Advisory Committee Fall 2020 Minutes
Machining
11:30am – October 28, 2020 – Vernon College, Skills Training Center, Multipurpose Room 400

Members present:
Ian Anderson, Kalco Machine and Manufacturing
Scotty Francisco, Wichita Clutch
David Kulbeth, Kalco Machine and Manufacturing
Eric Michaeli, Wichita Clutch

Vernon College staff/faculty:
Michelle Downes
Shana Drury
Mark Holcomb
Christopher Rivard
Holly Scheller

Members not present:
Jack Brazeau
Mike Kwas
Mark McMillan

Chris Rivard welcomed the committee and began introductions.

Shana Drury reviewed the purpose of the advisory committee and opened the floor for nominations or volunteers for a vice chair and a recorder.

Chair: David Kulbeth
Vice-chair: Scotty Francisco
Recorder: Eric Michaeli

Old Business/Continuing Business .....David Kulbeth

None

Seeing no old business David Kulbeth began the meeting with new business.

New Business .....David Kulbeth

- **Review program outcomes, assessment methods/results, and workplace competency**

David Kulbeth asked the faculty member, Chris Rivard to briefly review the program outcomes with the committee.

Chris Rivard reviewed the program outcomes listed below.

Program outcomes

1. Blueprint Reading – Students must be able to read and interpret drawings that are given on multiple parts of an assembly. Part material selection, orientation, and feature tolerances are the most critical.
2. Measurement – Students must be able to use applicable measuring processes to verify the size and location of part features. The ability to measure is not limited to precision tools but also micrometer hand wheels that provide precise movements on machine tools such as mills and lathes.
3. Tooling and Fixtures – Students must be able to know how to hold and manipulate parts to be machined. When conventional holding methods fail, students must be able to create

suitable fixtures that hold parts in the correct orientation so they can be held in place throughout the machining process.

4. Programming and Editing – Students must have a good working knowledge of programming using common G&M codes and syntax. Students must be able to isolate and correct programming issues.
5. Setup and Operation – Students must be knowledgeable about how a mill and lathe works (both CNC and Conventional). Students must understand how the machine uses tools and how the machine applies a part program to its coordinate envelope. They must be able to use the machines registry for setups and tooling compensation.

❖ **Approve program outcomes**

David Kulbeth asked the committee for a motion to approve the program outcomes as presented.
Eric Michaeli made a motion to approve the program outcomes as presented.
Ian Anderson seconded the motion.

The motion passed and the committee will approve the program outcomes as presented.

❖ **Approve assessment methods and results**

David Kulbeth asked the faculty member, Chris Rivard, to explain in more detail the assessment methods and results.

Chris Rivard reviewed the following information.

- Through classroom activities, along with quizzes and tests, students are assessed on their basic understanding of the material and concepts related to machining.
- Labs are used to assess the students on the ability to use the knowledge in scenarios that stimulate a process in which the knowledge is used.
- Projects, such as the capstone, assess the ability to combine knowledge for use in a work setting.

David Kulbeth asked the committee for a motion to approve the assessment methods as presented.
Eric Michaeli made a motion to approve the assessment methods as presented.
Ian Anderson seconded the motion.

The motion passed and the committee will approve the assessment methods as presented.

❖ **Approval of workplace competency (course or exam)**

David Kulbeth asked the faculty member, Chris Rivard, to tell the committee about the competency and how the students have performed on the competency.

Chris Rivard reviewed the information in the table below.

Program Outcome	Number of students who took course or licensure exam	Results per student	Use of results
Blueprint Reading	2	50% passed 50% incomplete	Change of text resources
Measurement	2	50% passed 50% incomplete	Need for basic math skills
Tooling and Fixtures	2	50% passed 50% incomplete	More fixturing training in basic courses
Programming and Editing	2	50% passed 50% incomplete	Increase CAM training in toolpath creation
Setup and Operation	2	50% passed 50% incomplete	Implement class focusing on this outcome

Verification of workplace competencies:

MCHN 2441 Advanced Machining I

Eric Michaeli asked if Chris could describe the capstone project.
Chris Rivard stated that he would have an assembly and the student would have to go through the whole process from start to finish. From blueprint reading to, CNC mill, CNC lathe, manual mill and manual lather. The grading is based on a rubric of how much help they needed with the project. Also, how he would recommend them to an employer.
Eric Michaeli asked when the capstone course was initiated.
Mark Holcomb stated probably 6 years it was instituted by the previous instructor. Mark also stated that all the programs as Skills Training Center have hands on capstone projects.
Scotty Francisco asked what kind of tolerancing are you asking them to hold.
Chris Rivard stated for the most part the average is plus or minus 5. The small machines help the students do smaller projects and take up smaller space in the labs.
David Kulbeth asked if the smaller machines are capable of holding the tolerances.
Chris Rivard stated yes they do and they have very little play in the hand wheels.
Eric Michaeli asked what kind of assembly are the students putting together.
Chris Rivard stated they are making handles for hammers and knife stocks, not the blades. They have also worked on clock projects making front face, back face, hands and all the pieces to make the clock work properly.
Eric Michaeli thought the clock project was very interesting and helped bring the math aspects into the course.

