MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL

MEERA™

MEERA - Overview


HELPING THE
NEXT GENERATION
SEE THEMSELVES IN A
MANUFACTURING CAREER
MANUFACTURING AND ENGINEERING EDUCATION
REIMAGINED FOR ALL

WHAT IS MEERA?

WHAT IS MEERA?

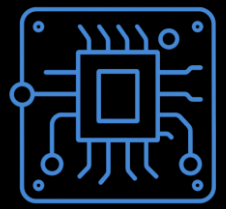
- ***Turn-key***, competency-based K-12 ***manufacturing*** education solution
- ***Applied*** manufacturing labs using ***industry relevant*** tools and technology; designed for ***classroom*** implementation
- Catalyst to ***super-charge regional*** manufacturing workforce development pipelines
- ***Customized*** solution to direct youth to educational and workplace opportunities in ***their community***

MISSION: Present **all** students with the opportunity to **see themselves** in a manufacturing career.

MFG DISCIPLINES

ADDITIVE MFG

CNC MACHINING



ELECTRONICS

FUTURE OF WORK

MFG ENGINEERING

NON-DESTRUCTIVE TESTING

ROBOTICS

WELDING

WORKPLACE READINESS

WORKFORCE ECOSYTEM CATALYST

MEERA Middle School (6-8)

Two major objectives:

- Increased interest and awareness
- Increase technical competence to match increasing industry requirements

- Create more informed and prepared students entering high school CTE pathways

- Reinforce core subjects in applied format

MEERA High School (9-10)

- Continues foundational skills in middle school

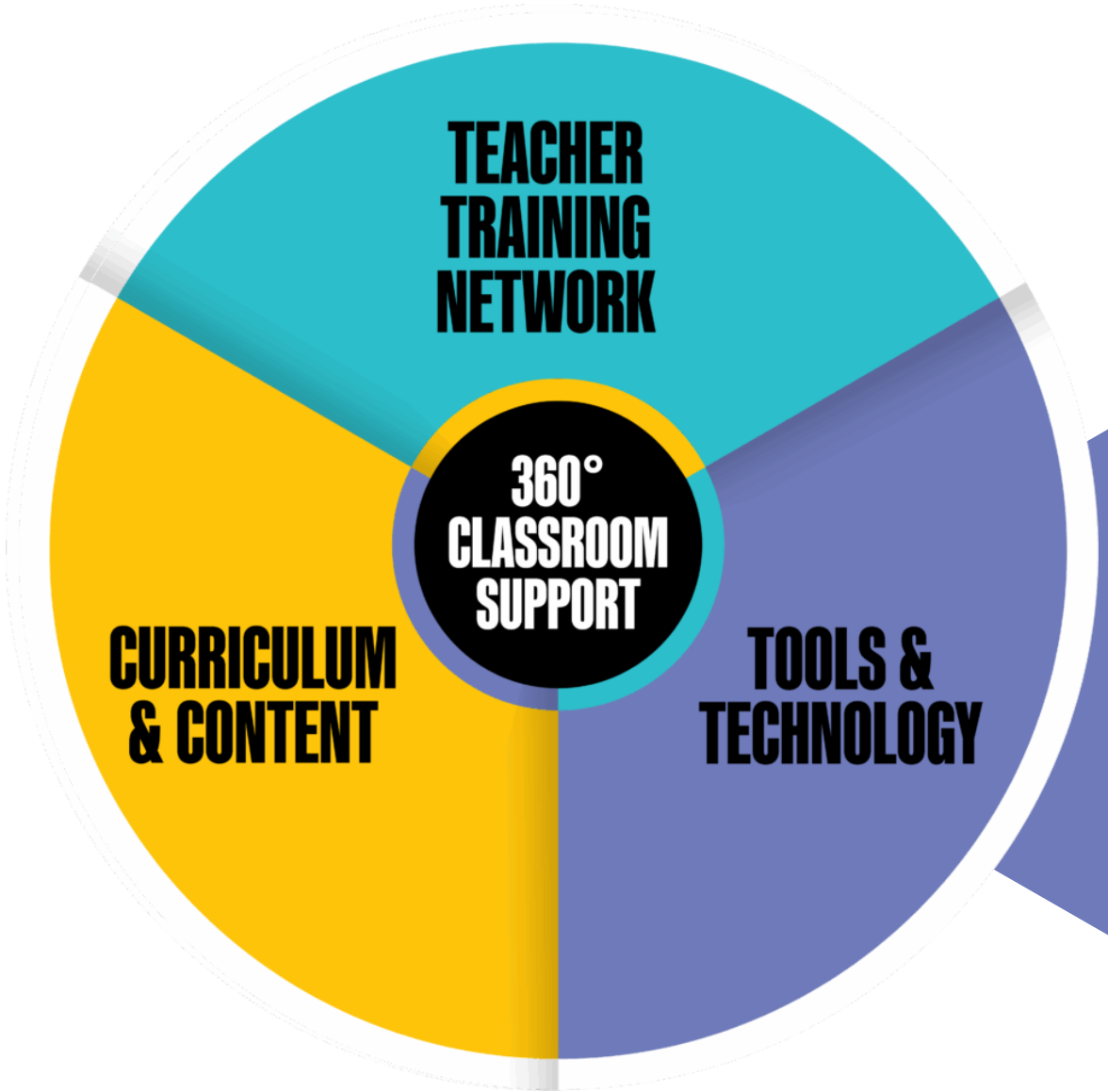
- Increased technical content; more advanced equipment sets

- Preparation for high school career and tech center/ dual enrollment programming

