyd, Faculty PN

Employment History:

Registered Nurse Specialist, American Red Cross, 3 years, 6 mos.
RN, Wesley Rehabilitation Hospital, 1 year
Dialysis Registered Nurse, Fresenius Medical, 6 mos
Certified Tech to Registered Nurse, DaVita Dialysis, 10 years

Education/Credentials:

BS in Nursing, Western Governors University
Associates of Science in Nursing, Breckenridge School of Nursing
Multi-state RN license

Brittany Thompson, Student Success Coach

Employment History:

Centralized Intake Clinician, COMCARE, 2 years
Social Work Practicum Intern, Adams Elementary, 1 year
Practicum Student Advocate, StepStone, 1 year

Education/Credentials:

Masters in Social Work, Wichita State University
Bachelor of Arts, Illustration, Women's Studies, Wichita State University
Associate of Arts, Digital Media Arts, Butler Community College

Dr. Doug Maury, Director Health Initiatives & Program Development

Employment History:

Clinical Education Coordinator/Asst Professor, Northwestern College, 2 years

	<p>Chair, Health & Physical Education, Bethel College, 13 years Head Athletic Trainer/Instructor, Hesston College, 4 years <u>Education/Credentials:</u> Doctorate in Athletic Training, A.T. Still University Masters in Sports Administration, Wichita State University Bachelors in Health Management/Business Admin, Bethel College Associates in General Studies, Hesston College</p> <p>Amanda Bustamante, Student Services Communications Coordinator <u>Employment History:</u> Covid-19 Outreach Specialist, Sedg County Health Department Speech Communication Instructor, Lead Grad Assistant, Pittsburg State University Wish Program Intern, Make a Wish Kansas <u>Education/Credentials:</u> Master of Arts, Communication, Pittsburg State University Bachelor of Science, Communication, Pittsburg State University</p> <p>Abraham Vidulach, Faculty, Pilot Ground School <u>Employment History:</u> 2nd in command/Trainer, Crew member, FlightSafety Intl', 2 years 2nd in command – preflight planning, preparation, Air Kite LLC, 1 year, 3 mos. Flight Instructor, Air Cap Aviation, 9 mos. Private Pilot Contractor, 1 year, 6 mos. Aircraft Metals Technologies, US Air Force, 5 years. <u>Education/Credentials:</u> Associates of Applied Arts & Sciences, Ground & Flight Training, Hesston College</p> <p>Victor Guerrie, Faculty, Leadership & Personal Development <u>Employment History:</u> Transition from Adjunct faculty to fulltime. Assistant Manager/Fleet Manager, Superior Landscape, 14 years Adjunct Instructor, Butler Community College, 3 years NIMS Resource Technician, Butler County Emergency Mgt. 2 years Fire Captain, Andover Fire & Rescue, 16 years Senior Instructor/Writer, US Army Reserves, 10 years Staff Sargent/Supply Manager, US Air Force, 10 years. <u>Education/Credentials:</u> Masters degree in Ministry & Leadership, Liberty University, expected graduation May 2022 Bachelor of Science, Strategic Leadership, South Western College</p> <p>Daniel Saunders, Inventory Control Specialist <u>Employment History:</u> Ammunition Logistics NCO, 22 years <u>Education/Credentials:</u> Technical Certificate – Composite Fabrication, WSU Tech</p> <p>The consent agenda item(s) were considered and discussed and thereupon on motion of Board member Doug Stark seconded by Cindy Claycomb the consent agenda was approved.</p> <p>Motion carried 10-0 Jay Hohl noted absent.</p>
<p>WSU update – Dr. Muma</p>	<p>No major updates since last Board meeting. Student success continuing to work on recruiting and retaining students Inauguration is next week – the message will be it's time to move forward.</p>
<p>Reports of Officers</p>	<p><u>Financial Statement Review</u> – Marlo Dolezal Reporting period ending September 30, 2021 Reviewed and discussed financial dashboard. Pandemic funding has been excluded so this reflects our true funding. Total revenues are forecasted to end the year in line with the budget</p>

The increase in October cash is due to timing of receiving state funding for excel in CTE as well as NCAT funding.