David Kulbeth asked the committee for a motion to approve the workplace competency as presented.
Eric Michaeli made a motion to approve the workplace competency as presented.
Scotty Francisco seconded the motion.

The motion passed and the committee will approve he workplace competency as presented.

- **Program Specific Accreditation Information and Requirements (if applicable)**

  Not Applicable

- **Review program curriculum/courses/degree plans**

David Kulbeth asked the faculty member to please discuss with the committee the program's curriculum and degree plans for 2021-2022

Shana Drury reviewed the addition of the LEAD 1100 course.

Machining, Level 1 Certificate

CIP 48.0501
MACHINING - CNC
Instructional Location - Skills Training Center
CERTIFICATE OF COMPLETION (Probable Completion Time – 9 months or 32 weeks)

Major Requirements (29 SH)

Fall I Block

LEAD 1100	Workforce Development with Critical Thinking	1
MCHN 1302	Print Reading for Machining Trades	3
TECM 1303	Technical Calculations	3

Fall II Block

MCHN 1320	Precision Tools and Measurement	3
MCHN 1438	Basic Machine Shop I	4

Spring I Block

MCHN 1426	Introduction to Computer-Aided Manufacturing (CAM)	4
MCHN 2434	Operation Of CNC Machining Centers	4

Spring II Block

MCHN 2438	Advanced Computer-Aided Manufacturing (CAM)	4

MCHN 2441	Advanced Machining I	4
	Total Credit Hours:	**30**

Course descriptions and learning outcomes provided as a separate document.

❖ **Approve program revisions (if applicable)**

David Kulbeth asked the committee for a motion to approve the program revisions as presented.
Made a motion to approve the program revisions as presented.
Seconded the motion

The motion passed and the committee will approve the program revisions as presented.

❖ **Approve SCANS, General Education, Program Outcomes, and Institutional Outcome Matrices.**

David Kulbeth asked the faculty member to please discuss the matrices listed below.

Shana Drury reviewed the matrices listed below.

SCANS Matrix: The SCANS (Secretary's Commission on Achieving Necessary Skills) Matrix represents the 8 Federal requirements that must be taught. The matrix shows how we are mapping them back to each of the courses in the program.

Program: Machining									
Award: Machining -CNC Certificate of Completion								**Credential: Certificate of Completion**	
Cip: 48.0501									
LIST OF ALL COURSES REQUIRED AND IDENTIFIED COMPETENCIES									
SCANS COMPETENCIES								**Course Number**	**Course Title**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**		
X	X	X	X	X	X	X		MCHN 1320	Precision Tools and Measurement
X		X		X		X		TECM 1303	Technical Calculations
X		X	X	X	X	X		MCHN 1438	Basic Machine Shop I
X	X	X		X	X	X	X	MCHN 1426	Introduction to Computer-Aided Manufacturing (CAM)
X	X	X		X	X	X		MCHN 1302	Print Reading for Machining Trades
X	X	X	X	X	X	X	X	MCHN 2434	Operation of CNC Machining Centers
X	X	X		X	X	X	X	MCHN 2441	Advanced Machining
X	X	X	X	X	X	X	X	MCHN 2438	Advanced Computer-Aided Manufacturing (CAM)
								PROGRAM COMPETENCIES (as determined by advisory committee)	

						8. BASIC USE OF COMPUTERS
					7. WORKPLACE COMPETENCIES	
				6. PERSONAL QUALITIES		
			5. THINKING SKILLS			
		4. SPEAKING AND LISTENING				
	3. ARITHMETIC OR MATHEMATICS					
2. WRITING						
1. READING						

General Education Matrix: The General Education Matrix is state mandated. You will see the 6 requirements that the college is tasked with teaching and how they map back to the courses.