Regional Workforce Catalyst

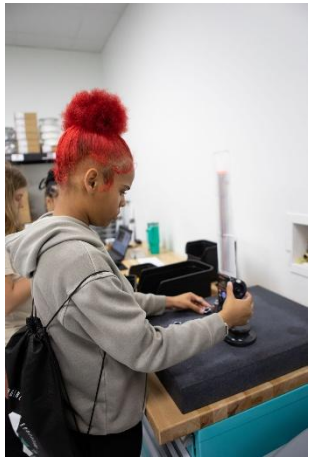
MEERA

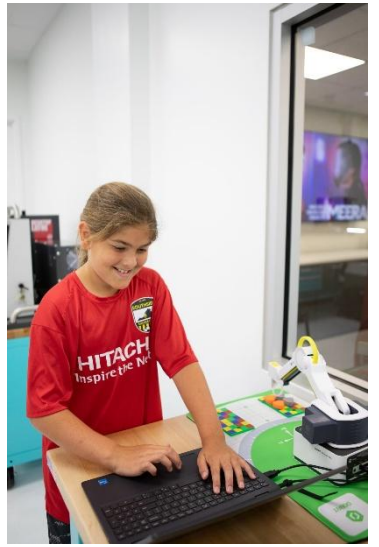
OUR APPROACH

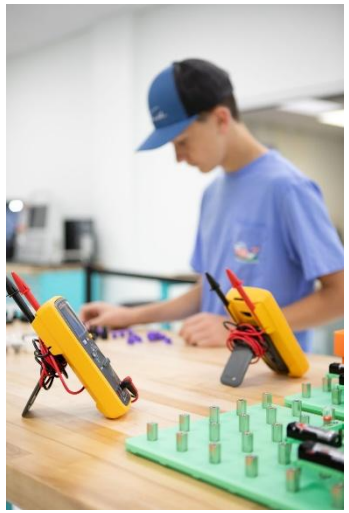


Tools and Technology

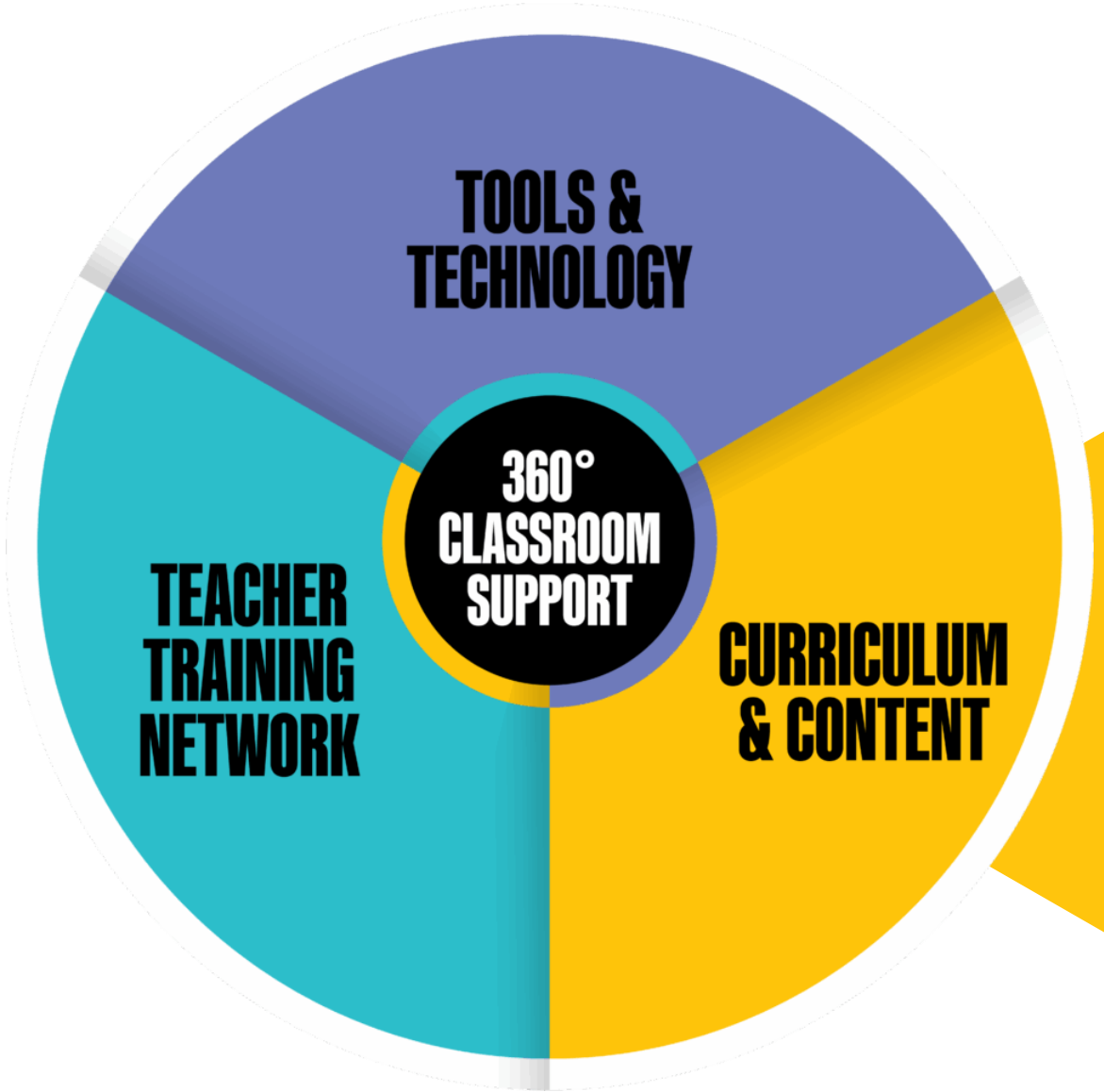
- Equipment selected & set-up for classroom implementation
- Consumable kits configured for implementation
- Lab layout and set-up assistance
- Practical solutions that can be successfully implemented







MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL MEERA



Curriculum & Content

- Competency map aligned to state and national standards
- Student certification opportunities
- Pacing guides, lesson plans, student workbooks, etc.
- Detailed technical guides
- Canvas LMS hosting for easy distribution
- Canvas and Google classroom imports available

ALIGNMENT TO YOUR WORKFORCE PIPELINE

CIP 48.0501- Machinist

Certifications

SKILL ID	TOPIC ID	CNC MACHINING TOPIC DESCRIPTION	Standard ID	M	ODE	COMMON STANDARDS	MEERA AM	MEERA CNC	MEERA ELE	MEERA FUT	MEERA MFE	MEERA NDT
CNC	1	Safety	a	Comply with	.1.a.★	AM.1.a.★, ELE.1.a.★, , MFE.1.a.★, NDT.1.a.★, ROB.1.a.★, WEL.1.a.★,	AM.1.a.★	CNC.1.a.★	ELE.1.a.★		MFE.1.a.★	NDT.1.a.★
CNC	1	Safety	b	Understand the importance of material safety data sh DS).	★ CNC.1.b.★	AM.1.b.★, ELE.1.b.★, , MFE.1.b.★, NDT.1.b.★, ROB.1.b.★, WEL.1.b.★,	AM.1.b.★	CNC.1.b.★	ELE.1.b.★		MFE.1.b.★	NDT.1.b.★
CNC	1	Safety	c	Maintain a safe working environment.	★ CNC.1.c.★	AM.1.c.★, , , , , ROB.1.c.★, WEL.1.c.★,	AM.1.c.★	CNC.1.c.★				
CNC	1	Safety	d	Explain safe working practices around hazar	★ CNC.1.d.★	AM.1.d.★, ELE.1.d.★, , MFE.1.d.★, NDT.1.d.★, ROB.1.d.★, WEL.1.d.★,	AM.1.d.★	CNC.1.d.★	ELE.1.d.★		MFE.1.d.★	NDT.1.d.★
CNC	1	Safety	e	Identify emergency first aid procedures.	★ CNC.1.e.★	AM.1.e.★, ELE.1.e.★, , MFE.1.e.★, NDT.1.e.★, ROB.1.e.★, WEL.1.e.★,	AM.1.e.★	CNC.1.e.★	ELE.1.e.★		MFE.1.e.★	NDT.1.e.★
CNC	1	Safety	f	Identify the types of fires and the methods used to extin em.	★ CNC.1.f.★	AM.1.f.★, ELE.1.f.★, , MFE.1.f.★, NDT.1.f.★, ROB.1.f.★, WEL.1.f.★,	AM.1.f.★	CNC.1.f.★	ELE.1.f.★		MFE.1.f.★	NDT.1.f.★
CNC	1	Safety	g	Understand the proper use of a fire extinguish	★ CNC.1.g.★	AM.1.g.★, ELE.1.g.★, , MFE.1.g.★, NDT.1.g.★, ROB.1.g.★, WEL.1						
CNC	1	Safety	h	Understand the azards of working with CNC machine.	★ CNC.1.h.★	, , , , , , , ,						
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Former Segment #	Former Segment Name	Competenc Code	48.0501 Machine Tool Technology/Machinist Competency Statements (2024)	Standards	Source (See Cell F104 for Key)	rformance Indicators
	Lathe I; Manufacturing Processes; Advanced Milling / Turning / Grinding		Setup and perform machining operations to print specifications.	Ident y Cartesian coordinates.		
2, 8, 9, 10, 11	Metal Working Theory / Materials; Maintenance and Set Up; Mill I / Lathe I; Manufacturing Processes; Advanced Milling / Turning / Grinding	C (Mill)	Setup and perform machining operations to print specifications.	Describe incremental and absolute positioning and cutter compensation.	NIMS.I.K.8.1	
2, 8, 9, 10, 11	Metal Working Theory / Materials; Maintenance and Set Up; Mill I / Lathe I; Manufacturing Processes; Advanced Milling / Turning / Grinding	C (Mill)	Setup and perform machining operations to print specifications.	Machine features/locations on a part acc ately in relation to its print.	NIMS.II.2.2	Perform a f l Perform va e operations. Cut a slot. Locate zero on a part according to the print.
2, 8, 9, 10, 11	Metal Working Theor Maintenance and Se Lathe I; Manufacturir Advanced Milling / T					
2, 8, 9, 10, 11	Metal Working Theor Maintenance and Se Lathe I; Manufacturir Advanced Milling / T					
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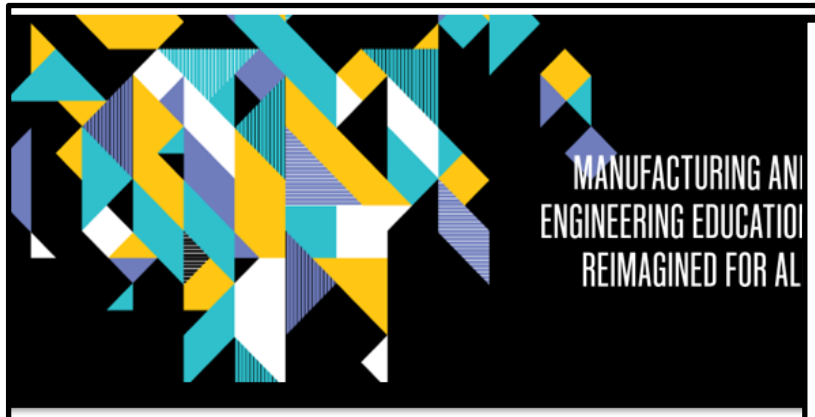
Competency Code	Perkins Course Competencies (PCC)	48.0501 Machine Tool Technology/Machinist Competency Statements (2024)	Tooling U - Foundational	Tooling U - Mill	Tooling U - Lathe	Tooling U - Grinding	Tooling U - CNC	Titans of CNC - Mill: Level I
A1	A	Describe and demonstrate general workplace, personal, and machine safety.	X					
A2		Develop an inspection plan and inspect simple parts using precision tools and techniques.	X					X
B1	B	Demonstrate knowledge of understanding prints by measuring, laying out, machining, and finishing parts to detailed drawings.	X					X
B2		Demonstrate the use of basic hand tools.	X					X
B3		Set up and perform cutting and sawing operations based on specifications.	X					X
C1	C	Setup and perform **machining** operations to print specifications.*		X	X	X	X	X