No adjustments from state funding in Excel in CTE and Postsecondary Aid Target of proposed 6 months operating expenses is at \$13.4M

The Financials(s) were considered and discussed and thereupon on motion of Board member Doug Stark seconded by John O'Leary the financial statements were approved.

Motion carried 10-0 Jay Hohl noted absent.

New Programs

Associate Degree Nursing – Sarah Leftwich

New Program AY 22/23

65 credits

Program accreditation from Kansas Board of Nursing and NLN Commission for Nursing Education

Program can typically be completed over a 2-year period.

The nursing component of the program includes clinical; experiences with rotations in both inpatient and outpatient settings where students learn how to perform patient assessments and basic healthcare duties.

According to the gap analysis data, Health care professional's employment sector in Wichita will experience an 81% gap between the need for employees across the industry and demand between 2020 and 2025

Program will be housed at WSU South Campus

Requesting 20 students with room to grow. With the demand we may lose students to other schools.

Bridge-EMT/Paramedic to RN

The Associate Degree Nursing was considered and discussed and thereupon on motion of Board member Doug Stark seconded by Matt Hesse the above program was approved and will be sent to Kansas Board of Regents.

Motion carried 10-0 Jay Hohl noted absent

Manufacturing Technology – Dr. Scott Lucas

Gap in WSU Tech offerings

Entry Level manufacturing process, production, and operation skills

Entry Level maintenance skills for manufacturing facilities

Jobs posted Spring 2021

- Maintenance Tech or Mechanic
- Assembler
- Material Handler
- Production worker
- Quality Inspector
- Production manager
- Forklift, Deburr & machine operator

Total 365 jobs

Stacked program

Partners with USD 259-Future Ready Center

Both partnerships included in ARPA proposal to the city for grant funding

Applied Learning and Industry Partners

- 17 companies indicated interest
- High School partnership includes work based experience
- Partners represent wide array of manufacturing

The Manufacturing Technology was considered and discussed and thereupon on motion of Board member Patty Koehler seconded by Cindy Claycomb the above program was approved and will be sent to Kansas Board of Regents.

Motion carried 10-0 Jay Hohl noted absent

Robotics Program Revised – Dr. Scott Lucas

We revised the program and took a different approach

Added PLC

Added more simulation courses

AAS Robotics– 64 credits

TC Robotics – 40 credits

	<p>The revision to Robotics Program was considered and discussed and thereupon on motion of Board member Patty Koehler seconded Doug Stark the above program was approved and will be sent to Kansas Board of Regents.</p> <p>Motion carried 10-0 Jay Hohl noted absent</p> <p>Student Success – Justin Pfeifer Enrollment update High School headcount is up 23.2% Overall headcount is up 4.9% Adult is down 7.8% Overall credit hours down 2.0% Reviewed enrollment by division Challenges: Shocker Pathway Health Core Technical Studies Short Term Heal Tradition HS Grads- we were not able to get into high schools last year. Hoping this year will be different Strengths: Climate & Energy (changed the name and it's doing wonderful Business is doing well since we signed 2+2 with WSU Information Technology Automotive Services Alternative Fuels Construction Science Electronics</p>
President's Report	<p>Strategic Plan Metrics We will review and discuss quarterly with the Board - People and Culture - Student Success - Community Partnerships - Continuous Improvement - Financial Sustainability</p> <p>Lobbyist update -Hired two lobbyists to represent WSU and WSU Tech -One is republican, and one is a democrat</p> <p>Future Work Study City and County approved Greater Wichita Partnership is in charge Deloitte will do the study</p> <p>NIAR/WERX - press release will go out tomorrow</p> <p>Foundation update NICHE Dinner at the Carnahan's Home was a huge success 20 People came Our chefs fixed and paired wine with dinner Raised \$20K</p> <p>Pull A Plane This event has been 3 years in the making Raised \$100K 25 teams</p> <p>We are raising our college awareness through the foundation.</p>
Adjournment	<p>At approximately 4: p.m., the meeting adjourned</p>

Approved:

Signature

Dated