

**Advisory Committee Fall 2021 Minutes**

**Machining**

9:00am – November 11, 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  
Brandon Martin, Sharp Iron Group

**Vernon College staff/faculty:**

Chris Rivard  
Debbie Richard  
Tracy Catlin  
Holly Scheller  
Colleen Moore

**Members not present:**

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: Scotty Francisco  
Vice-chair: David Kulbeth  
Recorder: Ian Anderson

Old Business/Continuing Business.....Scotty Francisco

None

*Seeing no old business Scotty Francisco began the meeting with new business.*

New Business .....Scotty Francisco

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

*Scotty Francisco 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**

*Scotty Francisco 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.*

*David Kulbeth seconded the motion.*

*The motion passed and the committee approved the program outcomes as presented.*

❖ **Approve assessment methods and results**

*Scotty Francisco 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.

*Scotty Francisco asked the committee for a motion to approve the assessment methods as presented.*

*Ian Anderson made a motion to approve the assessment methods as presented.*

*Eric Michaeli seconded the motion.*

*The motion passed and the committee approved the assessment methods as presented.*

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

*Scotty Francisco 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	6	83% passed 17% failed	Change of text resources
Measurement	6	83% passed 17% failed	Need for basic math skills
Tooling and Fixtures	6	100% passed	More fixturing training in basic courses
Programming and Editing	6	100% passed	Increase CAM training in toolpath creation
Setup and Operation	6	100% passed	Implement class focusing on this outcome

*Eric Michaeli ensued conversations about failed competencies.*

*Scotty Francisco 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.*

*Ian Anderson seconded the motion.*

*The motion passed and the committee approved the workplace competency as presented.*

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

Not Applicable

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

*Scotty Francisco asked the faculty member to please discuss with the committee the program's curriculum and degree plans for 2022-2023.*

# 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 (30 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
	<b>Total Credit Hours:</b>	<b>30</b>

Course descriptions and learning outcomes provided as a separate document.

NIMS credentials added to MCHN 2441

CNC Mill Operations and CNC Lathe Operations

<https://www.nims-skills.org/credentials/cnc-lathe-operations>

<https://www.nims-skills.org/credentials/cnc-mill-operations>

*Chris Rivard talked about the NIMS credential. It is an added fee to the course of \$125. This will allow the student to have unlimited attempts at the tests and up to 12 credentials.*

*Eric Michaeli liked this addition.*

*Scotty Francisco agreed.*

*Brandon asked about auditing. Is NIMS requiring these courses to be taught a certain way?*

*Chris said there are specific things that NIMS would like to be taught but as he see's it, he is already teaching these certain skills.*

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

*Scotty Francisco asked the committee for a motion to approve the program revisions as presented.*

*David Kulbeth made a motion to approve the program revisions as presented.*

*Eric Michaeli seconded the motion.*

*The motion passed and the committee approved the program revisions as presented.*

❖ **Approve 2021-2022 SCANS, General Education, Program Outcomes, and Institutional Outcome Matrices.**

*Scotty Francisco 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.**

<b>Program: Machining</b>								<b>Credential: Certificate of Completion</b>	
Award: Machining -CNC Certificate of Completion									
Cip: 48.0501									
<b>LIST OF ALL COURSES REQUIRED AND IDENTIFIED COMPETENCIES</b>									
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)
X	X		X	X	X	X		LEAD 1100	Workforce Development with Critical Thinking
								<b>PROGRAM COMPETENCIES (as determined by advisory committee)</b>	
								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.**

<b>Program: Machining</b>							<b>Credential: Certificate of Completion</b>		
<b>Award: Machining -CNC Certificate of Completion</b>									
<b>Cip: 48.0501</b>									
<b>LIST OF ALL COURSES REQUIRED AND IDENTIFIED CORE OBJECTIVES</b>									
<b>GENERAL EDUCATION CORE OBJECTIVES</b>						<b>Course Number</b>	<b>Course Title</b>		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>				
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)		
X	X		X	X	X	LEAD 1100	Workforce Development with Critical Thinking		
						<b>6. Personal Responsibility</b> - to include the ability to connect choices, actions, and consequences to ethical decision-making.			
						<b>5. Social Responsibility</b> - to include intercultural competence, civic knowledge, and the ability to engage effectively in regional, national, and global communities.			
						<b>4. Teamwork</b> - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal			
						<b>3. Empirical and Quantitative Skills</b> - to include applications of scientific and mathematical concepts			
						<b>2. Communication Skills</b> - to include effective written, oral, and visual communication			
						<b>1. Critical Thinking Skills</b> - 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.**