CONTEXTUAL LEARNING

SKILL ID	TOPIC ID	CNC MACHINING TOPIC DESCRIPTION	Standard ID	MEERA STANDARD DESCRIPTION	MEERA LEVEL	CODE	COMMON STANDARDS		MEERA AM	MEERA CNC	MEERA ELE	MEERA FUT	MEERA MFE	MEERA NDT
CNC	6	Technical Math	a	Work with fractions and decimals and convert between the two.	★	CNC.6.a.★	AM.6.a.★, , , MFE.6.a.★, NDT. WEL.6.a.★,	d.★, ,	AM.6.a.★	CNC.6.a.★			MFE.6.a.★	NDT.6.d.★
CNC	6	Technical Math	b	Convert between the standard and metric systems.	★	CNC.6.b.★	, , , MFE.6.b.★, , , ,			CNC.6.b.★			MFE.6.b.★	
CNC	6	Technical Math	c	Convert between Celsius and Fahrenheit.	★	CNC.6.c.★	AM.6.c.★, , , MFE.6.c.★, , , WEL	r.★★,	AM.6.c.★	CNC.6.c.★			MFE.6.c.★	
CNC	6	Technical Math	d	Apply the Cartesian Coordinate System in relation to machine coordinates.	★	CNC.6.d.★	AM.6.d.★, , , MFE.6.d.★, NDT.	g.★, , ,	AM.6.d.★	CNC.6.d.★			MFE.6.d.★	NDT.6.g.★
CNC	6	Technical Math	e	Calculate percentages in relation to manufacturing processes.	★	CNC.6.e.★	AM.6.e.★, , , MFE.6.e.★, NDT. WEL.6.b.★,	h.★, ,	AM.6.e.★	CNC.6.e.★			MFE.6.e.★	NDT.6.h.★
CNC	6	Technical Math	f	Read and interpret graphs, charts, and tables.	★	CNC.6.f.★	AM.6.f.★, , , MFE.6.f.★, NDT. WEL.6.c.★,	★, ,	AM.6.f.★	CNC.6.f.★			MFE.6.f.★	NDT.6.i.★
CNC	6	Technical Math	g	Understand proportions and ratios.	★	CNC.6.g.★	AM.6.g.★, , , MFE.6.g.★, NDT WEL.6.d.★,	j.★, ,	AM.6.g.★	CNC.6.g.★			MFE.6.g.★	NDT.6.j.★
CNC	6	Technical Math	h	Apply proportions and ratios in scaling and mixing processes.	★	CNC.6.h.★	AM.6.h.★, , , MFE.6.h.★, NDT. WEL.6.e.★,	k.★, ,	AM.6.h.★	CNC.6.h.★			MFE.6.h.★	NDT.6.k.★
CNC	6	Technical Math	i	Applying mathematical concepts to solve practical, real-world problems related to manufacturing.	★	CNC.6.i.★	, , , , , , WEL.6.f.★,			CNC.6.i.★				
CNC	6	Technical Math	j	Perform basic arithmetic operations with whole numbers.	★	CNC.6.j.★	AM.6.j.★, , , MFE.6.j.★, ,		AM.6.j.★	CNC.6.j.★			MFE.6.j.★	
CNC	6	Technical Math				CNC.6.k.★	AM.6.k.★, , , MFE.6.k.★, ,	,	AM.6.k.★	CNC.6.k.★			MFE.6.k.★	
CNC	6	Technical Math				CNC.6.l.★	AM.6.l.★, , , MFE.6.l.★, ,		AM.6.l.★	CNC.6.l.★			MFE.6.l.★	
CNC	6	Technical Math				NC.6.m.★	AM.6.m.★, , , MFE.6.m.★,	, ,	AM.6.m.★	CNC.6.m.★			MFE.6.m.★	
CNC	6	Technical Math				CNC.6.n.★	AM.6.n.★, , , MFE.6.n.★, ,	,	AM.6.n.★	CNC.6.n.★			MFE.6.n.★	
CNC	6	Technical Math	o	Work with linear measurement and units of length (standard and metric).	★	CNC.6.o.★	, , , , , , ,			CNC.6.o.★				
CNC	6	Technical Math	p	Understand and apply 1D measurement length, perimeter, and circumference.	★	CNC.6.p.★	, , , MFE.6.p.★, , , ,			CNC.6.p.★			MFE.6.p.★	
CNC	6	Technical Math	q	Read measuring instruments as they relate to applied math (rulers, vernier, calipers, micrometer).	★	CNC.6.q.★	, , , , , , ,			CNC.6.q.★				
CNC	6	Technical Math	r	Work with angular measurement and units of angular measure.	★	CNC.6.r.★	, , , MFE.6.r.★, , , ,			CNC.6.r.★			MFE.6.r.★	
CNC	6	Technical Math	s	Perform basic operations with angular units.	★	CNC.6.s.★	AM.6.s.★, , , , , , ,		AM.6.s.★	CNC.6.s.★				
CNC	6	Technical Math	t	Work with triangles and their angles (general).	★	CNC.6.t.★	AM.6.t.★, , , MFE.6.t.★, ,		AM.6.t.★	CNC.6.t.★			MFE.6.t.★	
CNC	6	Technical Math	u	Apply problem solving skills by working with units of material properties and time.	★	CNC.6.u.★	, , , MFE.6.u.★, , , ,			CNC.6.u.★			MFE.6.u.★	
CNC	6	Technical Math	v	Apply problem solving skills by calculating time and cost.	★	CNC.6.v.★	, , , MFE.6.v.★, , , ,			CNC.6.v.★			MFE.6.v.★	
CNC	6	Technical Math	w	Understand basics of CCS working in 2D space such as axes, points, coordinates (2D).	★	CNC.6.w.★	AM.6.w.★, , , , , , ,		AM.6.w.★	CNC.6.w.★				
CNC	6	Technical Math	x	Understand basics of CCS working in 3D space such as coordinate planes and coordinates in space.	★	CNC.6.x.★	AM.6.x.★, , , , , , ,		AM.6.x.★	CNC.6.x.★				
CNC	6	Technical Math	y	Understand translation fundamentals via absolute and incremental positioning with respect to datum.	★	CNC.6.y.★	AM.6.y.★, , , MFE.6.y.★, ,		AM.6.y.★	CNC.6.y.★			MFE.6.y.★	
CNC	6	Technical Math	z	Understand basic rotation about an axis.	★	CNC.6.z.★	AM.6.z.★, , , MFE.6.z.★, ,		AM.6.z.★	CNC.6.z.★			MFE.6.z.★	
CNC	6	Technical Math	aa	Correlate a coordinate system of 3-axis machine to CCS.	★	CNC.6.aa.★	AM.6.aa.★, , , MFE.6.aa.★,	, ,	AM.6.aa.★	CNC.6.aa.★			MFE.6.aa.★	
CNC	6	Technical Math	bb	Correlate references and zeros of 3-axis machine to CCS.	★	CNC.6.bb.★	AM.6.bb.★, , , MFE.6.bb.★	, ,	AM.6.bb.★	CNC.6.bb.★			MFE.6.bb.★	
CNC	6	Technical Math	cc	Correlate G-Code of 3-axis CNC machine (as to how movement is achieved) to basic translation/rotation within CCS	★	CNC.6.cc.★	AM.6.cc.★, , , MFE.6.cc.★,	, ,	AM.6.cc.★	CNC.6.cc.★			MFE.6.cc.★	

TECHNICAL MATH SKILL



MANUFACTURING AND ENGINEERING ED

MEERA Curriculum Fram

TECHnista

Life Skills & Workplace Readiness – Entering the Workforce

WRK.2 The student will:

a) Explore self-awareness and self-advocacy skills.
b) Identify personal and professional interests and preferences.
c) Determine the knowledge, skill, and abilities needed to join today's workforce.
d) Identify personal related goals.
e) Identify steps required to obtain personal goals including time, effort, and experience necessary to pursue personal goals.
f) Develop a plan to attain personal related goals.
g) Identify educational related goals.
h) Identify steps required to obtain educational goals including time, effort, and experience necessary to pursue educational goals.
i) Develop a plan to attain educational related goals.
j) Identify professional related goals.
k) Identify steps required to obtain professional goals including time, effort, and experience necessary to pursue professional goals.
l) Develop a plan to attain professional related goals.
m) Seek guidance from experts on assistance with the planning and execution of personal, educational, and professional goals.
n) Explore job acquisition skills.
o) Investigate career pathways and occupations of interest within the identified MEERA disciplines.
p) Explore the relationship between education/training and occupations within the identified MEERA disciplines.
q) Explore the relationship between education/training and occupations within the identified MEERA disciplines and how they are related to **your region**.
r) Establish connections between your role as a student in the MEERA program and the world around you.
s) Establish connections between individuals employed in identified MEERA disciplines and the world around them.
t) Complete a career interest assessment.

Skill Snapshot

Entering the workforce requires a strategic approach that begins with exploring self-awareness and self-advocacy skills. By identifying personal and professional interests, individuals can determine the specific knowledge, skills, and abilities needed to thrive in today's workforce. Setting goals is vital, as is recognizing the steps necessary to achieve them. Students in the MEERA program will work towards developing a plan for attaining these goals. Understanding the relationship between education and occupations in these fields, especially in relation to local opportunities, enhances one's ability to make informed decisions. Establishing connections between academic experiences in the MEERA program and real-world applications is crucial for long-term success.

