

Outcome Assessment Plan for degrees or certificates

Advanced Manufacturing AAS 2023-24

1. Outcome	2. Criteria or Target	3. Measurement Tool		4. When/how and by who analysis of assessment will be accomplished	5. Results
		course	assignment		
Individuals who receive a degree/certificate of completion should be able to:					
1. Produce welds to AWS standard in fillet and grooves using GMAW, SMAW and GTAW processes.	Demonstrate welding skill via the community projects assembly.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	
2. Demonstrate knowledge of basics CNC operations and G Code.	Show integration of advanced manufacturing concepts and how they help lean manufacturing process utilizing computer coding.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	
3. Generate product designs and blueprints using CAD	Get blueprints approved by partners, utilizing skillsets learned.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured	

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software.				within the portfolio and from also from outside feedback over the course of the term.	
4. Manufacture multi-part assembly products from problem solving process to design and reality, including at quantity production run.	Correctly choose processes of manufacturing and demonstrate effective CAD design in creation of hard parts.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	
5. Apply basic metallurgical concepts and basic materials science as they pertain to metals to create better production results in manufacturing processes.	Understand and choose correct materials for projects over the course of the term and demonstrate analysis of those choices in the portfolio.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	

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6. Demonstrate knowledge of necessary mathematical concepts as they apply to manufacturing.	Utilize math within the implementation of the project and demonstrate how it has simplified or sped up the manufacturing process used.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	
7. Use critical thinking and problem-solving skills to create more efficient systems of manufacturing.	Demonstrate process improvements over the course of the comprehensive project.	MFG290	Capstone Portfolio	Self reflection and rubric analysis by MFG Faculty joint with Community Partner working with student on project. This should be captured within the portfolio and from also from outside feedback over the course of the term.	

Submitted by: Robert Wells-Clark

Date: 11.07.2023

Assessment Completed by:

Date:

Plans to be submitted to Academic Assessment Coordinator ([kbooth@cgcc.edu](mailto:kbooth@cgcc.edu)) by Nov 15 of academic year being assessed

Results to be submitted to Academic Assessment Coordinator ([kbooth@cgcc.edu](mailto:kbooth@cgcc.edu)) by June 30<sup>th</sup> of the following academic year being assessed