



OFFICE OF THE PRESIDENT  
Dr. Joe Schaffer

To: LCCC Board of Trustees

From: Dr. Joe Schaffer, President

CC: Members, President's Cabinet  
Maryellen Tast, Dean, School of Outreach & Workforce Development  
Dave Curry, Manager, Advanced Manufacturing & Material Center  
Dr. Jill Koslosky, Dean, School of Business, Agriculture, & Technical Studies  
Caleb Perriton, Program Director, Trades & Technology

Date: 7 November, 2023

Subject: New Credit Diploma proposals, Machine Tool Technology and Computerized Numerically Controlled (CNC) Machinist Technology

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The Guided Pathways initiative at the College created a deep examination of our academic offerings. This examination has challenged us to ensure our programs adhere to the tenets of the Pathways framework in supporting our students' success. Specifically, the College has committed to offering academic programs that are clear and intentional in design to meet students' goals in employment or further education. It is with respect for these tenets that I seek approval for two new Credit Diplomas, Machine Tool Technology and Computer Numerical Control (CNC) Operator.

**PROGRAMS OVERVIEW:**

Both Credit Diploma proposals represent foundational for-credit instruction envisioned in the newly opened Advanced Manufacturing & Material Center (AMMC). This programming represents expansion of trades offerings in our School of Business, Agriculture, & Technical Studies (BATS). The proposed Credit Diplomas afford students a path to employment as well as continued study in the Associate of Applied Science degree should they choose to pursue this 2-year path. Instruction in the AMMC to date has focused on customized, employer-requested training. We intend to continue delivery of such offerings through collaborative scheduling and intentional association with the AMMC Advisory Committee members and industry partners. Both Credit Diplomas have undergone extensive review by industry partners in the development of the AMMC. Additionally, they have been approved for Board of Trustees' consideration through the processes of the Academic Standards Committee and the endorsement of the President's Cabinet.

**PROGRAM OUTCOMES, MACHINE TOOL TECHNOLOGY**

The Credit Diploma is intended to develop entry-level machinists. It will be delivered in a single semester including 16 credits of instruction. Upon successful completion of the Credit Diploma students will:

1. Work safely around machinery in an industrial environment.
2. Demonstrate proficiency in the use of precision measuring tools.
3. Interpret information from a blueprint.
4. Apply critical thinking skills to solve common machining problems.
5. Operate equipment to produce machined products to required specifications.

Students will have the opportunity to meet these outcomes through the following program sequence:

Machine Tool Technology Credit Diploma   Program Sequence			
1 <sup>st</sup> Semester			
	MCHT 1570	Machine Trades Computations	2
	MCHT 1520	Introduction to Manufacturing	2
	MCHT 1530	Introduction to Manual Mill	3
	MCHT 1540	Introduction to Manual Lathe	3
	MCHT 1630	Tools, Instruments and Machines	3
	MCHT 1800	Interpret Prints and Drawings	3
SEMESTER TOTAL:			16

### PROGRAM OUTCOMES, COMPUTER NUMERICALLY CONTROLLED (CNC) OPERATOR

The Credit Diploma is intended to develop CNC Operators with skills to manually write and retrieve CNC machine programs. Students will also experience industrial robots and collaborative robots (co-bots) as well as earn certifications evidencing skills with this technology. The Credit Diploma will be delivered in a single semester including 17 credits of instruction. Upon successful completion of the Credit Diploma students will:

1. Work safely around machinery in an industrial environment.
2. Demonstrate proficiency in the use of precision measuring tools.
3. Interpret information from a blueprint.
4. Apply critical thinking skills to solve common machining problems.
5. Operate equipment to produce machined products to required specifications.

Students will have the opportunity to meet these outcomes through the following program sequence:

Computer Numerically Controlled (CNC) Operator Credit Diploma   Program Sequence			
1 <sup>st</sup> Semester			
	MANF 1610	Introduction to Robotics	3
	MCHT 1520	Introduction to Manufacturing	2
	MCHT 2300	Manufacturing Quality	3
	MCHT 2700	CNC Turning Operations	3
	MCHT 1730	CNC Milling Operations	3
	MCHT 2810	Computer Aided Machining	3
SEMESTER TOTAL:			17

### STAFFING IMPACT:

Delivering both CDs as for-credit instruction will require one faculty FTE.

### BUDGET IMPACT:

Start-up costs for instruction through the AMMC have been met through a number of sources. In addition to the repurposing of an existing building on the Cheyenne campus, money for the facility came from several sources including the Economic Development Agency, the Wyoming Innovation Partnership, the taxpayers of Laramie County through the approval of the 6th Penny Tax, the State of Wyoming and LCCC Foundation matching funds. Remaining budgetary needs pertain to the staffing identified above.

### ADDITIONAL CONSIDERATION:

Both proposed programs are presented as standalone paths. This affords a broad population of students—degree

seekers, current employees seeking retooling opportunities, current students, and December high school graduates—access to this programming at a time that is most advantageous to their goals and pursuits and in a format that is free of institutional prerequisites.

At the time of this proposal credentialing through the National Institute of Metalworking Skills (NIMS) was being pursued by the AMMC Manager, Dave Curry. NIMS accreditation would award national recognition to our programming and afford our students' a competitive edge through the achievement of nationally valued standards. Additionally, Dave is collaborating with personnel at LCSD1 to envision an opportunity for for-credit instruction in the AMMC as an option for Dual Enrollment, enabling interested high school students an on ramp to our Trades & Technical Studies Pathway while completing their high school diploma.

More detailed information about both programs is provided in the attached New Program Request Forms prepared for the Wyoming Community College Commission.