Objectives	Guiding Questions	Technical Terms	Industry Equipment
Students should *demonstrate* competency in the following: ▪ Identify self-awareness and self-advocacy skills.	Students should *investigate* these concepts: ▪ How can constructive feedback impact your self-	Students should *apply* these terms when and where necessary: ▪ Self-Awareness ▪ Self-Advocacy	Students should *utilize* and demonstrate competence with these tools or pieces of equipment: ▪ Computer/laptop

MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL

Gr
Path
CIP
Lesson Dura

Instructional Resources (Equipment / Documents / Online Resources):

- ELE 6.1.2 – ELE Theory Slide Deck
- ELE 6.1.2 – Introduction Matching worksheet
- Locktronics Kits

Equipment & Lab Setup:

Instructor will need to set out the kits that include breadboards and other compor

Practice & Application:

Before:
- Make copies of the ELE Introduction Matching worksheet.
- Open the ELE 6.1.2 – ELE Theory Slide Deck.

During:
- The instructor will present the ELE Theory Slide Deck to the students.
- This presentation highlights some of the major components of electronics

After:
- The students will complete the Introduction Matching worksheet that help

Technical Instruction Guide:

N/A

Opportunities to Grade:

Participation in the ELE 6.1.2 – ELE Theory Slide Deck presentation
ELE 6.1.2 – Introduction Matching worksheet

Participation in ELE 6.1.2 – Slide Deck
Completion of the Locktronics circuit
"ELECTRONICS (ELE) – TOOLS OF THE TRADE" Quizlet

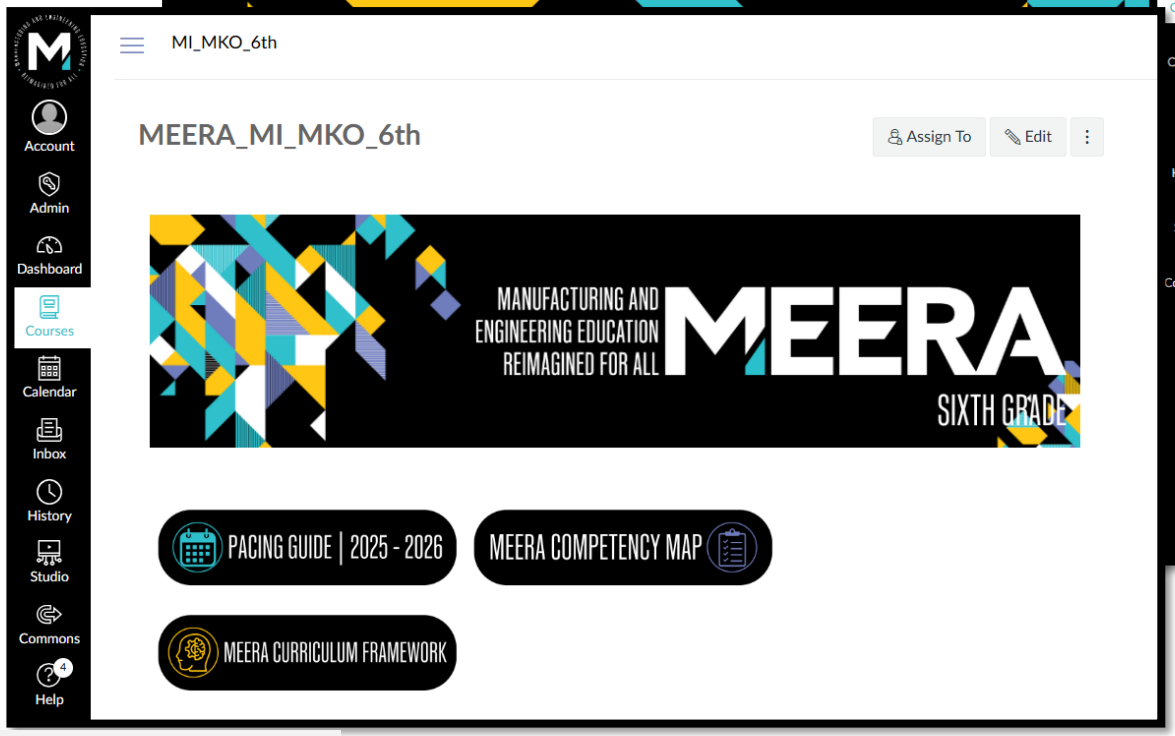
Assessment & Check for Understanding:

- How does current flow in a circuit impact the design and operation of electronic devices?
- What are the key differences between conductors and insulators?
- What are the common hand tools used in electronics?

Learning Objectives:

COMP CODE	MEERA COMPETENCY DESCRIPTION	COMMON CORE ELA Standards (5-8)	COMMON CORE Math Standards (5-8)	Next Generation Science Standards (5-8)
ELE.1.a. ★	Comply with federal, state, and local legal requirements including the OSHA & EPA.	5.RI.1, 5.RI.7, 6.RI.1, 6.RI.2, 6.RI.4, 6.L.2, 6.L.4, 7.RI.1, , 7.RI.2, 7.L.2, 7.L.4, 8.L.2, 8.L.4, 8.RI.1, 8.RI.2, 8.RI.4, 6.W.2, 7.W.2, 8.W.2	-	-
ELE.1.c. ★	Maintain a safe working environment.	6.L.1, 6.L.2, 6.L.3, 6.L.4, 7.L.1, 7.L.2, 7.L.3, 7.L.4, 8.L.1, 8.L.2, 8.L.3, 8.L.4, 6.RI.1, 7.RI.1, 8.RI.1, 6.RI.4, 7.RI.4, 8.RI.4, 6.W.2, 7.W.2, 8.W.2	-	-
ELE.1.d. ★	Explain safe working practices around hazards.	5.W.8, 5.SL.8, 6.W.2, 6.SL.4, 7.W.2, 7.SL.4, 8.W.2, 8.SL.4	-	-
ELE.1.h. ★	Understand the hazards of working with electronics/electricity.	-	-	-
ELE.1.w.★	Identify electrical hazards associated with improper management and care of power cables.	-	-	-
ELE.2.b. ★	Identify hazards associated with electrical equipment.	5.RI.9, 6.RI.3, 6.L.1, 6.L.2, 6.L.3, 6.L.4, 7.L.1, 7.L.2, 7.L.3, 7.L.4, 8.L.1, 8.L.2, 8.L.3, 8.L.4, 6.RI.1, 7.RI.1, 8.RI.1	-	-
ELE.3.b. ★	Define the primary components of a circuit and their units (voltage, conductance, current, resistance).	6.L.6, 7.L.6, 8.L.6, 6.W.2, 7.W.2, 8.W.2,6.W.7, 7.W.7, 8.W.7	-	-
ELE.3.gg.★	Distinguish between and open and closed electrical circuit.	-	-	-
ELE.3.h. ★	Identify current direction in a DC circuit.	6.RST.4, 7.RST.4, 8.RST.4	-	-
ELE.3.hh.★	Understand the key components of a complete (closed) electrical circuit.	-	-	-


