April 2, 2020

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

Dear KBOR Staff and TEA Members:

Enclosed you will find an application for a New Program Request opportunity in Cloud Computing at Wichita State University Campus of Applied Sciences and Technology (WSU Tech) to fit in the area of Web Development.

After numerous conversations with members of local community, it became apparent that there was a local need to train and supply entry-level workers and managers that have an educational background in new and releveant areas of IT and technology-based employment . Subsequent dialogue with industry and educational colleagues led WSU Tech to conversations that focused on what would be the best realm of training that is relevant now as well as five years and beyond in the ever changing IT environment? Cloud Computing provides that opportunity. Developing IT knowledge and skills that transition data information onto the Cloud and away from physical resources and costs and this shift will continue to be a huge area of growth in the IT-sector. This program area also provides additional tracks and pathways to build a foundation upon for the changes that will occur. Overall, the program gives WSU Tech a low-cost opportunity to provide a much needed IT option in programming to students that will in-turn support our local business and industry.

The Cloud Computing program has been fully supported by local industry that represents IT and business sectors. WSU Tech employed a curriculum consultant who is well-versed in cloud computing and development who was previously employed by Koch Industries and NetApp, two of the areas largest IT employers. In addition to the business and industry support, WSU Tech's Faculty Senate and Advisory Board both unanimously approved the program.

The program is prepared to start in August 2020 and will have minimal costs for the first two years of the program. WSU Tech is excited about the possibility of adding relevant IT programming that meets the immediate needs or local workforce.

Should you have any additional questions, comments, or concerns please do not hesitate to contact me.

Warm regards,

SCOTT LUCAS

Scott Lucas, Ph.D
Vice President, Career and Technical Education
Wichita State University Campus of Applied Sciences and Technology
316-677-9535

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 *(contact person for the approval process)*	Scott Lucas
Identify the person responsible for oversight of the proposed program	Russ Henry – Associate Dean, IT Programs
Title of proposed program	Cloud Computing
Proposed suggested Classification of Instructional Program (CIP) Code	11.0801
CIP code description	Web Page, Digital/Multimedia and Information Resources Design A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
Standard Occupation Code (SOC) associated to the proposed program	15.1254 (formally 15.1134)
SOC description	Web Developer Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.
Number of credits for the degree and all certificates requested	AAS – 65 Credits TC – 47 Credits
Proposed Date of Initiation	8/1/2020
Specialty program accrediting agency	
Industry certification	AWS Certified Cloud Developer

Signature of College Official_**Scott Lucas Ph.D, VP-CTE** Date 4.3.2020

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).

***Institutions requesting subordinate credentials need only submit the items in blue. For example, an institution with an approved AAS degree has determined a need for a Certificate C in the same CIP code using the same courses used in the AAS degree program.*

Program Description

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

Cloud based operations provide industries with enhanced up time and security as well as the ability to manage maintenance costs and scalability. In short, it is far more competitive to run applications on the cloud. In this hands-on learning path, students will start with the basic, fundamental concepts of object-oriented programming, continuous integration continuous delivery, test-driven development, HTML/CSS/Web-Application development, cloud fundamentals, and multi-cloud development services. With these essential skills in place students will learn how to build a full-stack React web-application on Amazon Web Services (AWS); React is supported and maintained by Facebook for Facebook. With step-by-step guidance through the frontend and backend, students will cover all the different aspects of building their first full-stack React app on the cloud that will be accessible from any internet-facing device – including mobile devices. At the end of this learning path, students will convert their React application into a fully automated full-stack serverless cloud application that will be highly available, globally scalable, and on par with Facebook, Netflix, YouTube, or any other performant cloud application to date.

Program Outcomes

1. Demonstrate a proficiency in the fundamental concepts of computer programming.
2. Demonstrate an understanding of the Software Development Life Cycle (SDLC).
3. Demonstrate their ability to present information clearly, logically, and critically, both orally and in writing.
4. Exhibit an ability to develop a web application.
5. Display an ability to design and develop cloud applications.

List and describe the admission <u>and</u> graduation requirements for the proposed program.

<u>Admission Requirements</u>:

The requirements for admission to the Cloud Computing 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

<u>Transfer Students</u>

- Admission of transfer students to the Cloud Computing 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

- 47 semester credits for a technical certificate 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.

According to the Kansas DOL data for 2016 to 2026 long-term employment projections for SOC 15-1134 in south central Kansas, there are 233 positions currently employed with a projection of 255 by 2026. This is a 9.4% growth. Total openings over the 10-year period is 192 with 19 annual openings. Annual wage is $52,190 and the median wage of $47,990. An Associate degree is listed as the typical education needed for entry. State-wide the 2016 number was 1,239 employed with 1,415 projected, a 14.2% increase. Total openings over the 10-year period is 1,096. Average wage is $40,584 and median wage of $53,488.

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 A – E

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

The College will continue developing working relationships with area business and industry to develop internships, earn and learn opportunities, and guaranteed interviews for program participants/ graduates. These partnerships are of a 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.

Contact	Organization

Chace Ausherman	KS FiberNet
Ryan Kerschner	Fidelity Bank
Brian Pond	YMCA
Kelle White	Oxen Technology
Marla Hayden	USD 259
Jeffery Westerman	Black Anvil
Kevin Colborn	HighTouch
Steve Pendergraft	Pen Publishing
Justin Eichorn	Sigma Consulting
David Cunningham	Flint Hills Group

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 existing the system and employed.

- Allen Community College-not listed on KTIP report but listed on Active KBOR Programs
  - AAS-60 hours in Production Media
  - CERTA-24 hours in Web Design

- Independence Community College-KTIP data too small to report
  - AAS-60 hours in Web Design and Development

- Hutchinson Community College-16 Declared Majors and 8 pursuing additional education; data too small to report other categories
  - AAS-64 hours in Web Development

- Kansas City Kansas Community College-8 Declared Majors and 6 pursuing additional education; data too small to report other categories
  - CERTA-25 hours in Web Application and Design

- Johnson County Community College-151 declared majors; 58 concentrators, 59 pursuing additional education; 34 graduates, 21 exited, 15 exited/employed---average wage $42,182
- AAS-63 hours in Web Development and Digital Media
  - CERTB-30 hours-Digital Media Certificate
  - CERTB-30 hours-Web Development Certificate
  - CERTA-16 hours-Web Technologies Certificate

Was collaboration with similar programs pursued:

WSU Tech did not seek any collaboration with other two-year colleges in Kansas. One of the reasons is this program is the first of its kind in Kansas. Although it does live in the Web Developer realm of careers and pathways, the Cloud Computing arena offers a much different career path than traditional Web Development programs. WSU Tech is already collaborating with WSU on multiple ways to partner specific in Cloud Computing. Following the joint missions of supporting the local business and industry community, there is a strong possibility of Cloud Computing becoming a potential pathway option and

two+two pathway with WSU's Applied Computing degree. Another way is to leverage applied learning opportunities with WSU Innovation Campus partners such as Textron and NetApp.

Program Information

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

See Appendix F

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

This program is a single track program

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.

See Appendix G

List any pertinent program accreditation available:
There are no specific accreditations related to Cloud Computing. All major providers of Cloud storage-Amazon, Microsoft, Google-provide professional certifications towards a variety of pathways related to Cloud Computing. WSU Tech is examining the Amazon Web Services Certification in Cloud Developer as the first certification to implement**.**

Faculty

Describe faculty qualifications and/or certifications required to teach in the proposed program.

Upon approval the Cloud Computing program will be become part of the WSU Tech Information Technology Systems Department. Oversite for the day to day operations of the proposed program will be the responsibilities of the Associate Dean, IT Programs.

Russ Henry – Associate Dean, IT Programs

- 30+ years of technology industry experience
- BS in Computer Science from the University of Kansas

Current and/or past practitioners in the field of Cloud Computing will teach the core technical courses. Faculty for each course will be selected based on their degree of relevant industry experience in the course subject matter. Industry Advocate Team members have indicated their desire to teach in the program filling the initial need for program faculty.

Kyle Lanier, Lead Full-Stack Cloud Automation & Data Analytics Engineer, Wichita State University

- 7 years technology industry experience
- Masters in Computer Science from Wichita State University

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.).

In addition to program specific tuition, WSU Tech plans on utilizing funds from revenue generated in related IT programs. WSU Tech has experienced growth in the current IT programs and most classes are close to capacity. Initial plans would be to supplement program start-up costs with this funding stream until the program can self-sustain with tuition and fees. Faculty from both IT tracks could share a few classes. There may also be some possibility to host high school students in this program at WSU Tech. These enrollments may qualify for Excel in CTE Funding.

Advising Services
Advising prospective students will be shared between the Associate Dean, and the college's Student Services staff. As with other programs offered by the college, Student Services provides general information, assists students with admission to the college, and transfer of credits. Program personnel provide detailed information about the Cloud Computing program. Financial aid advising is provided by the Financial Aid Specialist.

Additional services:
WSU Tech provides 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.

