

START COLLEGE

now!

dual credit pathway

High school juniors and seniors, take advantage of the Start College Now program to earn college credits before you graduate! We've provided a list of suggested courses to help you get started, but you're not limited to these options.

Feel free to explore and choose the courses that fit your interests and academic goals!

CNC SET UP TECHNICIAN

Take classes for a career that's in high demand, pays well and has plenty of room to grow. Job titles include CNC Machinist, CNC Operator, CNC Programmer, CNC Set Up Technician and Manufacturing Engineer.

 All classes are online unless denoted with an on campus symbol where lab hours are required.

SEMESTER 1

COURSE NO.	COURSE TITLE	CR.	ACHIEVED
 31-420-346	Machine Shop Safety & Measurement Tools	2	☐
31-420-347	Print Reading I	1	☐
 31-420-348	Intro to Machine Tools <i>Haas Mill Certification available</i>	5	☐
31-420-349	Computer Aided Machining Mill <i>EMastercam Certification for 2D Mill available</i>	1	☐

SEMESTER 2

COURSE NO.	COURSE TITLE	CR.	ACHIEVED
31-420-350	Computer Aided Machining Lathe <i>EMastercam Certification for Lathe available</i>	1	☐
 31-420-351	Computer Numerical Control <i>Haas Lathe Certification available</i>	4	☐
31-420-352	Print Reading II	1	☐
 31-420-353	CNC Fixturing & Measurement	2	☐
31-420-354	Industry Experiential Learning	1	☐



CTE INCENTIVE GRANTS:

Your school can earn up to \$1,000 for every student who completes the program.



GENE HAAS GRANT FUNDING:

Save \$75 per credit—up to \$1,350 for the whole program.



Submit your application to your high school counselor by March 1 for fall semester and October 1 for spring semester.

For more information contact:



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COURSE DESCRIPTIONS & SCHEDULE

SEMESTER 1 COURSE DESCRIPTIONS

31-420-346 Machine Shop Safety & Measurement Tools

18 online hours, 54 lab hours

The safety unit includes instruction in topics such as lockout-tagout, forklift training, shop safety, safety procedures for all equipment, handling and storage of materials and emergency response procedures. Learn procedures for all measurement equipment used in the machine shop.

31-420-347 Print Reading I

fully online

Introduction to reading and interpreting prints and industrial drawings. Interpretation of views, projection, lines, section, working and assembly drawings relative to manufacturing processes and order of operations. This course integrates math skills with print reading.

31-420-348 Intro to Machine Tools

45 online hours, 135 lab hours; Haas Mill Certification available

This course will provide instruction and practice in the use of mills, lathes & surface grinding machines and various processes performed on them. Students will learn the installation of grinding wheel, work holding techniques, speeds and feeds and problem solving. Use profilometer to measure roughness average and grind parts specific dimensions. Students will learn about each machine, associated processes, machine tooling, and related safety/maintenance issues.

31-420-349 Computer Aided Machining Mill

fully online; EMastercam Certification for 2D Mill available

Introduction to computer aided machining of 2 dimension parts using CAM software. Students will use CAM software to create and machine pockets, slots, bosses, holes and engraved details in CNC milled parts.

SEMESTER 1 SCHEDULE

Machine Shop Safety & Measurement Tools

Monday, Tuesday, Wednesday: 8am – 8:53am

Print Reading I – online

Intro to Machine Tools

Monday, Tuesday, Wednesday: 9am – 10:34am

Thursday: 8am – 10:34am

Computer Aided Machining Mill – online

Online live instruction Fridays: 8am - 9am

Additional open lab hours: Monday - Thursday: 10:35am-11:35pm



SEMESTER 2 COURSE DESCRIPTIONS

31-420-350 Computer Aided Machining Lathe

fully online; EMastercam Certification for Lathe available

Introduction to computer aided machining of parts using CAM software. Students will use CAM software to create lengths, diameters, chamfer, counterbore, external threads and parting off in CNC lathes.

31-420-351 Computer Numerical Control

36 online hours, 108 lab hours

Haas Lathe Certification available

Students apply skills in the programming and operation of a machining center using G-code, tool selection and work hold devices. The introduction to planning and writing programs for (CNC) turning centers using G and M code. Programming basics will include multiple tool programs, tool nose compensation and canned cycles. The setup of CNC Machining centers is covered in this course. Applications include selection of tools and work holding devices, setting tool offsets and work coordinate positions, and minor edits. Applications include selection of tools and work holding devices, setting tool offsets and work coordinate positions, calling programs, proofing programs, and machine adjustments.

31-420-352 Print Reading II

fully online

Print reading is learning a new language in graphic or symbolic form for the purpose of manufacturing or assembling mechanical components. Units include: orthographic projection, sketching, dimensioning, machine process callout, tolerance, finish, title blocks, notes, hole types, threads, symbols and callouts.

31-420-353 CNC Fixturing & Measurement

18 online hours, 54 lab hours

Students will apply what they learned by determining workholding needs and recognize problems with CNC operation. We will adjust tools and fixtures as needed. Students will use advanced measurement equipment for part inspection.

31-420-354 Industry Experiential Learning

72 individualized hours of industry experience

Students will have the option to apply technical theory and skills on the job. Students will setup and perform production part runs. Students will verify critical dimensions on parts and develop appropriate employment attitudes. Students will also have the option to tour facilities and complete essay(s) and employee interview(s) in lieu of internship.

SEMESTER 2 SCHEDULE

Computer Aided Machining Lathe – online

Computer Numerical Control

Monday, Tuesday, Wednesday: 9am – 10:13am

Thursday: 8am - 10:13am

Print Reading II – online

CNC Fixturing & Measurement

Monday, Tuesday, Wednesday: 8am – 8:53am

Experiential Learning – attendance at industry business or on campus to work on assigned project

Online live instruction Fridays: 8am - 9am

Additional open lab hours: Monday - Thursday: 10:14am-11:14pm

Southwest Wisconsin
TECHNICAL COLLEGE

swtc.edu/dualcredit