<b>Program: Machining</b>						<b>Credential: Certificate of Completion</b>
Award: Machining -CNC Certificate of Completion						
Cip: 48.0501						
<b>LIST OF ALL COURSES REQUIRED AND OUTCOMES</b>						
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)
					LEAD 1100	Workforce Development with Critical Thinking
<b>PROGRAM OUTCOMES (as determined by advisory committee)</b>						
<b>5. Setup and Operation</b> - Correctly setup and operate conventional and CNC machinery to accomplish a variety tasks.						
<b>4. Programming and Editing</b> - Create and/or edit computer numerical control (CNC) programs using standard G&M code.						
<b>3. Tooling and Fixtures</b> - Select and assemble tooling and fixtures for various applications common in the machining industry.						
<b>2. Measurement</b> - Demonstrate proper selection and utilization of precision measurement tools according to application.						
<b>1. Blueprint reading</b> - 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.**

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

*Scotty Francisco opened the floor for discussion. After discussion about the basic math course, Scotty asked the committee for a motion to approve the matrices as presented.  
Eric Michaeli made a motion to approve the matrices as presented  
Brandon Martin 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 2020-2021: 5
  - Enrollment Summer 2021: 0
  - Majors Fall 2021-2022:5
  - Enrollment Fall 2021: Average 4

❖ **Local Demand**

*Scotty Francisco has an immediate opening.*

*David Kullbeth with Kalco said there is at least two, if not three, openings right now in his department.*

*Brandon Martin said he has two openings and is always looking.*

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

*Scotty Francisco asked the committee if they had toured the facility lately and if not, they could see it after the meeting.*

CNC Plotters for simple setup processes and basic G & M Programming  
 Five FANUC simulators/controllers  
 5,300 Legos for 3-D interpretations

❖ **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](mailto: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 Dittmore, [jdittmore@vernoncollege.edu](mailto:jdittmore@vernoncollege.edu).”

Placement Rate of Program Completers by Reporting Year [1]												
Program	2016-2017			2017-2018			2018-2019			3-Year Average		
	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%	Plc	Cmp	%
48050000-Precision Metal Working	35	35	100%	20	21	95.24%	15	15	100%	70	71	98.59%

*Scotty Francisco asked the committee if there was any further discussion. Hearing none, Scotty moved forward.*

❖ **Professional development of faculty and recommendations**

*Scotty Francisco 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.*

FANUC America Corporation training

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

*Scotty Francisco asked the committee to review the promotion and publicity opportunities.*

Recruitment opportunity provided by CEC

Tours

CTE Navigator

Abilene WOW Youth Expo

Archer City Career Expo

❖ **Serving students from special populations:**

*Scotty Francisco asked the committee to note the federal definition of special populations below and asked the faculty member to discuss the services for the students who qualify.*

*Mark Holcomb reviewed the following information.*

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.

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; one female enrolled in one class to refresh machining skills. All students otherwise are male.
  - 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).

❖ Comprehensive Local Needs Assessment (Discussion led by Shana Drury):

-Labor Market Outlook

Occupation	TWC Target Occupation	Share of local jobs (%)	Quality Index (-5 to 5)	Demand Index (-5 to 5)	Quality and demand quadrant	National Median Wage (\$)	Local Median Wage (\$)	Projected national growth 2019-2029 (%)	Projected state-level growth 2018-2028 (%)
Machinists	Yes	0.4112 32752	-1.074269722	2.253259772	Low quality - High demand	21.36	21.05	4.328523862	23.78223496
Machine Fabricators	Yes	0.5499 7491	-1.586344821	0.17523977	Low quality - High demand	20.24	17.31	2.529084471	7.467057101

-Living Wage


Occupational Code	Occupation	Prevailing Hourly Wage	Prevailing Annual Wage
51-4041	Machinists	\$ 18.16	\$ 3 7,770.00
49-9071	Maintenance and Repair Workers, General	\$ 12.41	\$ 2 5,823.00
49-9043	Maintenance Workers, Machinery	\$ 19.53	\$ 4 0,621.00
49-9041	Industrial Mechanics	\$ 20.23	\$ 4 2,084.00

*Shana Drury went through a list of questions regarding the CLNA and access to Vernon College for all participants, not just Machining students. Discussion ensued about access, marketing, and new occupations/training needs.*

*Scotty Francisco asked for any further discussion.*

*Shana Drury thanked the committee for their time and attendance.*

*Scotty Francisco adjourned the meeting at 10:35am.*

Recorder Signature – Ian Anderson 	Date - 12/6/21	Next Meeting: Fall 2022
--	-------------------	-------------------------