The Department of Academic Engagement and Outreach (A&EO) provides warp around services to ensure students have access to the resources needed to be fully prepared for the rigors of college coursework. The services provided by A&EO department include:

- Library: The Library is located at the South Campus while the NCAT facility includes a shared space which houses both library services 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 a number of databases by signing up for the Kansas Library Card.
- Tutoring: 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. Other topics are provided via an online tutoring service that is available to students 24/7.
- Health Hub: Tutoring services for science-based disciplines and health care programs are located at the South and Old Town campuses.
- Mentoring: The A&EO department 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 the A&EO department hosts a week of workshops and events designed to engage students in the academic side of college. Topics include noting taking skills, dealing with stress, test taking skills, using library and technology resources etc.

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 events.

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) is dedicated to providing students, faculty and staff access to the latest technologies designed to enhance the learning experience. The technologies include HoloLens's, green screens, recording studio with audio and visual capabilities, online and on ground meeting spaces with the most up to date technology for sharing and recording capabilities. The CoLab is physically located at the WSU Tech South Campus however, a mobile version of the lab is available for all other locations.

Physical facilities:
The Cloud Computing program will begin operation in the Fall of 2020 at WSU Tech City Center Campus 301 S Grove-Wichita, KS 67211

Instructional Equipment No additional equipment is required for this program.

Instructional Materials: The proposed Cloud Computing program will be allocated a budget from the general fund. Associated materials fees paid by the student are listed below. The fees will allow WSUTech to pay for student versions of Linkedin Learning and associated software, access and third party publisher content needed for effective teaching and learning.

Course #	Course Title	Associated Materials Fees
INF 113	Introduction to Programming	80.00
INF 121	Object-Oriented Programming (JavaScript)	90.00
INF 126	Test Driven Development (JavaScript)	90.00
INF 131	Continuous Integration Continuous Deployment - CICD	100.00
INF 122	Introduction to Web Development	0.00
INF 143	Web Application Development I (HTML/CSS)	60.00
INF 152	Web Application Development II (REACT)	60.00
INF 118	Cloud Fundamentals	20.00
INF 166	Cloud Application Development I (REACT on AWS)	60.00
INF 158	Multi Cloud Development Services	60.00
INF 170	Cloud Application Development II	60.00
INF 175	Information Technology Internship	25.00

INF 174	Information Technology Capstone	180.00
INF	Electives*	360.00
PDV 105	Blueprint for Personal Success	$30.00
	General Education 15 Credits	$0.0

*Estimated amount

Provide detail on CA-1a form.

See Appendix H

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

No additional grants or outside funding will be utilized for the initial costs but WSU Tech will look for opportunities using alternative funding sources to build upon recruiting, faculty, and other related expenses. One of the goals of the program is to expand internship and other applied learning activities in partnership with area business and organizations. This could be a good vehicle in which to explore alternative funding opportunities.

Program Review and Assessment

The Cloud Computing program will go through the same program review and assessment processes that are used for all other programs throughout the college. The program outcomes and competencies are formulated into the World Wide Instructional Design (WIDS) system. Students will be regularly evaluated throughout the program for mastery of knowledge and technical skills. Assessment tools include written exams, demonstrations, projects, and other evaluation techniques. They will also be contacted to complete the WSU Tech Follow-up Study that rates various aspects of the program. This process is completed by the faculty. Data from WIDS is compiled and utilized by the programs to identify their strengths and challenges. They are also used to verify student learning and plan for future instructional improvements. Faculty will then make curricular revisions as indicated by data. In the case of a non-aligned program, this would include changes to outcomes, competencies, content, instruction, resources, and other curricular activities. Supplemental data is also collected through student course and program evaluations, student satisfaction surveys, student and employer assessment surveys, and graduate placement statistics.

A program Industry Advocate Team (IAT) will annually review program content, admission requirements, equipment, program outcomes, objectives, and competencies, and receive information regarding program performance yearly. Information from these meetings will guide faculty regarding industry needs and provide assurance that the knowledge and skills they are teaching is what is needed by industry. In addition, any state aligned curriculum approved by KBOR will be implemented.

Each program conducts a formal review to ensure that its objectives and competencies are being achieved, and that there is a level of accountability in place. These reviews take place on a three cycle. The program review takes into account all of 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 their area. The structure of program review is very much like a 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 are required to describe or provide feedback on specific aspects, providing data and/or support documentation

when available. 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 which is made up of both Academic Vice Presidents and the Dean of Academic Services. After reviewing the documentation, the Program Review Committee meets with the program leadership and defines a course of action they would like to take to improve the program based on recommendations within the program review, from the Vice President and the rest of the faculty.

Program Approval at the Institution Level

Provide copies of the minutes at which the new program was approved from the following groups:

See Appendix I - J

- Program Advisory Committee 11/5/2019
  (including a list of the business and industry members)
- Curriculum Committee 2/19/2020
- Governing Board 2/20/2020 *(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

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

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and High Touch Technologies 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 High Touch Technologies 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 High Touch Technologies 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 High Touch Technologies undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- [x] Provide a guaranteed interview opportunity to graduates of the following program(s): Cloud Computing at one of WSU Tech Campuses or at industry partner facility.
- [x] Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- [x] Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- [x] Provide constructive feedback to interviewed graduates as appropriate.
- [x] 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.
- [x] 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 High Touch Technologies . This MOU shall become effective upon signature by the authorized officials from WSU Tech and High Touch Technologies 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

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 High Touch Technologies to provide the above checked services for the Cloud Computing programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: High Touch Technologies
Partner Representative Name: Kevin Colborn
Position Title: CIO
Address: 110 S Main St, Wichita, KS 6720
Telephone: 316.462.4001
Email: kevinc@hightouch.com
Signature Windows Admin Center Encryption Digitally signed by Windows Admin Center Encryption Date: 2020.03.13 13:01:02 -05'00'
Date: 3/13/20

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 Megan Madasz
Date: 3/13/20

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 Pen Publishing Interactive . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Pen Publishing Interactive 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
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)

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

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Pen Publishing Interactive 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 Pen Publishing Interactive 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 Pen Publishing Interactive 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 Pen Publishing Interactive undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- ☐ Provide a guaranteed interview opportunity to graduates of the following program(s): Cloud Computing 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).

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

Contact Information and Signatures

Company Name: Pen Publishing Interactive
Partner Representative Name: Steve Pendergraft
Position Title: President
Address: PO Box 782302
Telephone: 316.651.0551
Email: stevep@penpublishing.com
Signature
Date: 3/13/2020

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: 3.31.2020

Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Sigma Consulting LLC.

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Sigma Consulting LLC. 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 Sigma Consulting LLC. 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 Sigma Consulting LLC. 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 Sigma Consulting LLC. undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- [x] Provide a guaranteed interview opportunity to graduates of the following program(s): Cloud Computing at one of WSU Tech Campuses or at industry partner facility.
- [x] Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- [x] Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- [x] Provide constructive feedback to interviewed graduates as appropriate.
- [x] 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.)
- [x] 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 Sigma Consulting LLC. . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Sigma Consulting LLC. 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
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 Sigma Consulting LLC. to provide the above checked services for the Cloud Computing programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Sigma Consulting LLC.
Partner Representative Name: Justin Eichorn
Position Title: Senior Consultant
Address: 4945 East Pembrook Ct.
Telephone: 9134163209
Email: justin@sigmacyber.net
Signature _____
Date: 3/24/20

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: 3/24/20

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

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Flint Hills Group 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 Flint Hills Group 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 Flint Hills Group 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 Flint Hills Group undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- [x] Provide a guaranteed interview opportunity to graduates of the following program(s): Cloud Computing at one of WSU Tech Campuses or at industry partner facility.
- [x] Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- [x] 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.
- [x] 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.
- [x] Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).

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

Contact Information and Signatures

Company Name: Dave Cunningham
Partner Representative Name:
Position Title: CEO
Address: 6505 E Central Ave., Suite 273
Telephone: 316-617-3701
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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:

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

Contact Information and Signatures

Company Name: Digital Office Systems
Partner Representative Name: Nicole Holt
Position Title: Sales Administrator/Recruiting
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Telephone: 316-262-7700
Email: nholt@dosks.com
Signature
Date: 3/27/20

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: 3/27/20

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

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

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INF Cloud Computing/Developer

