

**Jump Start 2.0 Associate of Applied Science: Technical Studies 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
- <a href="#">OSHA 30</a>	- Certificate of Technical Studies in Lathe Operator - Certificate of Technical Studies in Mill Operator - <a href="#">NIMS 1</a>	-Technical Diploma in Machine Tool Technology - <a href="#">NIMS 2</a>	-Associate of Applied Science: Machine Tool Technology

\*Core Academic Course

\*\*Jump Start CTE Course

Grade 9	
Semester 1	Semester 2
LDOE Course/Code	LDOE Course/Code
*Technical Writing 120350	*English I 120331
*Math Essentials 160351	*Algebra I 160321
*Civics 220501/220504	*Physical Education I 190105
*Earth Science 150901, Physical Science 150802 or Environmental Science 150310	**Quest for Success 080411



Grade 10	
Semester 1	Semester 2
LDOE Course/Code	LDOE Course/Code
*English II 120332	*½ Physical Education II 190106 ½ Health Education 190500
*Algebra II 160322	*Geometry 160323
*U.S. History 220403	Intro. to Psychology PHYC 2015/Psychology: DE CPSY 2013 - Introduction to Psychology 225011
*Biology 150301	Elective TBD by course selected
	College Success CSSK 1000/DE College Success 890200

*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 310622	**Drill Press MTTC 2230 (6 hours)	**DE Industrial Machines Shop III 311915
** Intro. To Machine Tools MTTC 2120	**DE Industrial Machines Shop I 311900	**Basic Lathe I MTTC 2310	**DE Basic Lathe I 891102
** Bench Work MTTC 2210	**DE Industrial Machines Shop II 311905	**Basic Mill I MTTC 2410	**DE Basic Mill I 891104
*College Algebra MATH 1015	*Algebra III: DE - CMAT 1213 College Algebra 160500		



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 311918	**Advanced Lathe MTTC 2331	**DE Advanced Lathe 891100
**Basic Lathe II MTTC 2320	**DE Basic Lathe II 891103	**Advanced Mill MTTC 2431	**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 HIST 1010	Western Civ: DE - CHIS 1013 Western Civilization I 220446
*English Composition I ENGL 1015	*English III: DE - CENL 1013 English Composition I 120601		

*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.*