Program: Machining							**Credential: Certificate of Completion**
Award: Machining -CNC Certificate of Completion							
Cip: 48.0501							
LIST OF ALL COURSES REQUIRED AND IDENTIFIED CORE OBJECTIVES							
GENERAL EDUCATION CORE OBJECTIVES						**Course Number**	**Course Title**
1	**2**	**3**	**4**	**5**	**6**		
X		X	X		X	MCHN 1320	Precision Tools and Measurement
X		X			X	TECM 1303	Technical Calculations
X	X	X	X	X	X	MCHN 1438	Basic Machine Shop I
X	X	X	X		X	MCHN 1426	Introduction to Computer-Aided Manufacturing (CAM)
X	X	X		X	X	MCHN 1302	Print Reading for Machining Trades
X		X	X	X	X	MCHN 2434	Operation of CNC Machining Centers
X	X	X	X	X	X	MCHN 2441	Advanced Machining
X	X	X	X	X	X	MCHN 2438	Advanced Computer-Aided Manufacturing (CAM)
					6. Personal Responsibility - to include the ability to connect choices, actions, and consequences to ethical decision-making.		
				5. Social Responsibility - to include intercultural competence, civic knowledge, and the ability to engage effectively in regional, national, and global communities.			

					4. Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
					3. Empirical and Quantitative Skills - to include applications of scientific and mathematical concepts
					2. Communication Skills - to include effective written, oral, and visual communication
					1. Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

Program Outcomes Matrix: The Outcomes Matrix represents the Vernon College mandated requirements. They are the Program outcomes just approved and how they map back to the courses.

Program: Machining						**Credential: Certificate of Completion**
Award: Machining -CNC Certificate of Completion						
Cip: 48.0501						
LIST OF ALL COURSES REQUIRED AND OUTCOMES						
OUTCOMES					**Course Number**	**Course Title**
1	**2**	**3**	**4**	**5**		
X	X				MCHN 1320	Precision Tools and Measurement
X	X		X		TECM 1303	Technical Calculations
X	X	X		X	MCHN 1438	Basic Machine Shop I
X	X	X	X	X	MCHN 1426	Introduction to Computer-Aided Manufacturing (CAM)
X	X				MCHN 1302	Print Reading for Machining Trades
X	X	X	X	X	MCHN 2434	Operation of CNC Machining Centers
X	X	X	X	X	MCHN 2441	Advanced Machining
X	X	X	X	X	MCHN 2438	Advanced Computer-Aided Manufacturing (CAM)
					PROGRAM OUTCOMES (as determined by advisory committee)	
					5. Setup and Operation - Correctly setup and operate conventional and CNC machinery to accomplish a variety tasks.	
					4. Programming and Editing - Create and/or edit computer numerical control (CNC) programs using standard G&M code.	

		3. Tooling and Fixtures - Select and assemble tooling and fixtures for various applications common in the machining industry.
	2. Measurement - Demonstrate proper selection and utilization of precision measurement tools according to application.	
1. Blueprint reading - Accurately read and interpret blueprints commonly found in the machining industry, including a fundamental knowledge and application of the rules and symbols of Geometric Dimensioning and Tolerancing.		

Institutional Outcomes Matrix: The Institutional Outcomes Matrix represents the Vernon College mandated requirements. This matrix represents how the program outcomes map back to the institutional outcomes/general education outcomes.

Program: Machining					**Credential: Certificate of Completion**
Award: Machining -CNC Certificate of Completion					
Cip: 48.0501					
LIST OF ALL COURSES REQUIRED AND OUTCOMES					
OUTCOMES					**General Education Outcomes**
1	**2**	**3**	**4**	**5**	
X	X	X	X	X	Critical Thinking Skills
X	X	X	X	X	Communication Skills
X	X	X	X	X	Empirical and Quantitative Skills
X	X	X	X	X	Teamwork
X	X	X	X	X	Social Responsibility
X	X	X	X	X	Personal Responsibility
				5. Setup and Operation - Correctly setup and operate conventional and CNC machinery to accomplish a variety tasks.	
			4. Programming and Editing - Create and/or edit computer numerical control (CNC) programs using standard G&M code.		
		3. Tooling and Fixtures - Select and assemble tooling and fixtures for various applications common in the machining industry.			
	2. Measurement - Demonstrate proper selection and utilization of precision measurement tools according to application.				
1. Blueprint reading					

David Kulbeth opened the floor for discussion, hearing none David asked the committee for a motion to approve the matrices as presented.
Eric Michaeli made a motion to approve the matrices as presented
Scotty Francisco seconded the motion.

The motion passed and the committee approved the matrices as presented.

Program statistics: Graduates (from previous year/semester), current majors, current enrollment

- Program Statistics:
  - Graduates 2019-2020: 1 Graduate
  - Enrollment Summer 2020: 0
  - Majors Fall 2020-2021: 5
  - Enrollment Fall 2020: 8

❖ **Local Demand**

David Kulbeth stated that it may be a little while before they are hiring other workers. David stated it is a good vocation but currently they just are not open. Kalco will probably be hiring a lot of people in the second or third quarter of 2022.
Scotty Francisco the majority of the team is getting days off. However, Scotty did state once that need opens back up they are going to need trained employees. There is a lot of need once the jobs open up.