Program Course List

Number	Title	Credits	R = Required E = Elective	Description	Pre/Corequisites
INF 113	**Introduction to Programming**	3	R	Programmers are in higher demand today than ever before. Get the essential skills and tools to become a successful software engineer and learn the fundamental concepts and practices that are critical to the task of coding—no matter what language you choose. In this course, students will develop the knowledge to begin programming in any language, connect programming theory to practice in real-life scenarios, and apply best practices from experts in the field.	
INF 118	**Cloud Fundamentals**	3	R	This course covers cloud services from a business	

				perspective. This includes the business value of cloud computing, cloud types, steps to a successful adoption of the cloud, impact and changes on IT service management, as well as risks and consequences.	
INF 121	**Object-Oriented Programming (JavaScript)**	3	R	JavaScript is a scripting language of the web. As the web evolves from a static to a dynamic environment, technology focus is shifting from static markup and styling—frequently handled by content management systems or automated scripts—to dynamic interfaces and advanced interaction. Once seen as optional, JavaScript is now becoming an integral part of the web, infusing every layer with its script. Object-Oriented Programming (OOP) refers to using self-contained pieces of code to develop applications. IT professionals call these self-contained pieces of code objects, better known as Classes in most OOP programming languages and Functions in JavaScript. IT professionals use objects as building blocks for our applications. Building applications with objects allows us to adopt some valuable techniques. In this course students will build their	INF 113 Introduction to Programming

				understanding of JavaScript piece by piece, from core principles like variables, data types, conditionals, and functions through advanced topics including loops, closures, DOM printing, and learn Inheritance and Encapsulation since only these two concepts apply to OOP in JavaScript; in JavaScript objects can encapsulate functionalities and inherit methods and properties from other objects.	
INF 122	**Introduction to Web Development**	3	R	This course introduces students to basic web design using HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), JavaScript, and PHP. Throughout the course students are introduced to planning and designing effective websites; implementing web pages by writing code; producing a functional, multi-page website; and navigating how to choose and set up a server to host their sites on. The course does not require any prior knowledge of coding or web design.	
INF 126	**Test Driven Development (JavaScript)**	3	R	Programmers shouldn't have to guess whether the software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD)	INF 121 Object-Oriented Programming

				process allows programmers to build testing into their daily routine. They can run tests many times a day, getting instant feedback on the quality of the code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. Together students will explore the jargon: test suites, test harnesses, mock and stub objects, and more, how TDD is used in the most common programming languages, TDD environments, and what tools/frameworks exist to help programmers succeed.	
INF 131	**Continuous Integration Continuous Deployment - CICD**	3	R	Continuous delivery (CD) answers two difficult questions: "How do we release software more quickly in response to user demand?" and "How do we release high-quality software reliably?" Using special practices and tools, teams can address both concerns. In this course, learn about continuous integration and continuous delivery (CI/CD), and see how these concepts work in practice by constructing	INF 121 Object-Oriented Programming (JavaScript) Or INF XXX Object-Oriented Programming (Python)

				your own build pipeline. Throughout the course, students will discuss elements of the pipeline as they show how to take an app written in the Go programming language from development to production. Students will walk through version control, building artifacts, unit testing, and deployment, demonstrating common practices and tools along the way.	
INF 143	**Web Application Development I (HTML/CSS)**	3	R	CSS is a stylesheet language that allows you to control the appearance of your webpages, and HTML is the programming language that powers the web. Like any language, once you master it, you can begin to create your own content, whether that's simple websites or complex web applications. In this hands-on course, we will take an in-depth look at the syntax of HTML and best practices for writing with CSS and JavaScript to create rich, engaging user experiences. Plus, at the end of the course, you'll walk away with an actual project—an online résumé page.	INF 126 Test-Driven Development (JavaScript) INF 122 Introduction to Web Development
INF 152	**Web Application Development II (REACT)**	3	R	React is a JavaScript library for building user interfaces to fetch rapidly changing data that needs to be recorded and is	INF 143 Web Application Development I (HTML/CSS)

				maintained by Facebook for the development of single-page or mobile applications. The effectiveness of React.js stands out. It relies on reusable components, not templates, for UI development, allowing developers to render views where data changes over time. React applications are more scalable, maintainable, and makes developers more efficient. In this hands-on course, you will learn React.js and grow your skills through several browser-based projects leading to the completion of several web applications.	
INF 158	**Multi-Cloud Development Services**	3	R – AAS only	Cloud computing impacts all careers, and an awareness of the opportunities associated with this emerging field is critical. Developers need to understand what it means to develop on and migrate to the cloud—and comprehend the overall landscape before diving into the platform. In this hands-on course, you will get a high-level overview just for developers, focusing on the features and services in a multi-cloud development environment using Google Cloud, Amazon Web Services, and Microsoft Azure.	INF 118 Cloud Fundamentals INF 121 Object-Oriented Programming(JavaScript) or INF 138 Object-Oriented Programming(Python)

INF 166	**Cloud Application Development I (REACT on AWS)**	3	R	Traditionally, companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. The issues associated with this process, including server uptime, maintenance costs, managing security, and scalability is driving the realization that it is more competitive to run applications on the cloud. In this hands-on course, designed for developers that would like to build full-stack applications on Amazon Web Services, students will make a full-stack React application by creating a note-taking app from scratch. By guiding students, step-by-step through both the frontend and the backend, students will cover all the different aspects of building their first full-stack React app on the cloud.	INF 152 Web Application Development - II INF 118 Cloud Fundamentals
INF 170	**Cloud Application Development II (Serverless REACT on AWS)**	3	R – AAS Only	Traditionally companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. There are a few issues with this be it server uptime,	INF 166 Cloud Application Development I

				maintenance costs, managing security, and scalability. It is far more competitive now to run applications on the cloud. Serverless computing (or serverless for short), is an execution model where the cloud provider (AWS, Azure, or Google Cloud) is responsible for executing a piece of code by dynamically allocating the resources. And only charging for the amount of resources used to run the code. The code that is sent to the cloud provider for execution is usually in the form of a function. Hence serverless is sometimes referred to as "Functions as a Service" or "FaaS". This hands-on course is meant for developers that would like to build full-stack serverless applications. By guiding students step-by-step through both the frontend and the backend they will cover all the different aspects of building their first full automated full-stack serverless React app on the cloud.	
INF 105	**A+ Certification - Essentials**	3	E	This course will prepare student to take the CompTIA A+ Practical Application exam which measures the necessary competencies for an entry-level IT (Information Technology) professional. Successful	

				students will have the skills required to install, configure, upgrade, and maintain PC (Personal Computer) workstations, the Windows OS (Operating System) and SOHO (Small Office Home Office) networks. Students will utilize troubleshooting techniques and tools to effectively and efficiently resolve PC, OS, and network connectivity issues and implement security practices. Job titles in some organizations that would describe the role of this individual may be: Enterprise technician, IT administrator, field service technician, PC or Support technician, etc.	
INF 105	**A+ Certification Essentials**	3	E	This course will prepare the student for entry level work in the Information Technology career field. Successful students will have the skills necessary for installing, maintaining, configuring, and upgrading PC (Personal Computer) workstations. Students will utilize troubleshooting techniques and tools to effectively and efficiently resolve PC, OS, and network connectivity issues and implement security practices. Job titles in some organizations that would describe the role of this individual may	

				be: Enterprise technician, IT administrator, field service technician, PC or support technician etc.	
INF 110	**A+ Certification - Application**	3	E	This course will prepare student to pass the CompTIA A+ Essentials exam. The CompTIA A+ Essentials examination measures necessary competencies for an entry-level IT professional. Successful students will have the knowledge required to understand the fundamentals of computer technology, networking, and security, and will have the skills required to identify hardware, peripheral, networking, and security components. Upon completion of the course students will understand the basic functionality of the operating system and basic troubleshooting methodology, practice proper safety procedures, and will effectively interact with customers and peers.	INF105 A+ Certification Essentials
INF 115	**Network+ Part I**	3	E	This course along with INF116 Networking+ Part II prepares the student for CompTIA's Network+ certification exam. The class prepares students to work with network operating systems and network design issues.	INF 110 A+ Certification Part II

INF 116	**Network+ Part II**	3	E	This course is a continuation of INF115 Networking+ Part I and prepares the student for CompTIA's Network+ certification exam. The class prepares students to work with network operating systems and network design issues. Also covered at length are back-up and disaster recovery issues and viruses.	INF115 Network+ Part I
INF 120	**Security+**	3	E	This course prepares student for the CompTIA Security+ Certification exam. CompTIA Security+ exam is an internationally recognized validation of foundation-level security skills and knowledge, and is used by organizations and security professionals around the globe.	INF 116 Network+ Part II
INF 127	**Linux+ Part I**	3	E	This course is the first in a series of two courses that prepare students for the CompTIA Linux+ LX0-103 exam. The CompTIA Linux+ certification offers a framework for acquiring working knowledge of Linux for those seeking employment as junior-level systems administrators, as well as those working in Web and software development. At the completion of the Linux + course series (two parts) students will be able to: Work at the	INF 116 Network+ Part II