MEERA
Email
Password
Stay signed in
Forgot Password?
Log In
Help
Privacy Policy
Cookie Notice
Acceptable Use Policy
Facebook
X.com
INSTRUCTURE
Meet the Instructure Learning Platform:
Canvas LMS
Mastery Connect
Elevate Analytics
Impact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Assign To
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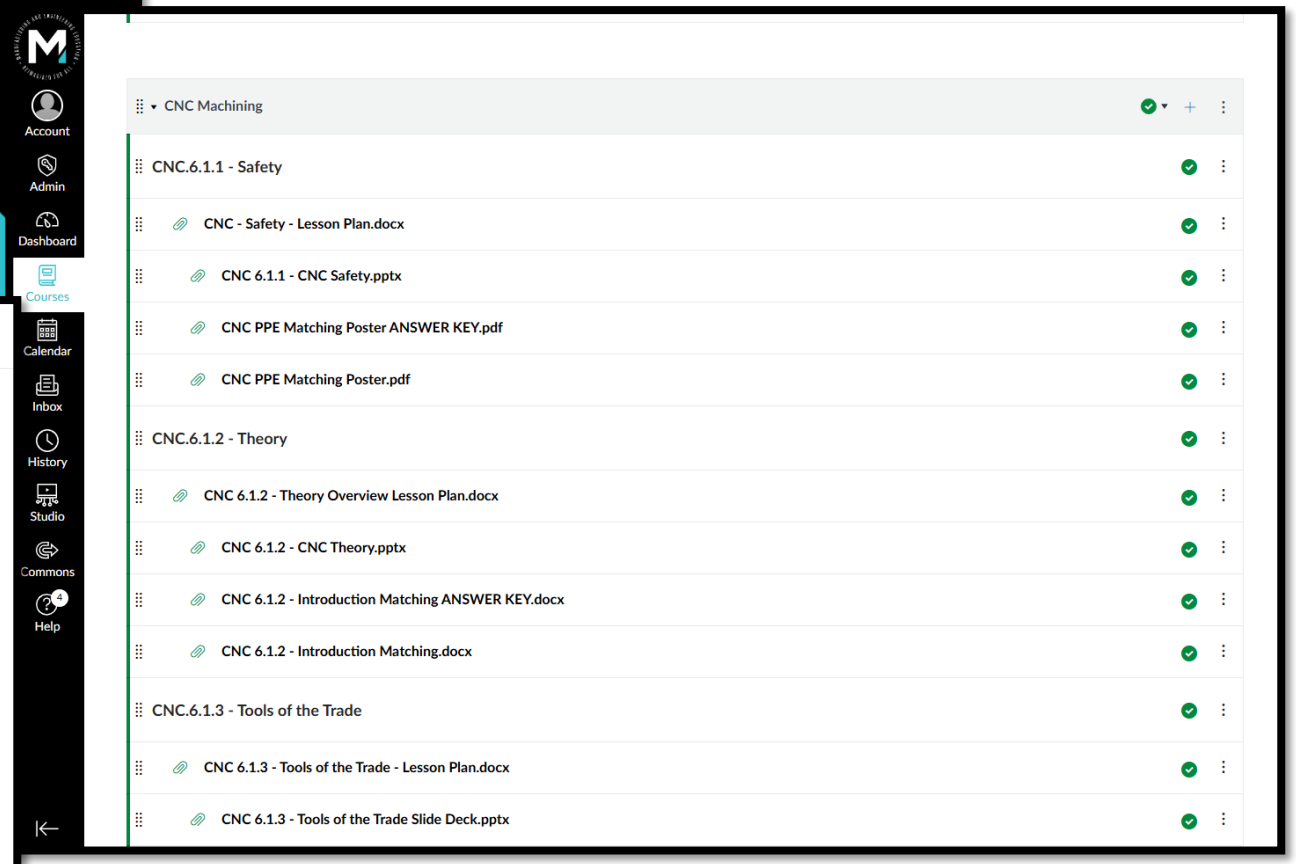
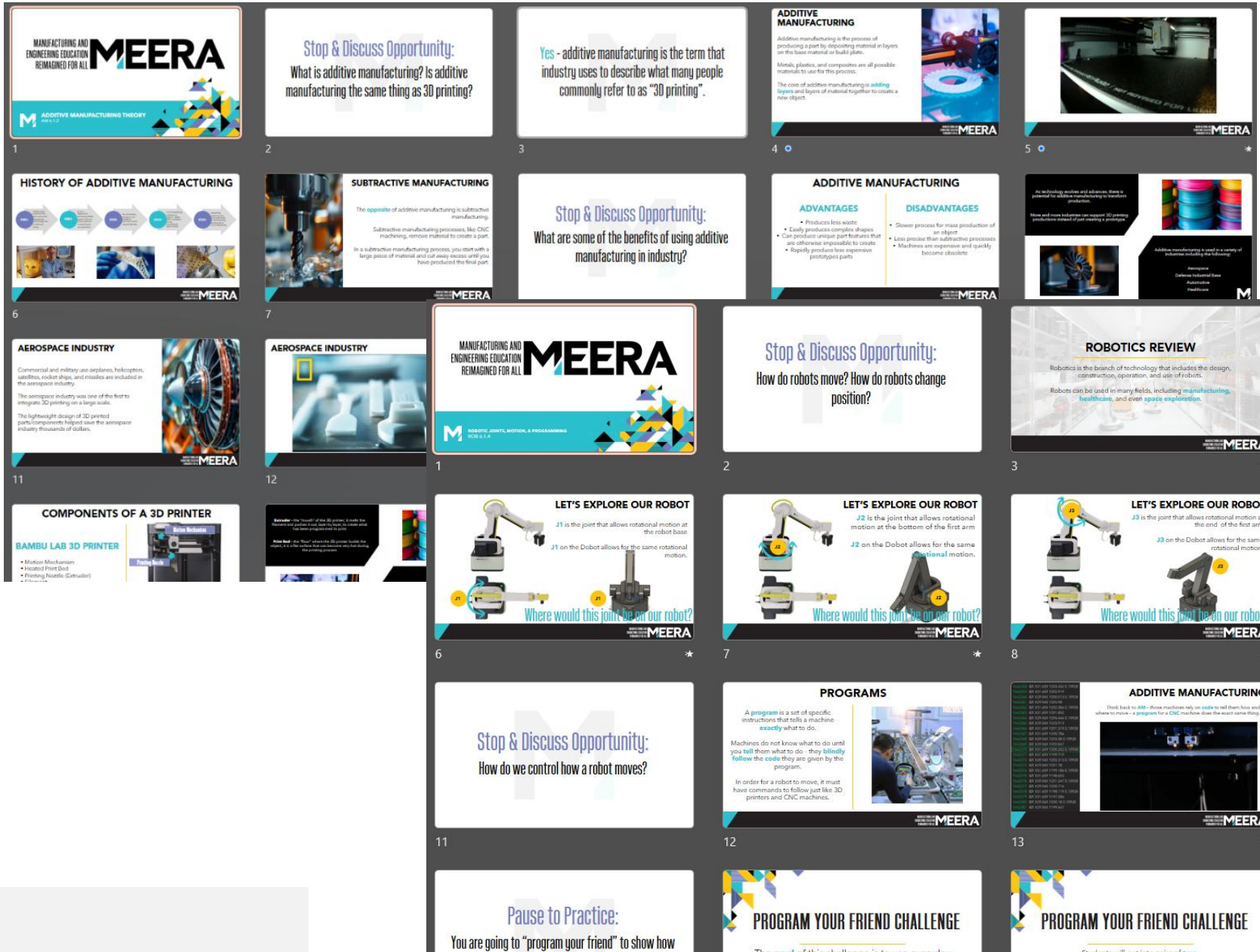
MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL
MEERA
SIXTH GRADE
PACING GUIDE | 2025 - 2026
MEERA COMPETENCY MAP
MEERA CURRICULUM FRAMEWORK
Account
Admin
Dashboard
Courses
Calendar
Inbox
History
Studio
Commons
Help


CNC Machining
CNC.6.1.1 - Safety
CNC - Safety - Lesson Plan.docx
CNC 6.1.1 - CNC Safety.pptx
CNC PPE Matching Poster ANSWER KEY.pdf
CNC PPE Matching Poster.pdf
CNC.6.1.2 - Theory
CNC 6.1.2 - Theory Overview Lesson Plan.docx
CNC 6.1.2 - CNC Theory.pptx
CNC 6.1.2 - Introduction Matching ANSWER KEY.docx
CNC 6.1.2 - Introduction Matching.docx
CNC.6.1.3 - Tools of the Trade
CNC 6.1.3 - Tools of the Trade - Lesson Plan.docx
CNC 6.1.3 - Tools of the Trade Slide Deck.pptx
Account
Admin
Dashboard
Courses
Calendar
Inbox
History
Studio
Commons
Help



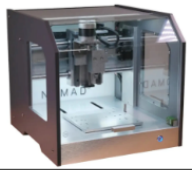
MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL MEERA

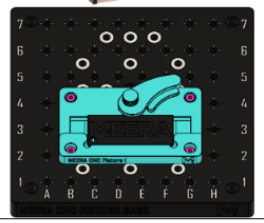
MEERA

CNC.6.1.4 - 3D Keychain TECHNICAL GUIDE	
PRINT NAME / NUMBER	**FILE NAME / PROGRAM NUMBER**
CNC.6.1.4 - 3D Keychain / 6001	6001 (CNC.6.1.4)

PROJECT OVERVIEW

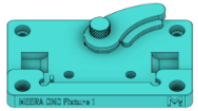
This document will guide you through the setup for **CNC.6.1.4 - 3D Keychain**. Following every step in this guide is critical. Be sure to pay attention to instructions and seek help from your instructor if something is unclear.