❖ **Evaluation of facilities, equipment, and technology. Recommendation for acquisition of new equipment and technology**

David Kulbeth asked the committee if they had toured the facility lately. David had a chance prior to the meeting and stated that if the committee had not been back there that they should see the equipment in the labs.

Additional CNC Mill and CNC Lathe with Turret
CNC Pen Plotters/Routers for Basic G and M code Practice and Recruitment Opportunities

❖ **External learning experiences, employment, and placement opportunities**

"Vernon College offers a job board on the website. Businesses can contact Chelsey Henry, Coordinator of Career Services, chenry@vernoncollege.edu, to add jobs or you can post yourself. VC also subscribes to a service called GradCast. Within this program, over 600,000 business and industry contacts are available to the graduates to send up to 100 free resumes within a set zip code. If you would like to have your business as part of that database, please contact Judy Ditmore, jditmore@vernoncollege.edu."

Placement Rate of Program Completers by Reporting Year [1]				
	2015-2016	2016-2017	2017-2018	3-Year Average

Program	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%
48050000-Precision Metal Working	2	5	40%	2	10	20%	3	7	42.85%	7	22	31.81%

David Kulbeth asked the committee if there was any further discussion, hearing none David moved forward.

- **Professional development of faculty and recommendations**

David Kulbeth asked the faculty member, Christopher Rivard, to review the professional development opportunities the faculty has attended or will attend.
Chris Rivard reviewed the following information and asked the committee for recommendations.

Vernon College Leadership Academy and The Circuit through the Wichita Falls Chamber of Commerce to enhance the instructor's leadership capabilities.

NYC CNC Fusion 360 and CNC training to increase ability to use Fusion 360 software to create programs and implement advanced machining such as 5th axis machining.

David Kulbeth stated that he or Ian Anderson could answer some fusion questions if needed.
Scotty Francisco stated that he did not know of any current trainings.

- **Promotion and publicity (recruiting) about the program to the community and to business and industry**

David Kulbeth asked the committee to review the promotion and publicity opportunities.

Mark Holcomb reviewed the following information with the committee.

Negotiations with instructors and staff at Wichita Falls Career Training Center to promote Machining Program after High School Graduation or as Dual Credit

Speaking with students in other programs to promote pursuing a Machining Certificate.

Shana Drury stated that we were active on Facebook, the Machining program has a recruiting video that has been posted on the website. Shana stated that there is also a seven series set of posters for all Career and Technical Education courses that are being delivered to all 36 area high schools.

- **Serving students from special populations:**

David Kulbeth asked the committee to note the federal definition of special populations below and asked the faculty member to discuss services below for the students who qualify.
Mark Holcomb reviewed the following information.

1. Special populations new definitions:
    a. Individuals with disabilities;

b. Individuals from economically disadvantaged families, including low-income youth and adults;
c. Individuals preparing for non-traditional fields; 4 male and 1 female
d. Single parents, including single pregnant women;
e. Out-of-workforce individuals;
f. English learners;
g. Homeless individuals described in section 725 of the McKinney-Vento Homeless Assistance Act (42 U.S.C. 11434a);
h. Youth who are in, or have aged out of, the foster care system; and
i. Youth with a parent who—
    i. is a member of the armed forces (as such term is defined in section 101(a)(4) of title 10, United States Code);
    ii. is on active duty (as such term is defined in section 101(d)(1) of such title).

Vernon College is an open enrollment college. The Proactive Assistance for Student Services (PASS) department offers many services for documented disabilities such as but not limited to quiet testing, longer testing times, interpreters, and special equipment.

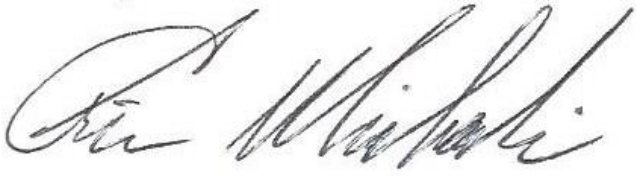
Vernon College has a program titled "New Beginnings" for students who qualify to receive transportation, childcare, and/or textbook loans. Perkins funding is also offering assistance to break down barriers such as uniform, supply, equipment costs.

Peer to Peer mentoring, tutoring (online and in person), resume building, student success series, and counseling are just a few of the other options/services available to students.

David Kulbeth asked for any further discussion.

Shana Drury thanked the committee for their time and attendance.

David Kulbeth adjourned the meeting at 1:46pm

Recorder Signature – Eric Michaeli	Date	Next Meeting: Fall 2021
	11-17-20	