				Linux command level, perform easy maintenance task including assisting users, adding users to a larger systems, executing backup and restore and shutdown and reboot; Install and configure a workstation (including X) and connect it to a LAN, or a stand-alone PC via modem to the internet in the design of capture solutions, while addressing security requirements. Linux + Part I covers the following concepts and skills: System Architecture, Linux Installation and Package Management, GNU and Unix Commands, and Devices, Linux File systems, File system Hierarchy Standard.	
INF 128	**Linux+ Part II**	3	E	This course is the second in a series of two courses that prepare students for the CompTIA Linux+ LX0-104 exam. The CompTIA Linux+ certification offers a framework for acquiring working knowledge of Linux for those seeking employment as junior-level systems administrators, as well as those working in Web and software development. At the completion of the Linux + course series (two parts) students will be able to: Work at the Linux command level,	INF 127 Linux+ Part I

				perform easy maintenance task including assisting users, adding users to a larger system, executing backup and restore and shutdown and reboot; Install and configure a workstation (including X) and connect it to a LAN , or a stand-alone PC via modem to the internet in the design of capture solutions, while addressing security requirements. The Linux+ Part II course covers concepts and skills related to Shells, Scripting and Data Management, User Interfaces and Desktops, Administrative Tasks, Essential System Services, and Security.	
INF 134	**Server+**	3	E	This course prepares students for the CompTIA Server+ exam. The CompTIA Server+ certification offers a framework for acquiring working knowledge of servers for those seeking employment in IT professions around the globe. The course will prepare students to demonstrate the knowledge and skills required to build, maintain, troubleshoot and support server hardware and software technologies. Students will be able to identify environmental issues; understand and comply with disaster recovery and physical / software	INF 116 Network+ Part II

				security procedures; be familiar with industry terminology and concepts; understand server roles / specializations and interaction within the overall computing environment.	
INF 136	**Introduction to PowerShell**	3	E	Introduction to PowerShell provides an overview and application of the next generation command shell developed by Microsoft. Students learn to interact with Windows PowerShell from the command line. This course prepares students to demonstrate an understanding and application of the fundamentals of how to develop and execute PowerShell scripts, and how to become an effective programmer in the PowerShell environment.	INF 116 Network + Part II
INF 138	**Object-Oriented Programming (Python)**	3	E	Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes	INF 113 Introduction to Programming

				readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity, object oriented application, and code reuse. Object Oriented Programming (OOP) refers to using self-contained pieces of code to develop applications. IT Professionals call these self-contained pieces of code objects, better known as Classes in Python. IT Professionals use objects as building blocks for scripting and applications which allows us to adopt some valuable techniques. In this course students will build their understanding of Python piece by piece starting with the basics and work into algorithms, standard libraries, GUI development, and generators. At the end of this course students will be fully proficient in python having covered advanced python development as well as parallel and concurrent programming.	
INF 141	**Test Driven Development (Python)**	3	E	Programmers shouldn't have to guess whether software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD) process allows	INF 138 Object Oriented Programming (Python) or INF 121 Object-Oriented Programming (JavaScript)

				programmers to build testing into their daily routine. Programmers can run tests many times a day, getting instant feedback on the quality of their code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. In this course students will get an overview of both unit testing and TDD, why both are crucial for developers, how to set up a development environment for TDD, and go into detail with the pytest unit-testing framework. In addition too, students will learn best practices and develop test cases in order to master TDD in Python.	
INF 142	**Introduction to Storage Solutions**	3	E	Information storage plays a critical role in the IT Infrastructure. This course examines storage technologies utilized across traditional, virtualized, and cloud environments. Significant focus is placed on technical aspects of the types of devices, file systems, and technologies used in storage and storage network systems. Topics include storage systems	INF 110 A+ Certification - Application

				architecture, storage networking, resource management, replication, backup and recovery, and security.	
INF 147	**Website Production & Management**	3	E	This course is designed to teach students the necessary skills to build, customize, manage and promote a business website using the content management system WordPress. In this project-based course, students will apply classroom knowledge and skills to successfully launch a site on a live web server.	
INF 153	**Multi-Cloud Administration**	3	E	Cloud administrators must have an understanding of cloud services and architecture, as well as the top cloud platforms and tools. In this hands-on course, students will explore the top cloud platforms, AWS, Azure, and Google Cloud, as well as best practices in cloud security, operations, and services in order to obtain the skills needed to become a successful multi-cloud administrator.	INF 118 Cloud Fundamentals
INF 155	**Digital Forensics**	3	E	Digital forensics is a branch of forensic science surrounding the recovery and investigation of material found in digital devices, often in relation to computer crime. This course introduces students to the basic concepts associated with digital forensics. Topics	INF 110 A+ Certification - Application

				will include forensic processes, forensic tools, and digital evidence controls.	
INF 157	**Cyber Law and Ethics**	3	E	Provide students with an overview of the common laws and ethical issues associated with information technology. The course uses a case study approach to encourage the student in developing analytical, problem-solving, critical thinking and decision-making skills.	
INF 160	**Server Security**	3	E	Server Security is designed to provide the students with concepts to develop, deploy, and maintain reliable and secure servers. Topics will include SSH keys, Firewalls, PKI systems, SSL and TLS encryption, service and file auditing.	INF 134 Server+
INF 162	**Cisco Internetworking Part I**	3	E	The Interconnecting Cisco Networking Devices Part 1 (ICND1) will cover the knowledge and skills related to network fundamentals, LAN switching technologies, routing technologies, infrastructure services, and infrastructure maintenance.	
INF 163	**Cisco Internetworking Part II**	3	E	The Interconnecting Cisco Networking Devices Part 2 will cover the knowledge and skills related to LAN switching technologies, IPv4 and IPv6 routing	INF 162 Cisco Internetworking Part 1

				technologies, WAN technologies, infrastructure services, and infrastructure maintenance.	
INF 165	**Advanced Cyber Security**	3	E	Advanced Cyber Security is designed to enhance students knowledge of security practices. The course will cover a range of topics that are vital for securing modern enterprises. Topics will include plans and policies, enterprise roles, security metrics, risk management, standards and regulations, physical security and business endurance.	INF 120 Security+
INF 168	**AWS Cloud Practitioner**	3	E	To date, when it comes to market share Amazon Web Services currently holds 47.8%, followed by Microsoft Azure at 15.5%, Alibaba Cloud at 7.7%, Google at 4%, and IMB at 1.8%. Get up to speed with one of the most popular and powerful cloud solutions on the market—Amazon Web Services (AWS). In this hands-on course, students will deepen their understanding of Amazon Web Services (AWS) through enterprise security, high availability, controlling cost, and preparing an AWS solution.	INF 153 Multi-Cloud Administration Or INF 118 Cloud Fundamentals
INF 169	**Machine Learning and AI Foundations with Predictive Analytics**	3	E	There is a lot to learn to stay on top of a rapidly expanding universe of AI and machine learning. In addition,	INF 138 Object-Oriented Programming (Python)

				predictive analytics is one of the richest disciplines within the realm of data science; together artificial intelligence, machine learning, and predictive analytics form a very lucrative skillset for an ever-increasing competitive market. In this hands-on course, students will be exposed to a healthy range of topics to learn and advance their skillset in AI, ML, and data science. In addition too, students will learn the tools and techniques for using data to predict future outcomes in order to get up to date with the latest advancements	
INF 174	**Information Technology Capstone**	3	E – this course or INF 175	In this course students, will have the opportunity to link classroom/lab theory with a capstone learning opportunity. Through hands on application, reflection and evaluations, students will demonstrate integrated knowledge and growth in the field of information technology. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals.	INF 120 Security +
INF 175	**Information Technology Internship**	3	E – this course or INF 174	In this course, students will have the opportunity to link classroom/lab theory with an experimental	INF 120 Security +

				learning opportunity. Through direct observation, reflection and evaluation, students gain an understanding of the internship site's work, mission, and customers, how these relate to their program of 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.	
INF 177	**AWS Solutions Architect Associate**	3	E	AWS certification is one of the most in-demand in the market, as it allows students to demonstrate proficiency in working with AWS cloud services. This hands-on course provides IT professionals who have an existing foundational knowledge of the AWS platform to learn the skills they need to prepare for the AWS Certified Solutions Architect (Associate) exam. By completing this course students will be thoroughly prepared to lock down their AWS skills for the AWS Certified Solutions Architect – Associate (SAA-C01) exam.	INF 168 AWS Cloud Practitioner
INF 180	**Advanced Network Security**	3	E	Advanced Network Security is designed to provide the student advanced concepts in network security	INF 165 Advanced Cyber Security

				including defending the network. Topics will include configuring network appliances, defending against unauthorized access, misuse, modification, or denial of network resources.	
INF 182	**Microsoft Azure Administrator**	3	E	Microsoft Azure is one of the leading enterprise-grade cloud computing platforms. In this hands-on course, students will be introduced to cloud computing focusing on various Azure technologies designed to support and protect companies at scale. As a more efficient alternative to traditional on-premise IT infrastructure, through this course, students will learn how to build a base of operations with Azure resource groups, configure networking, provision storage, manage active directory, implement security, govern identity and access management, and much more.	INF 153 Multi-Cloud Administration
INF 185	**Virtual Private Cloud Administration**	3	E	Most leading private clouds provide similar features. So, how can IT professionals select the right solution with intent to scale for an organization? Through this hands-on course, students will examine industry-leading private cloud platforms and compare the services offered. Learn the	INF 153 Multi-Cloud Administration

				fundamentals of cloud computing using a private cloud, consider reasons why you might choose a private cloud solution for a business, and discover the features and services offered by several providers—from security to integration and compatibility features.	
INF 187	**Cloud Native Infrastructure (Kubernetes)**	3	E	Container technology caught the public's attention with the introduction of Docker in 2013. The efficiency and cost benefits containerization can offer quickly made it one of the hottest topics in cloud computing. Shortly after Dockers' release, there has been a flood of new container management platforms, aiming to reduce the complexity of managing containerized applications. One of these platforms, the open-source project Kubernetes created by Google in 2015, is by now the de facto standard for container management. In this hands-on course, students will learn the ins and outs of Kubernetes, how it automates deploying, scaling and managing containerized applications on a group (cluster) of (bare metal or virtual) servers.	INF 153 Multi-Cloud Administration