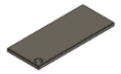


MEERA

PROJECT PARTS LIST

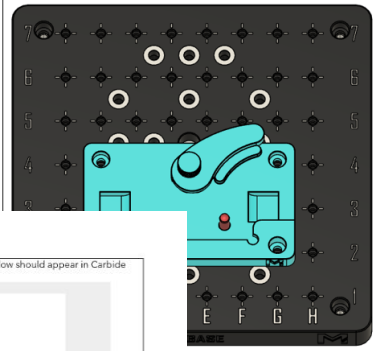
Part Name	QTY	Image
CNC Kit 6.1	1	
A. **CNC Kit 6.1** - MEERA CNC Fixture 1	1	
B. **CNC Kit 6.1** - M5 x 12mm Bolt	4	
C. **CNC Kit 6.1** - M5 Washer	4	
D. **CNC Kit 6.1** - M6 x 30mm Dowel Pin	2	

MEERA

Blank AM.6.1.4 - 3D Keychain	21	
Torque Screwdriver	1	
3mm hex bit	1	
Bench Brush	1	

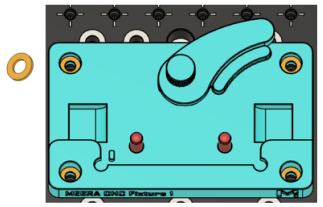
MEERA

3. Place the "MEERA CNC Fixture 1" over the **RED** pictured dowel pins to correctly align the fixture to the CNC Mill table:
   - **DO NOT FORCE THE FIXTURE DOWN**, this could damage the base plate or the project fixture
   - Slide the "MEERA CNC Fixture 1" down until it is flat on the "MEERA CNC Fixture Base"
   - The mounting holes in each corner of the "MEERA CNC Fixture 1" should align with **B2**, **B4**, **G2**, & **G4** on the "MEERA CNC Fixture Base"

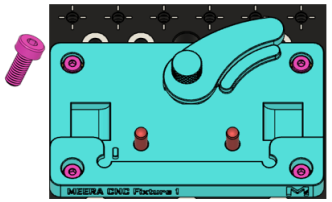


MEERA

4. Place [4x] **CNC Kit 6.1_C** washers, indicated in **YELLOW**, into each of the corners of the "MEERA CNC Fixture 1"



5. Place [4x] **CNC Kit 6.1_B** bolts, indicated in **PINK**, into each of the corners of the "MEERA CNC Fixture 1"

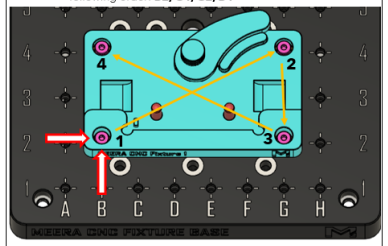


MEERA

6. Find the pictured screwdriver (below):

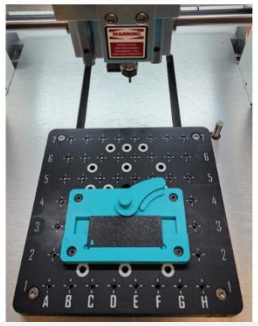
- **DO NOT use a standard hex key**
- The pictured screwdriver will prevent you from overtightening the bolts and damaging the fixture

7. Snug each bolt in the picture (below)
   - You should snug (*tighten each screw until you start to feel resistance in your screwdriver*) each of the bolts in the following order: **B2, G4, G2, B4**



MEERA

You are now ready to run your CNC Program!



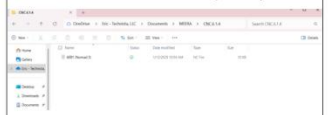
MEERA

PROJECT PROCEDURE - STEP THREE

Operating the Nomad 3 Desktop CNC Machine

1. Click "**Load New File**" - This will open the windows file explorer

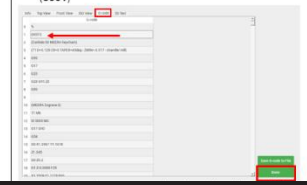
2. In the windows file explorer, use this file path:
   Documents>MEERA>CNC.6.1.4>6001 (Nomad 3)



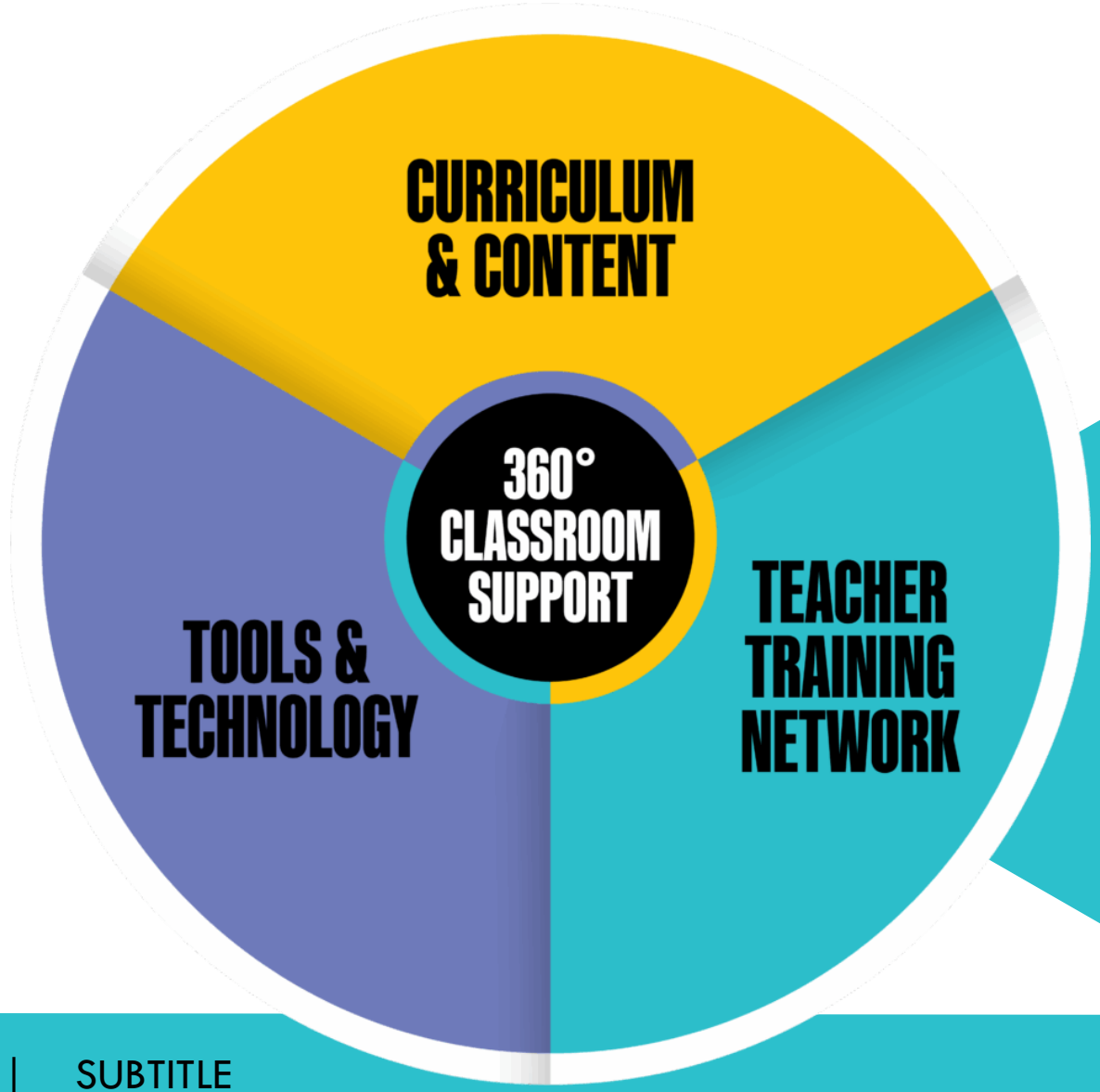
MEERA

3. A screen like the one pictured below should appear in Carbide Motion:

4. Click the "G-Code" tab at the top of the screen and confirm the program number matches the number for this technical guide (**6001**)

