

Associate of Applied Science in Technical Studies with a Concentration in Machine Tool Technology

Postsecondary Partner: Northshore Technical Community College

Overview

The Associate of Applied Science in Technical Studies with a Concentration in Machine Tool Technology is designed to prepare students with a combined practical approach to the study of machining and millwright. This program prepares students to install conveyor systems, connect machinery to power supplies and piping, direct hoisting and setting of machines, and adjust the moving and stationary parts of machines to certain specifications. Students learn troubleshooting techniques and strategies. They shape metal parts on lathes, grinders, drill presses, milling machines and computer numerical controlled machines and utilize these parts in the repair of heavy equipment and machinery. The program includes making computations for dimensions and cutting feeds and speeds using precision measuring instruments, laying out of parts, and heat treatment of metals. Students will receive hands-on experience with pumps, gearboxes, and compressors.

Capstone Credentials

Regional (Emerging)	Basic	Advanced	Fast Forward Advanced Plus
-OSHA 30	- Certificate of Technical Studies: Lathe Operator - Certificate of Technical Studies: Mill Operator -NIMS 1	-Technical Diploma: Machine Tool Technology -NIMS 2	Associate of Applied Science: Machine Tool Technology

**Core Academic Course*

***Jump Start CTE Course*

Grade 9	
Semester 1	Semester 2
*English I 120331	*U.S. History 220403
*Algebra I 160321	*Physical Science 150802
*Civics 220501/220504	**Introduction to Computers CPTR 1000/DE Business Computer Applications 040400
*Physical Education I 109105	*Foreign Language I

Grade 10	
Semester 1	Semester 2
*English II 121001	*½ Physical Education II 190106 ½ Health Education 190500
*Algebra II 211101	*Biology 150301
*World Geography 220300	*Foreign Language II
**NCCER Carpentry in Agriscience I 010601	*Geometry 221001

	DE College Success CSSK 1000 TBD Jump Start Summers
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Additional and/or equivalent TOPS core aligned courses can be found in Bulletin 741.

Grade 11			
Semester 1		Semester 2	
Postsecondary Course	LDOE Course/Code	Postsecondary Course	LDOE Course/Code
**Blueprint Reading MTTC 2110	**DE Design, Blueprint Reading, and Codes 833002	**Drill Press MTTC 2230 (6 hours)	**DE Industrial Machines Shop III 311915
**Intro. To Machine Tools MTTC 2120	**DE Industrial Machines Shop I 835109	**Basic Lathe I MTTC 2310	**DE Basic Lathe I 891102
**Bench Work MTTC 2210	**DE Industrial Machines Shop II 835110	**Basic Mill I MTTC 2410	**DE Basic Mill I 891104
*College Algebra	*Algebra III: DE-CMAT 1213 College Algebra 216001	*Introduction to Psychology PSYC 2015	
*College Success CSSK 1000			

Grade 12			
Semester 1		Semester 2	
Postsecondary Course	LDOE Course/Code	Postsecondary Course	LDOE Course/Code
**Forming and Shaping MTTC 2220	**DE Industrial Machines Shop IV 835111	**Advanced Lathe MTTC 2331	**DE Advanced Lathe 891100
**Basic Lathe II MTTC 2320	**DE Basic Lathe II 891103	**Advanced Mill MTTC2431	**DE Advanced Mill 891101
**Basic Mill II MTTC 2420	**DE Basic Mill II 891105	**Precision Grinding MTTC 2510	**DE Grinder Assistant 110231
*Environmental Biology BIOL 1110	*DE General/Physical Science Elective 150899	*Western Civilization I	*Western Civilization: DE-CHIS 1013 Western Civilization I 220446
*English Composition I ENGL 1015	*English III: DE-CENL 1013 English Composition I 120601	*Critical Reading and Writing ENGL 1025	*English IV: DE-CENL 1023 English Composition II 120607

This pathway framework is an outline of how the approved courses can be implemented. Schools may opt to rearrange the order of course sequencing in order to meet local scheduling requirements. Additionally, Fast Forward pathways are dynamic and the Jump Start Review Panel will consider course equivalents on an as needed basis.