INF 188	**Cloud Data and DevOps Specialist (AWS)**	3	E	Amazon Web Services (AWS) is one of the most widely used cloud platforms and the go-to for many organizations looking to reduce costs by adopting a cloud infrastructure strategy. In this hands-on course, students will gain a comprehensive, cohesive skill for data admins, engineers, and DevOps specialists who will use AWS with data science and business analytics teams. Topics include cloud concepts, best practices, resilient infrastructure, elasticity, automation, cost optimization, server-based architectures, data science, metrics, and much more.	INF 118 Cloud Fundamentals
INF 191	**Microsoft Enterprise O365 Administration**	3	E	Microsoft 365 offers enterprises a complete business solution around cloud-based office services, applications, Windows 10, and mobility and security services. In this hands-on course, students will dive into each Microsoft 365 product, providing IT professionals with the guidance they need to successfully implement and manage solutions for the modern workplace.	INF 153 Multi-Cloud Administration
INF 193	**Cloud DevOps Engineer I**	3	E	DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication	INF 168 AWS Cloud Practitioner INF 188 Cloud Data and DevOps Specialist (AWS)

				between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-one course, students will learn a holistic overview of the DevOps movement, focusing on the core value of CAMS (culture, automation, measurement, and sharing) in addition to both agile and lean project management principles and how old-school principles like ITIL, ITSM, and SDLC fit within DevOps.	
INF 196	**Cloud DevOps Engineer II**	3	E	DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-two course, students will learn the various methodologies and tools an organization can adopt to transition into DevOps, including infrastructure automation, software version control,	INF 193 Cloud DevOps Engineer I

				container management via Kubernetes, and much more.	
CED 115	**Computer Applications**	3	R – AAS	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.	N/A
MTH 101	**Intermediate Algebra**	3	R – AAS	This online/traditional/hybrid course provides students with the algebraic skills necessary to begin conceptualizing abstract mathematical concepts in preparation for MTH 112 (College Algebra). Topics include: Solving Linear Equations and Inequalities; Graphs, Functions, and Applications; Systems of Equations; Polynomials and Polynomial Functions; Rational Expressions, Equations, and Functions; Radical Expressions, Equations, and Functions; and Introduction to Quadratic Equations.	MTH 035 PACER Mathematics II

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 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 Leadership, Communication, Teamwork and Diversity, Career Management, Lifestyle Design, and Disruption in Industry.	
	Communication Electives		One course from list below required for AAS		
SPH 101	Public Speaking	3	E	Covers fundamental basics to all good private and public speaking experiences and elements in voice production and improvement, bodily movement, confidence, poise and understanding of all types of public speeches. Required of all transfer curricula.	
SPH 111	Interpersonal Communications	3	E	Improves individual communication skills. By understanding the elements of effective communication, students are able to create environments that bring out the best in themselves and others. In addition, students learn how to better turn ideas and feelings into words, how to listen more effectively, respond more appropriately to what others have said and, most important of all, how to maintain and develop good interpersonal relationships with their	

				families, their peers and fellow workers. Emphasis is placed on small-group activities, interviewing skills and verbal and non-verbal 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 introduced to the basic components of research by writing a documented essay in Modern Language Association (MLA) style.	ENG 030 English or test out
	Social Sciences Electives		One course from the list below for AAS		
ECO 105	Principles of Macroeconomics	3	E	This course explores the fundamental aspects of the United States economy including growth, fiscal and monetary policies, unemployment, inflation, national debt, money and the Federal Reserve System. National and international policy topics are discussed.	EdReady GMID - Score of 39 or higher

ECO 110	Principles of Microeconomics	3	E	Attention will be given to the methods of producing the goods and services that our economy provides. The following areas are explored: supply, demand, pricing, scarcity, business firms and business anti-trust and public interest, incomes, wages and salaries, income distribution, taxes, and tax reform.	EdReady GMID - Score of 39 or higher
POL 101	American Government	3	E	A general study of the development, structure and functions of the American National Government. Topics to be studied include an introduction to government, principles of constitutionalism and federalism, political parties and political behavior, the Presidency, congress, the judiciary and the federal bureaucracy, Of specific emphasis is an analysis of decision-making in government, public participation and influence in government as well as a study of specific problems concerning the operation of the federal government.	
PSY 101	General Psychology	3	E	A general introduction to the scientific study of behavior and mental processes to enable students to apply the knowledge they gain about the history of psychology, psychological	

				perspectives, biological bases of behavior, sensation and perception, learning, cognition, intelligence, motivation, development, personality, psychological disorders and treatments of disorders, social psychology and critical thinking skills to enhance the quality of his/her life as he/she interacts with others and the environment.	
PSY 110	Child Psychology	3	E	This course is a scientific study of child behavior and development from the prenatal period through adolescence. This includes special emphasis in topics of physical development, cognitive and language development, social-emotional development and attachment, socialization, and practical applications of discipline and child rearing.	PSY 101 General Psychology
PSY 120	Developmental Psychology	3	E	A study of individual development from conception through death to enable students to apply the knowledge they gain about the general areas of biological, neurological, physical, cognitive, social, emotional and personality development at each stage of life to enhance more meaningful interactions with others and better	PSY 101 General Psychology

				understanding of his/herself.	
SOC 101	Principles of Sociology	3	E	An introductory study of human society to acquaint students with the influence and patterns of individual and group interaction by exploring the development, characteristics, and functioning of human groups; the relationships between groups, and group influences on individual behavior.	N/A
SOC 115	Social Problems	3	E	This course will examine the major problems of contemporary society, the social causes, potential solutions, and impact on public policy utilizing sociological theories and perspectives. Students will acquire an understanding of unique issues such as, inequality, crime, deviance, violence, substance abuse, and problems within socialization institutions.	SOC 101 Introduction to Sociology
SOC 125	Community Health Worker I	3	E	Community Health Workers connect with their communities providing health care outreach and education, client-centered counseling, case management and client/community based advocacy. This course is designed to introduce students to the basic skills and knowledge required to be an	N/A

				effective Community Health Worker. In this scenario based learning environment students will be exposed to their role as community advocates, public health issues in the US, and cultural humility. Faculty and students will engage in interactive scenarios to introduce and reinforce topics such as client centered counseling, care management and client interview techniques.	

Cloud Computing / Developer

Total Credits **65**

Semester 1

Course #	Course Title	Credits	Function
INF 113	Introduction to Programming	3	Semester 1
INF 121	Object-Oriented Programming (JavaScript)	3	Semester 1
INF 126	Test Driven Development (JavaScript)	3	Semester 1
INF 131	Continuous Integration Continuous Deployment - CICD	3	Semester 1
PDV 105	Blueprint for Personal Success	2	Semester 1
MTH 101	Intermediate Algebra	3	Semester 1

Semester 2			
INF 122	Introduction to Web Development	3	Semester 2
INF 143	Web Application Development I (HTML/CSS)	3	Semester 2
INF 152	Web Application Development II (REACT)	3	Semester 2
INF 118	Cloud Fundamentals	3	Semester 2
CED 115	Computer Applications	3	Semester 2
Semester 3			
INF 166	Cloud Application Development I (REACT on AWS)	3	Semester 3
INF 158	Multi Cloud Development Services	3	Semester 3
INF	Electives – 6 Credits	6	Semester 3
ENG 101	Composition I	3	Semester 3
	Social Science Elective	3	Semester 3
Semester 4			
INF 170	Cloud Application Development II	3	Semester 4
INF	Experiential Learning Electives - 3 Credits	3	Semester 4
	Electives – 6 Credits	6	Semester 4
	Communication Elective	3	Semester 4

Experiential Learning

Course #	Course Title	Credits	Function
INF 175	Information Technology Internship	3	Technical Studies
INF 174	Information Technology Capstone	3	Technical Studies

Electives

Course #	Course Title	Credits	Function
INF 105	A+ Certification -Essentials	3	Elective
INF 110	A+ Certification – Application	3	Elective
INF 113	Introduction to Programming	3	Elective

INF 115	Network+ Part I	3	Elective
INF 116	Network+ Part II	3	Elective
INF 118	Cloud Fundamentals	3	Elective
INF 120	Security+	3	Elective
INF 121	Object-Oriented Programming (JavaScript)	3	Elective
INF 126	Test Driven Development (JavaScript)	3	Elective
INF 127	Linux+ Part I	3	Elective
INF 128	Linux+ Part II	3	Elective
INF 131	Continuous Integration Continuous Delivery - CICD	3	Elective
INF 134	Server+	3	Elective
INF 136	Powershell	3	Elective
INF 138	Object -Oriented Programming (Python)	3	Elective
INF 141	Test Driven Development (Python)	3	Elective
INF 142	Introduction to Storage Solutions	3	Elective
INF 143	Web Application Development I (HTML/CSS)	3	Elective
INF 147	Website Production & Web Management	3	Elective
INF 152	Web Application Development II (REACT)	3	Elective
INF 153	Multi-Cloud Administration	3	Elective
INF 155	Digital Forensics	3	Elective
INF 157	Cyber Law and Ethics	3	Elective
INF 158	Multi-Cloud Development Services	3	Elective
INF 160	Server Security	3	Elective
INF 162	Cisco Internetworking Part I	3	Elective
INF 163	Cisco Internetworking Part II	3	Elective
INF 165	Advanced Cyber Security	3	Elective