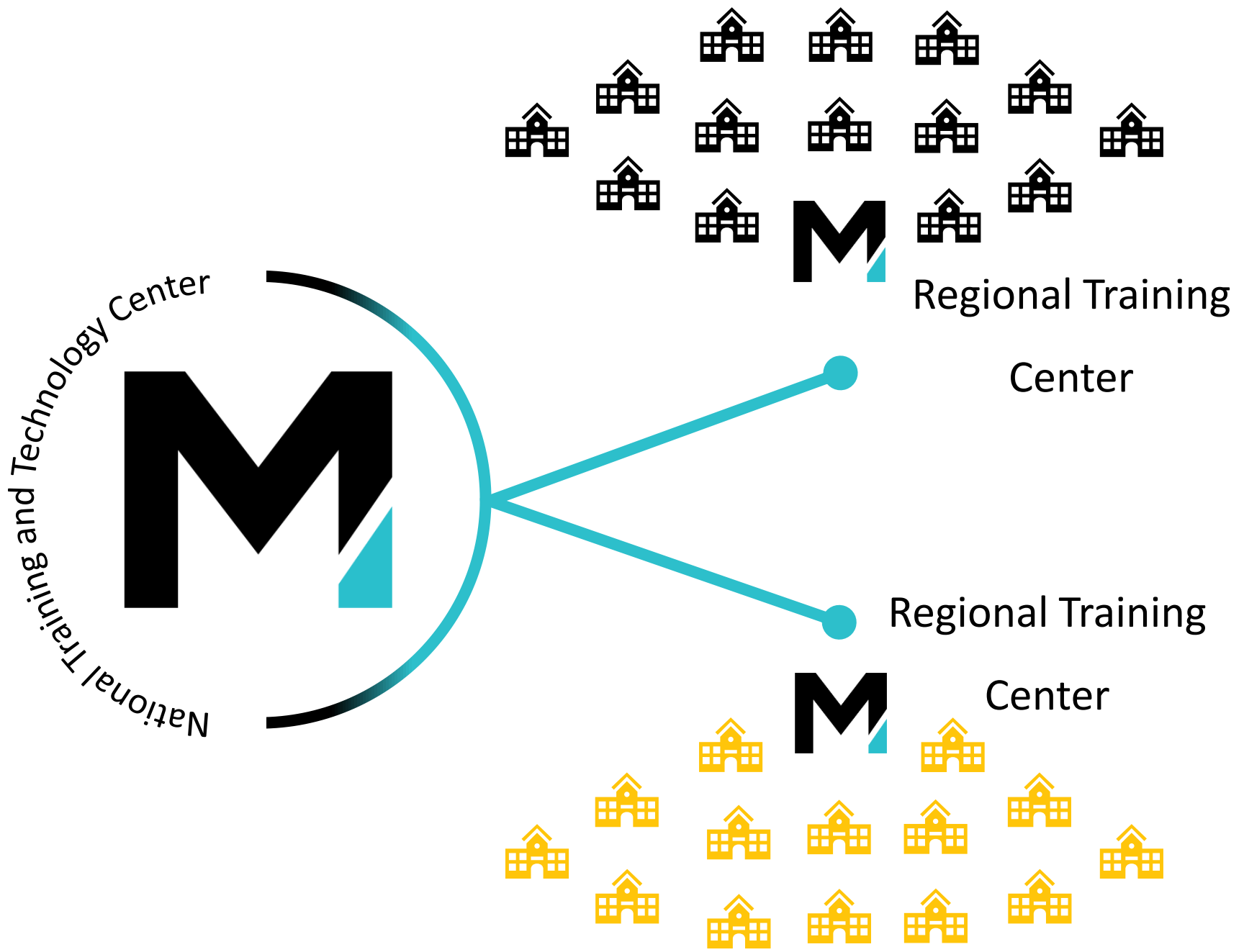


MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL MEERA



Teacher Training Network

- Teacher certification program
- Continued professional development in your region
- “911 support” from Regional Training Support
- Ongoing development and continuous improvement from National Training & Tech Center



National Training and Technology Center

- Curriculum Development
- Technology Selection
- RTC train-the-trainer
- Consumable production and distribution
- National “hub” for MEERA activity

Regional Training Center

- Teacher professional development
- “911 help center” for in-classroom challenges
- Lab set-up assistance and support
- Regional “hub” for MEERA activity

MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL

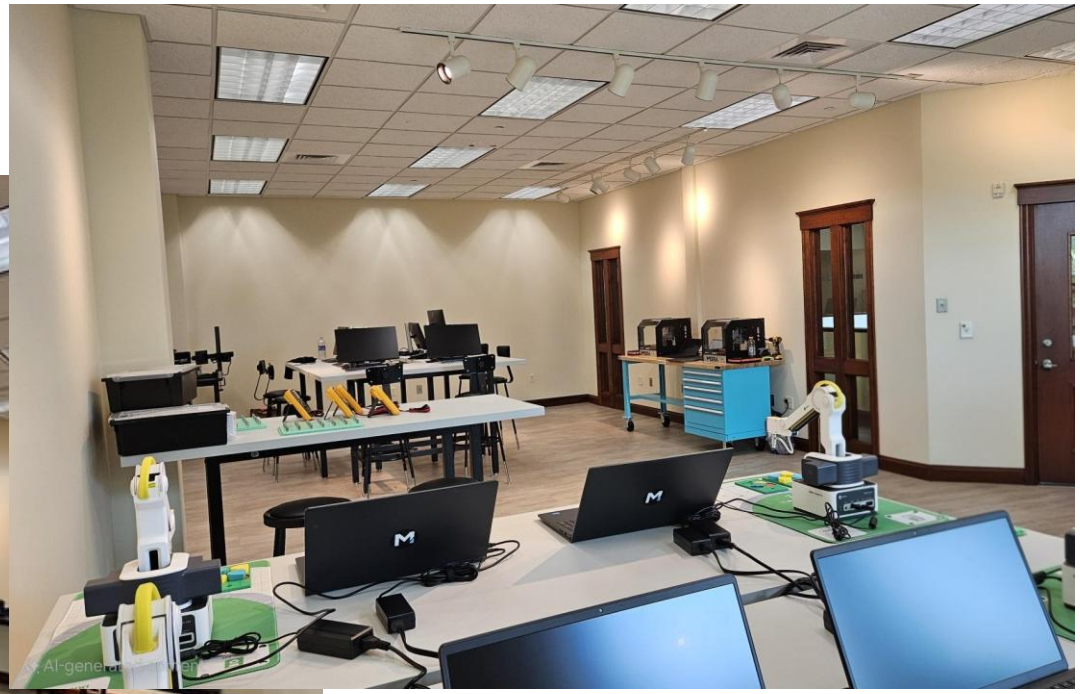
MEERA INDUSTRY ENGAGEMENT SUPPORT TIERS

TIER I: Program Supporter	**GUEST SPEAKERS** -Present as a classroom guest speaker OR -Present as a virtual guest speaker OR -Provide "A Day in the Life of…" videos	**CAREER EXPLORATION OPPORTUNITIES** -Provide a physical or virtual tour of facilities OR -Sponsor student trips to high school CTE OR -Provide awards/SWAG for manufacturing related achievements OR -Sponsor an afterschool MEERA activity	**SPONSORSHIP** N/A	**TIME AND TALENT** -Support professional communication by agreeing to accept a student's "business email" OR -Present a "Soft-Skills Workshop" to a class OR -Participate in "Manufacturing Day" career fair events
TIER II: Workforce Champion	**GUEST SPEAKERS** -Present as a classroom guest speaker OR -Present as a virtual guest speaker OR -Provide "A Day in the Life of…" videos	**CAREER EXPLORATION OPPORTUNITIES** -Provide a physical or virtual tour of facilities OR -Sponsor student trips to high school CTE OR -Provide awards/SWAG for manufacturing related achievements OR -Sponsor an afterschool MEERA activity	**SPONSORSHIP** -Sponsor a MEERA annual curriculum and consumables subscription	**TIME AND TALENT** -Collaborate with the MEERA school to map out career pathways from middle to high school to local jobs
TIER III: Legacy Partner	**GUEST SPEAKERS** -Present as a classroom guest speaker OR -Present as a virtual guest speaker OR -Provide "A Day in the Life of…" videos	**CAREER EXPLORATION OPPORTUNITIES** -Provide a physical or virtual tour of facilities OR -Sponsor student trips to high school CTE OR -Provide awards/SWAG for manufacturing related achievements OR -Sponsor an afterschool MEERA activity	**SPONSORSHIP** -Sponsor a new MEERA lab	**TIME AND TALENT** -Provide feedback on technical elements of MEERA curriculum to support continuous improvement

MICHIGAN UPDATE

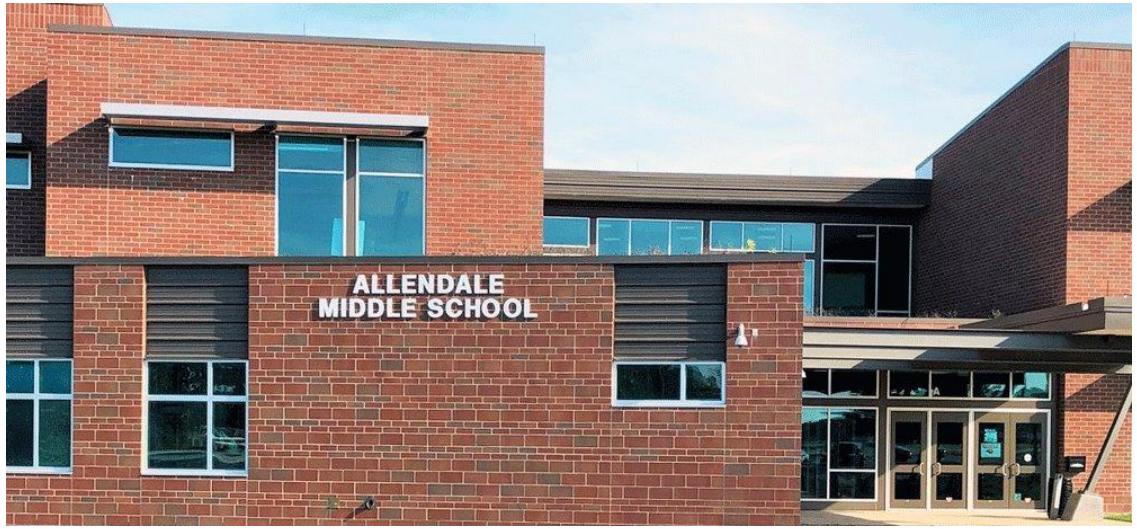
MEERA REGIONAL TRAINING CENTER (RTC)