INF 166	Cloud Application Development I (REACT on AWS)	3	Elective
INF 168	AWS Cloud Practitioner	3	Elective
INF 169	Machine Learning and AI Foundations with Predictive Analytics	3	Elective
INF 170	Cloud Application Development II (Serverless REACT on AWS)	3	Elective
INF 177	AWS Solutions Architect Associate	3	Elective
INF 180	Advanced Network Security	3	Elective
INF 182	Microsoft Azure Administrator	3	Elective
INF 185	Virtual Private Cloud Administration	3	Elective
INF 187	Cloud Native Infrastructure (Kubernetes)	3	Elective
INF 188	Cloud Data and DevOps Specialist (AWS)	3	Elective
INF 191	Microsoft Enterprise O365 Administration	3	Elective
INF 193	Cloud DevOps Engineer I	3	Elective
INF 196	Cloud DevOps Engineer II	3	Elective

TC Cloud Computing/ Developer
Total Credits **47**

Semester 1

Course #	Course Title	Credits	Function
INF 113	Introduction to Programming	3	Semester 1
INF 121	Object-Oriented Programming (JavaScript)	3	Semester 1
INF 126	Test Driven Development (JavaScript)	3	Semester 1
INF 131	Continuous Integration Continuous Deployment - CICD	3	Semester 1
PDV 105	Blueprint for Personal Success	2	Semester 1
Semester 2			
INF 122	Introduction to Web Development	3	Semester 2
INF 143	Web Application Development I (HTML/CSS)	3	Semester 2
INF 152	Web Application Development II (REACT)	3	Semester 2
INF 118	Cloud Fundamentals	3	Semester 2
INF	Electives –3 Credits	3	Semester 2
Semester 3			
INF 166	Cloud Application Development I (REACT on AWS)	3	Semester 3
INF	Experiential Learning Electives - 3 Credits	3	Semester 3
INF	Electives – 12 Credits	12	Semester 3

Experiential Learning Electives

Course #	Course Title	Credits	Function

INF 174	**Information Technology Capstone**	3	Technical Studies
INF 175	**Information Technology Internship**	3	Technical Studies

Electives

Course #	Course Title	Credits	Function
INF 105	A+ Certification -Essentials	3	Elective
INF 110	A+ Certification – Application	3	Elective
INF 113	Introduction to Programming	3	Elective
INF 115	Network+ Part I	3	Elective
INF 116	Network+ Part II	3	Elective
INF 118	Cloud Fundamentals	3	Elective
INF 120	Security+	3	Elective
INF 121	Object-Oriented Programming (JavaScript)	3	Elective
INF 126	Test Driven Development (JavaScript)	3	Elective
INF 127	Linux+ Part I	3	Elective
INF 128	Linux+ Part II	3	Elective
INF 131	Continuous Integration Continuous Delivery - CICD	3	Elective
INF 134	Server+	3	Elective
INF 136	Powershell	3	Elective
INF 138	Object -Oriented Programming (Python)	3	Elective
INF 141	Test Driven Development (Python)	3	Elective
INF 142	Introduction to Storage Solutions	3	Elective
INF 143	Web Application Development I (HTML/CSS)	3	Elective
INF 147	Website Production & Web Management	3	Elective
INF 152	Web Application Development II (REACT)	3	Elective
INF 153	Multi-Cloud Administration	3	Elective
INF 155	Digital Forensics	3	Elective
INF 157	Cyber Law and Ethics	3	Elective

INF 158	Multi-Cloud Development Services	3	Elective
INF 160	Server Security	3	Elective
INF 162	Cisco Internetworking Part I	3	Elective
INF 163	Cisco Internetworking Part II	3	Elective
INF 165	Advanced Cyber Security	3	Elective
INF 166	Cloud Application Development I (REACT on AWS)	3	Elective
INF 168	AWS Cloud Practitioner	3	Elective
INF 169	Machine Learning and AI Foundations with Predictive Analytics	3	Elective
INF 170	Cloud Application Development II (Serverless REACT on AWS)	3	Elective
INF 177	AWS Solutions Architect Associate	3	Elective
INF 180	Advanced Network Security	3	Elective
INF 182	Microsoft Azure Administrator	3	Elective
INF 185	Virtual Private Cloud Administration	3	Elective
INF 187	Cloud Native Infrastructure (Kubernetes)	3	Elective
INF 188	Cloud Data and DevOps Specialist (AWS)	3	Elective
INF 191	Microsoft Enterprise O365 Administration	3	Elective
INF 193	Cloud DevOps Engineer I	3	Elective
INF 196	Cloud DevOps Engineer II	3	Elective

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2018)

Institution: WSU Tech
Proposed Program: Cloud Computing

IMPLEMENTATION COSTS

Part I. Anticipated Enrollment		Implementation Year		
Please state how many students/credit hours are expected during the initial year of the program?				
		Full-Time		Part-Time
A. Headcount:		20		25
Part II. Initial Budget		Implementation Year		
A. Faculty		Existing:	New:	Funding Source:
Full-time	1.5	$	$91000	Institutional/Tuition
Part-time/Adjunct	3	$	$20,000	Institutional/Tuition
		Amount		Funding Source
B. Equipment required for program		$ 0		
C. Tools and/or supplies required for the program		$ 0		
D. Instructional Supplies and Materials		$ 500		Institutional
E. Facility requirements, including facility modifications and/or classroom renovations		$ 0		
F. Technology and/or Software		$ 0		
G. Other *(Please identify; add lines as required)*				
Total For Implementation Year		$111,500		Institutional/Tuition

PROGRAM SUSTAINABILITY COSTS (Second and Third Years)

Part I. Program Enrollment		Second and Third Years		
Please state how many students/credit hours are expected during the first two years of the program?				
		Full-Time		Part-Time
A. Headcount:		40		50
Part II. Ongoing Program Costs		First Two Years		
A. Faculty		Existing:	New:	Funding Source:
Full-time	#2	$91000	$27000	Institutional/Tuition
Part-time	#4	$20000	$6000	Institutional/Tuition
		Amount		Funding Source
B. Equipment required for program		$ 0		
C. Tools and/or supplies required for the program		$ 0		
D. Instructional Supplies and Materials		$ 0		
E. Facility requirements, including facility modifications and/or classroom renovations		$ 0		
F. Technology and/or Software		$ 0		
G. Other *(Please identify; add lines as required)*		0		
Total For Program Sustainability		$144,000		Institutional/Tuition

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2018)

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

If approved there is possibility to provide dual credit opportunities in Web Development to area high schools. Excel in CTE would be a potential funding option.

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

Information Systems Technology
Fall 2019 IAT
Tuesday, November 5, 2019, 3:30
City Center Campus, Building A

***MINUTES**

I. Attendees-

Name	Industry	Name	Industry
Chace Ausherman	KS FiberNet	Marla Hayden	USD 259
Ryan Kerschner	Fidelity Bank	Kevin Lyerla	Fidelity Bank
Brian Pond	YMCA	Jeffrey Westeman	Black Anvil
Kelle White	Oxen Technology	Scott Lucas	WSU Tech
John Davis	WSU Tech	Anthony Rosas	WSU Tech
Mark Angelini	WSU Tech	William Ramsey	WSU Tech
Jennifer Roe	WSU Tech	Catherine Bitting	WSU Tech
Garrett Green	WSU Tech	Logan Rhamy	WSU Tech

II. Computer kits
   i. Changed from Intel to AMD for cost reasons -Original cost - $300 New costs:
      1. Intel - $399
      2. AMD - $325

Do we continue to purchase these kits? Discussion was that most felt that it was a necessary part of the curriculum to keep purchasing the computer kits as it allows ownership for the student. Only argument was that the kits are essentially unusable after course is completed, so there is a lot of waste, also considering that 80% of the jobs these students move into will be network tech and not hardware related.

III. VMWare

Need to continue to use VMWare as well as HyperV. Both very important in keeping the training diversified.

IV. Cloud Fundamentals – new class offered starting this fall. Should include basic business concepts.

V. Program Review
   a. Computer Support Specialist – OK, no suggested changes
   b. Cyber Security – OK, no suggested changes

VI. Internships/Capstone – Covered information regarding current internships/capstone opportunities. Several industry advocates expressed interest in working with students in that end, and will work with Amanda Hill and Mark and JD to cover more information.

VII. Vote on Career Fair in the spring of 20 – Question was asked about cost of a booth. Answer is that they are $200. Most felt that this was a good idea and those that are interested will have a continued conversation with Megan.

VIII. WorkForce Development webpage – Megan discussed the new changes to the WorkForce Development webpage and the ease of use.

IX. New Programs – WSU Tech worked/contracted with Ennovar recommending the following new programs to be rolled out soon. Recommendation was put out to vote by raising of hands to indicate affirmative. All passed unanimously.

a. Cloud Development and Administration – leveraging LinkedIn Learning and Microsoft
b. Web Development
c. Networking (discussed) – There is some flexibility here. This will feed into WSU's applied computing program as well as local school districts (HS).

X. Dress code:

a. Should we have one for students? Most felt that while there should be some discussion and basic dress code requirements in the classroom and continued discussion concerning the workplace at some point in every class. Some expressed concern that they didn't want students to feel like they "had' to come to every class with a very strict/rigid dress code, given that they may come from another job or from High School to come to class at WSU Tech, and not be "in regulation", as well as the fact that some couldn't afford khaki pants and collared shirt. Still it was suggested to have discussions, maybe have a day and/or week where they demonstrate the dress code of a particular company. There were many variances to the dress code required at each of the industry partners represented, so most felt it was more important for the students entering a workforce, to ASK and then emulate the dress code that was required for a particular employer. Still, coming to class in clean clothing, no ripped jeans and closed toe shoes, would be the basic recommendation.

From:	Joseph Varrientos
To:	Faculty Senate
Cc:	Scott Lucas PhD; Matt Vogt; Russ Henry; Trish Schmidt; Pam Doyle; James Austin
Subject:	Re: WSU Tech Faculty Senate Meeting Feb 19, 2020
Date:	Thursday, February 20, 2020 2:03:02 PM
Attachments:	image001.png OutlookEmoji-1522955802664_PastedImage0228e7de-7c83-4f61-a5d3-b766369136c0.png

Hi Faculty Senate, Trish, Matt, Russ, Pam and Scott!

The Faculty Senate has voted unanimously to accept both the Hospitality and Cloud Computing Programs for including into our existing academic offering and for submission to the KBOR TEA for approval.

We understand there is more to do on each program before submission to KBOR, but from our review it appears the required due diligence has been performed for both programs.

Again, we extend an invitation to Matt and Russ to meet with us in future meetings as these programs develop so that we, as faculty representatives, may remain informed.

Technical difficulties experienced yesterday are being addressed. James is on it. Thanks, James!!

Cheers, and thanks again to all! Joe

Joe Varrientos, Ph.D.
Lead Faculty, Electronics Technology
National Center for Aviation Training | 4004 N. Webb Road | Wichita, KS 67226
jvarrientos@wsutech.edu | Tel 316.677.1875 | www.WSUTECH.edu

From: Phillip Taylor
Sent: Thursday, February 20, 2020 1:26 PM
To: Joseph Varrientos; Faculty Senate
Cc: Pam Doyle; Scott Lucas PhD; Matt Vogt; Russ Henry; Trish Schmidt
Subject: RE: WSU Tech Faculty Senate Meeting Feb 19, 2020

Faculty Senate vote,
Hospitality Program – Vote Yes
Cloud Computing Program – Vote Yes
Thanks,

Phillip Taylor | WSU Tech
Faculty, Aviation Maintenance | ptaylor@wsutech.edu
National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
Tel 316.677.1958 | www.WSUTECH.edu

Facebook | Instagram | LinkedIn

From: Joseph Varrientos
Sent: Wednesday, February 19, 2020 4:56 PM
To: Faculty Senate
Cc: Pam Doyle ; Scott Lucas PhD ; Matt Vogt ; Russ Henry ; Trish Schmidt
Subject: Re: WSU Tech Faculty Senate Meeting Feb 19, 2020

Hi Faculty Senate,

Thank you for your participation today, and thank you to Mark, J.D., Russ, and Matt who were on the call to discuss and present their individual programs.

We ran into technical difficulty in S-102 where 3 of our 6 senators were located. They did not hear the conversation about the Cloud Computing program, and the rest of us did not hear their conversation about the Hospitality program.

Since S-102 were not in contact, we had no way to record our votes or to ask questions about both programs during the time alloted.

So, I am asking for those Faculty Senators that were on the call to send an email to all Faculty Senate. In that email, please vote yes or no on the resolution to approve the Hospitality program and the Cloud Computing Program. Please review the material that you have been sent and if you have any questions, please get these questions by REPLY ALL to either Matt (Hospitality) or to Russ (Cloud Computing) by Noon tomorrow, February 20th. They will reply to all with their responses.

Please have your vote recorded by Reply All NO LATER THAN 2 PM tomorrow afternoon, February 20th. Trish and her team will need the result of this voting before the Board of Directors meeting tomorrow that starts at 3:00 p.m.

Cheers, and my very sincere thanks to you for serving, for actively participating, and for all that you do! Joe

Joe Varrientos, Ph.D.
Lead Faculty, Electronics Technology
National Center for Aviation Training | 4004 N. Webb Road | Wichita, KS 67226
jvarrientos@wsutech.edu | Tel 316.677.1875 | www.WSUTECH.edu

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From: Joseph Varrientos
Sent: Wednesday, February 19, 2020 2:45 PM
To: Faculty Senate
Cc: Pam Doyle; Scott Lucas PhD; Matt Vogt; Russ Henry

Subject: WSU Tech Faculty Senate Meeting Feb 19, 2020

Hello Faculty Senate!

Please find attached our agenda for our meeting in 15 minutes.

The Zoom information is in the header. I will start the meeting at 2:55 p.m.

Cheers, and thanks again! Joe

Joe Varrientos, Ph.D.
Lead Faculty, Electronics Technology
National Center for Aviation Training | 4004 N. Webb Road | Wichita, KS 67226
jvarrientos@wsutech.edu | Tel 316.677.1875 | www.WSUTECH.edu

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WSU Tech Industry Advisory Board
Minutes
Thursday, February 20, 2020

	WSU Tech Industry Advisory Board of Trustees, met in regular session at **NCAT** 4004 N Webb Rd., Wichita Kansas, at 3:10 p.m., on February 20, 2020. **Present:** Meredith Olson, Doug Stark, Maggie Topping, Cindy Claycomb, Pete Meiztner, Suzanne Scott **Absent**: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler
Public Communications	All proper notifications have been sent out and we have no speakers signed up to speak under Public Communications.
Make A Difference Student Award	Katherine Meadows, Vet Tech Student Interested in Zoo medicine She was in the Airforce for 7 years and decided to stay in Kansas
New Board Member	Welcome Maggie Topping, Sr. Vice President of Human Resources, Textron Aviation
National CTE Signing Day	Introduced Roger Tadajewski, NC3 Carolyn Lee, The Manufacturing Institute, NAM and Chelle Travis, SkillsUSA. They gave update on the day. Nick Pinchuk, Chairman and CEO of Snap-On Inc. was the guest speaker. We had 200 high school students sign and approximately 500 people attend this event.
Consent agenda	a. **BOT Meeting Minutes** Recommendation action: Approval of the WSU Tech Meeting Minutes for December 19, 2019, were provided to the Board electronically. b. **Board review & ratification of employment offers –** **Russ Henry, Associate Dean, IT programs** Employment History: Textron Aviation, Technical Specialist, 2 years LSI Corporation, Senior Manager, 29 years Education: BS in Computer Science, University of Kansas **David Foster, Faculty, Auto Service** Employment History: First Student, Driver, 3 yrs Newspring, Production Assistant, 2.5 yrs Berry Material Handling, Field Service Technician, 2 mos Carmax & Don Hattan Chevrolet, Sales Rep, 3.6 yrs Education: AAS Automotive Service Technology, WSU Tech **Jon Pine, Faculty, Aviation Maint. Technologies** Employment History: Snap-On Industrial, Education Acct Manager, 8 yrs WATC, Lead Faculty, Composites/Aerostructures, Aviation Maint Instructor, 8 yrs Cowley College/Aviation Tech Center, Aviation Maint Technology Instructor/Automotive Instructor, 4 yrs Yingling Aviation, Inc., Propeller Shop Manager, Aviation Maint Technician, 4 yrs Education: AAS Aviation Maintenance, Cowley County Community College **Austyn Burns, Faculty, Surgery Technologies** Employment History: WSU Tech, Adjunct Faculty, Surgery Technology, 4 mos Surgicare of Wichita, Surgical Technologist, 1.5 yrs Wesley Medical Center, Surgical Technologist Extern, 4 mos Education:

	AAS, Business Administration, Hutchinson Community College Certificate, Surgical Technology, WATC **Brandie Thompson, Lead Faculty, Interior Design** Employment History: Adjunct Faculty, Interior Design, WSU Tech, 4 yrs Personal Kitchen & Bath Solutions, Designer, 1.6 yrs Education: AAS, Interior Design, WSU Tech **Lauren Compton-Clause, Administrative Assistant, HR/Event Demonstrator, Future Maker Lab** Employment History: PT Staff, HR/Finance Administrative Asst, WSU Tech, 1 yr Sharp's Repair Company, Chief Marketing Officer/Co-owner, 3 yrs Baby Bloom Photograpy, Photographer, 3 yrs Education: BA, English/Asian Studies, University of Maryland, University College Asia (Japan) **Tanecia Cogdell. Coordinator, Career Development** Employment History: WSU Tech, P/T Workforce Trainer, 4 mos Andover Police Department, Police Officer, 1.3 yrs 18th Judicial District, Court Services Officer, 1 yr State Parole, Parole Officer, 1.3 yrs Education: MS, Criminal Justice/Public Administration, Liberty University BS, Criminal Justice/Youth Corrections, Liberty University AAS, Police Science, Butler Community College **Lois Porter, Analyst/Reports Developer, Institutional Effectiveness** Employment History: Friends University, Data Analyst/Report Writer, 6.5 yrs ITT Technical Institute, Registrar, 2.3 yrs WATC/WSU/Butler/Cowley – Adjunct Instructor, 11 yrs Education: MS, Adult Education, Kansas State University BBA, Business Adm & Computer Programming, Wichita State University **Ami Alvidrez, Academic Advisor** Employment History: Newman University, Advising & Recruiting, 15 yrs Education: BA, Spanish, Wichita State University **Krista Herrera, Business Office Representative** Employment History: Goddard Middle School, Registrar, 10 mos WSU Tech, Business Office Representative, 5 yrs Education: AAS, Hill College Motion to accept the consent agenda was considered and discussed and thereupon on motion of Board member Pete Meitzner seconded by Cindy Claycomb, the above consent agenda was approved.