Kent ISD
We Lead Learning



FALL 2025 IMPLEMENTATION

Duncan Lake
Kent ISD



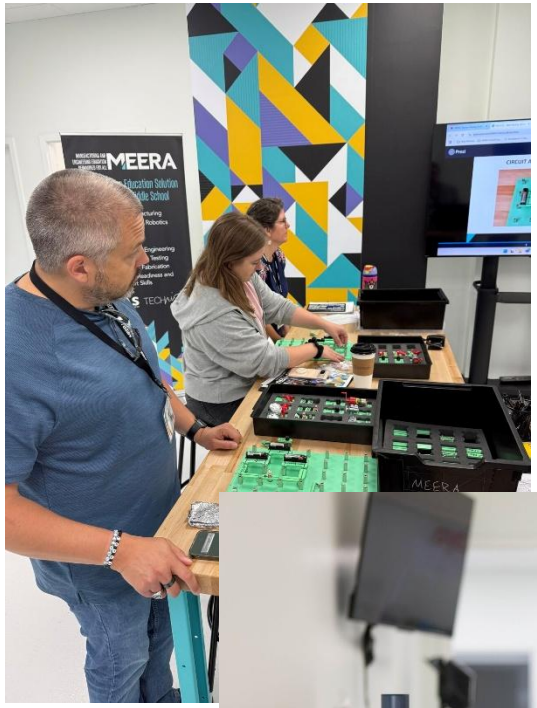
Allendale
Ottawa ISD

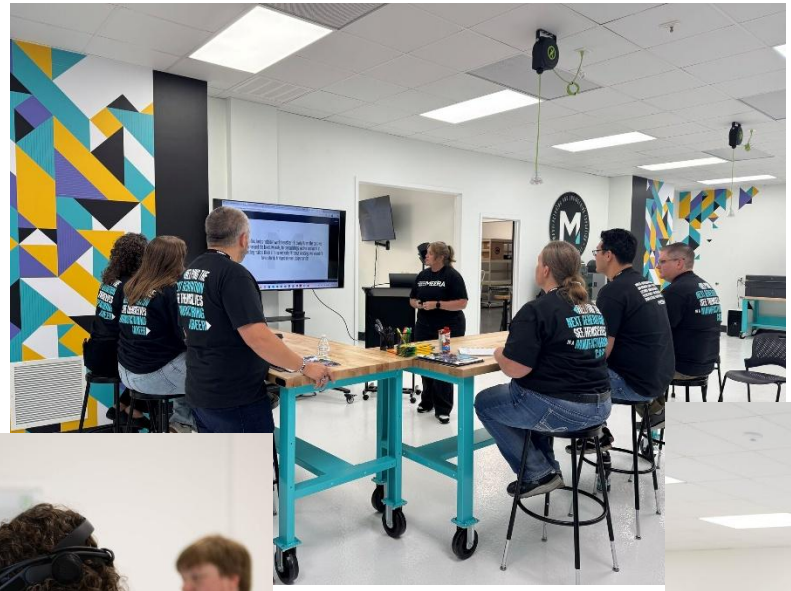
Charles Hackley
Muskegon ISD

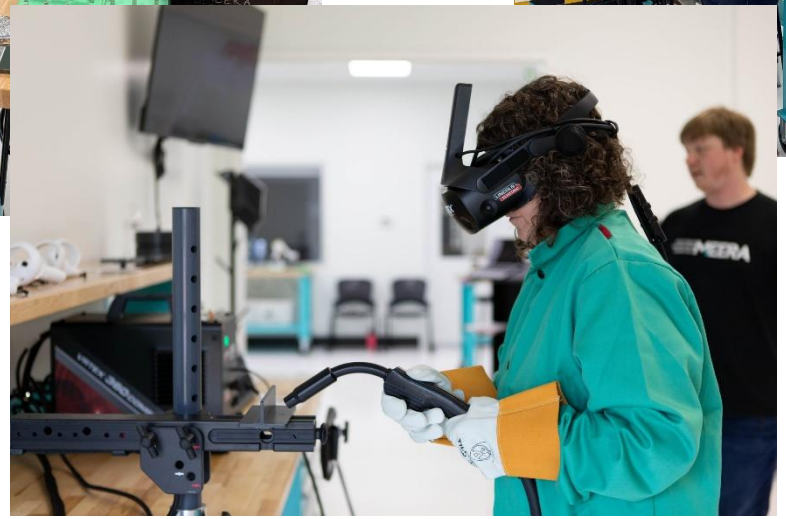
ALLENDALE MIDDLE SCHOOL

- Lab installation complete
- Starting Fall 2025

TEACHER TRAINING







First Semester 2025-26 Michigan

901
Students Enrolled in MEERA Pilot

93%
Students More Interested in Manufacturing Careers

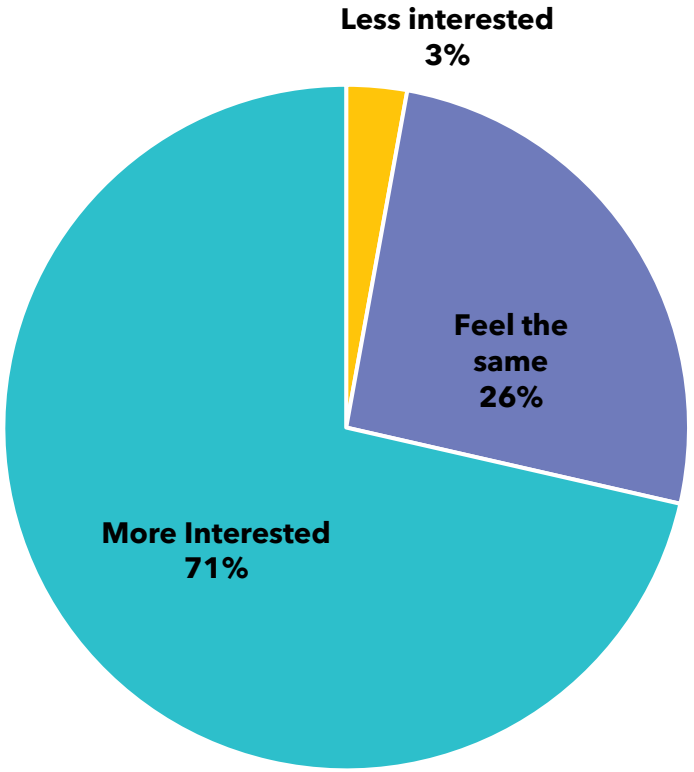
Welding
Top Career Pathway Identified by Students

Results reflect the students enrolled in MEERA during S1 of the 25-26 school year in the three schools with MEERA in Muskegon, Kent, and Ottawa ISDs in Michigan. Students completed pre- and post-assessments focused on their knowledge of and interest in Manufacturing Pathways.

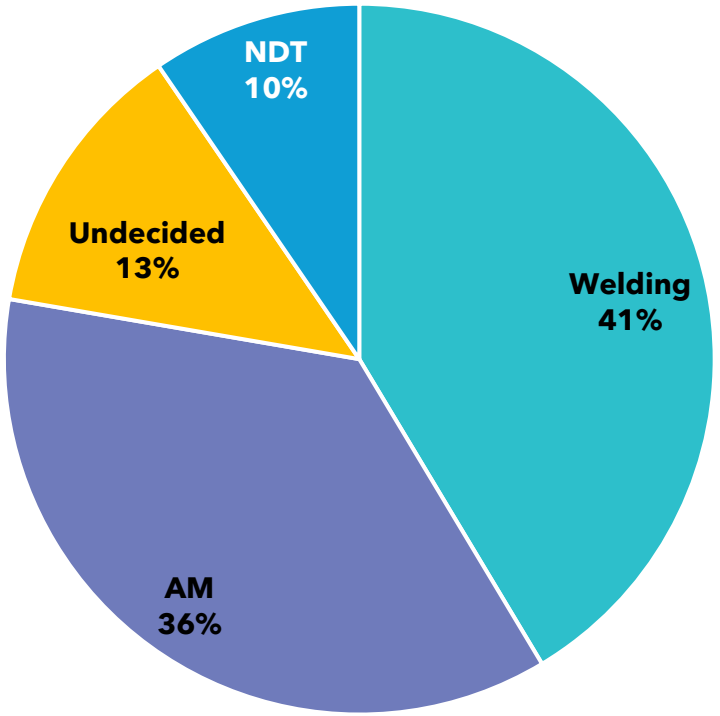
*The enrollment of 901 is an estimate for the entire 25-26 school year based on S1 actual and S2 projected.

First Semester 2025-26 HAWAII

Have your feelings changed about manufacturing?



What manufacturing topic have you found most interesting or fun?



MANUFACTURING AND ENGINEERING EDUCATION REIMAGINED FOR ALL MEERA

61v Funding

Michigan Career & Technical Education (CTE) Expansion Grant

<u>Round 1 Timeline</u>

- **Dec 18, 2025** – Webinar announcement communication
- **Jan 9, 2026**
    - Grant application **LIVE** on NexSys
    - Applicant webinar held
- **Jan 14, 2026** – Pre-application questions due
- **Jan 21, 2026** – Pre-application Q&A appended to grant packet
- **Feb 11, 2026** – Grant application due to **MDE-OCTE**
- **March 2026** – Estimated award notification
- **Sept 15 (Annual)** – Narrative & Financial Expenditure Reports (FER) due in NexSys
    - 2026
    - 2027
    - 2028
- **June 30, 2029** – Final expenditure report due

Next Steps

- Contact Options
  - Complete contact form at meeraeducation.com

    OR

  - Email Cary Stamas at cstamas@technistaconsulting.com

meeraeducation.com