	Motion carried 6-0: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler noted as absent.
Reports of Officers	**Financials** – Marlo Dolezal Reviewed financial dashboard. Overall pacing above budget Use of Funds – FY20 Budget vs Forecast Operating Cash reserves - our target is 3 months operating expenses. There is $4.4 M. We have three buckets - Maintenance Reserves $1.7M, Capital Reserve, $2.4M and Operating Reserve $4.4M $5.5M forecasted ending balance of the Operating Cash Reserve Motion to accept the Financials were considered and discussed and thereupon on motion of Board member Doug Stark seconded by Pete Meitzner, the January financials were approved. Motion carried 6-0: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler noted as absent FY2021 Budget Update – Proposal of Tuition and Fees Changes Budget Unknowns -Aviation industry impacts on enrollment and scholarship needs -Excel in CTE Funding (formerly SB155) - Anticipate growth in enrollment - Variability of reimbursement rate back to High Schools -Building in estimated cut between 10-15% -Benefits updates impacting fringe rates -Perkins V -New regulations could limit use -Pending final guidance and application templates from KBOR -Post Secondary Aid Funding - proposed to remain flat to FY20 funding levels Credit Hours Historical Trend Tuition & Fees Trends & Proposal – WSU Tech proposes to leave tuition and fees flat for FY21 Decrease in Adult Credit Hours offset by increase in High School Credit Hours. Enrollment related revenues would remain flat between FY20 budget and FY21 budget Enrollment related revenue shifts to more heavily state funded NCAT Funds should be safe in the Governor's budget Finance Committee met and approved the Proposal of Tuition and Fee Changes Motion to accept the Financials were considered and discussed and thereupon on motion of Board member Pete Meitzner seconded by Doug Stark, the FY2021 Proposal of Tuition and Fees Changes were approved. Motion carried 6-0: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler noted as absent.
New Programs	**Hospitality Program (HEM)** A multi-disciplinary degree intended to provide students the knowledge and practical skills for success in the Hospitality Industry Students will complete a core set of courses designed to provide a solid foundation of industry skills Students selects their area of focus in one of three distinct tracks: Food and Beverage Management, Events Management, and Lodging management. 21 credits in core industry courses 17 credits in General Education 27 technical credits in each of the three tracks Total AAS 65 Credits (TC 48 – 50 credits)

	Start Fall at WSU South Letter of Support for this program Job industry looks good and there seems to be a need Motion to approve the above program was considered and discussed and thereupon on motion of Board member Cindy Claycomb seconded by Suzanne Scott, the above Hospitality Program was approved. Motion carried 6-0: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler noted as absent. **Cloud Computing/Developer (INF)** First of three tracks in Cloud Computing Robust curriculum designed to provide students with integral cloud computing skills Courses created in collaboration with subject matter expert (SME) from Ennovar Curriculum is innovative and unique in its design and content Instructional content utilizes resources available through LinkedIn Learning Potential partnership with Koch Business Solutions, High Touch and other corporate partners 48 credits in core industry courses Experiential Learning opportunity for all students 17 credits in General Education AAS – 65 credits TC-47 Credits Motion to approve the above program was considered and discussed and thereupon on motion of Board member Cindy Claycomb seconded by Doug Stark, the above Cloud Computing/Developer (INF) was approved. Motion carried 6-0: John O'Leary, Matt Hesse, John Pilla, Lyndon Wells and Patty Koehler noted as absent.
Student Services	**Spring 2020 Enrollment Census R**eport – Justin Pfeifer Overall Headcount is up 1.2% Overall Credit Hours are up 1.8% Reviewed Strengths/Challenges Upskill/Reskill - 153 total applications - 81 students enrolled – 843 credit hours - Total Tuition $291,864 (before Workforce Aid and Pell) Goal is to keep laid off workers in Kansas
President's Report	WSU Tech is apart of the Air Capital task force. This is a small group This will become a great community story after all of this is over Spirit Aerosystems sent some employees to WSU Tech to help. CBS Evening news Was here working on a story about what happen regarding 737 Max. Roundtable with 5-6 people Not sure when it will air. They were at the Job Fair CNN - also working on a story – more to come American Industries – Chichuahua, Mexico Group from WSU went to visit in December They met with Textron Possible trip in April More to come

	Congratulations to Judy Mount for being WBJ HR Honoree Culinary and Hospitality update Met with Sudah, hopefully have lease in April $12.00/SF Equipment will be donated to Foundation Final meeting with Butler. We would rather do these programs ourselves. Dr. Golden is in agreement. Sudah will provide an executive chef for 2-3 years WSU Tech has no obligation to Butler Community College
Adjournment	At approximately 4:45 p.m., the meeting adjourned

Approved: Signature Dated

KBOR Excel in CTE Fee Summary for Proposed Academic Programs

CA-1b Form (2020)

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.

Program Title:	Cloud Computing
Program CIP Code:	11.0801

Please list all fees associated with this program:
*Only list costs the institution **is** charging students.*

Program Fee	***Short Description***	***Amount***
	No fees charged	

Please list all courses within the program and any fees associated to those courses:
*Only list costs the institution **is** charging students. Do not duplicate expenses.*

Course Fee	***Short Description***	***Amount***
	The amounts listed include student fees which are 41 per credit hour plus Material Fees	
INF 113	Introduction to Programming	$0.00
INF 118	loud Fundamentals	$0.00
INF 121	Object-Oriented Programming (JavaScript)	$0.00
INF 122	Introduction to Web Development	$0.00
INF 126	Test Driven Development (JavaScript)	$0.00
INF 131	Continuous Integration Continuous Deployment - CICD	$0.00
INF 143	Web Application Development I (HTML/CSS)	$0.00
INF 152	Web Application Development II (REACT)	$0.00
INF 158	Multi-Cloud Development Services (AAS Degree only)	$0.00
INF 166	Cloud Application Development I (REACT on AWS)	$0.00
INF 170	Cloud Application Development II (Serverless REACT on AWS) (AAS Degree Onl	$0.00
INF 174	Information Technology Capstone	$0.00
INF 175	Information Technology Internship	$0.00
INF -	Electives -	$0.00
CED 115	Computer Applications	$123.00
ENG 101	Composition I	$123.00
MTH 101	Intermediate Algebra	$123.00
PDV 105	Blueprint for Personal Success	$112.00
	Social Science Electives (see list provided Appendix F) no course fees	$123.00
	Communication Elective (see list provided in Appendix F) No course fees	$123.00
Total		$727.00

Please list items the student will need to purchase on their own for this program:
*Institution **is not** charging students these costs, rather students are expected to have these items for the program.*

Item	***Short Description***	***Estimated Amount***
	No additional costes are associated with the program	

Carl D. Perkins Funding
Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2020)

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 (2020)

Name of Institution	Wichita State University Campus of Applied Sciences and Technology
Name, title, phone, and email of person submitting the Perkins Eligibility application *(contact person for the approval process)*	Scott Lucas Vice President Career and Technical Education 316 677 9535 slucas@wsutech.edu
Name, title, phone, and email of the Perkins Coordinator	Lisa Meyers 316 677 1970 Lmyers1@wsutech.edu
Program Name	Cloud Computing
Program CIP Code	11.0801
Educational award levels and credit hours for the proposed request	AAS – 65 Credits TC – 47 Credits
Percentage of tiered credit hours for the educational level of this request	77%
Number of concentrators for the educational level	20
Does the program meet program alignment?	Not Applicable
Justification for conditional approval: *(this section must reference information found within the Local Needs Assessment)*	According to the Kansas DOL data for 2016 to 2026 long-term employment projections for SOC 15-1134 in south central Kansas, there are 233 positions currently employed with a projection of 255 by 2026. This is a 9.4% growth. Total openings over the 10-year period is 192 with 19 annual openings. Annual wage is $52,190 and the median wage of $47,990. An Associate degree is listed as the typical education needed for entry. State-wide the 2016 number was 1,239 employed with 1,415 projected, a 14.2% increase. Total openings over the 10-year period is 1,096. Average wage is $40,584 and median wage of $53,488.

Signature of College Official_Scott Lucas VP CTE Date4.6.2020

Signature of KBOR Official_____ Date_____