

NAME: \_\_\_\_\_

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# CNC MACHINING

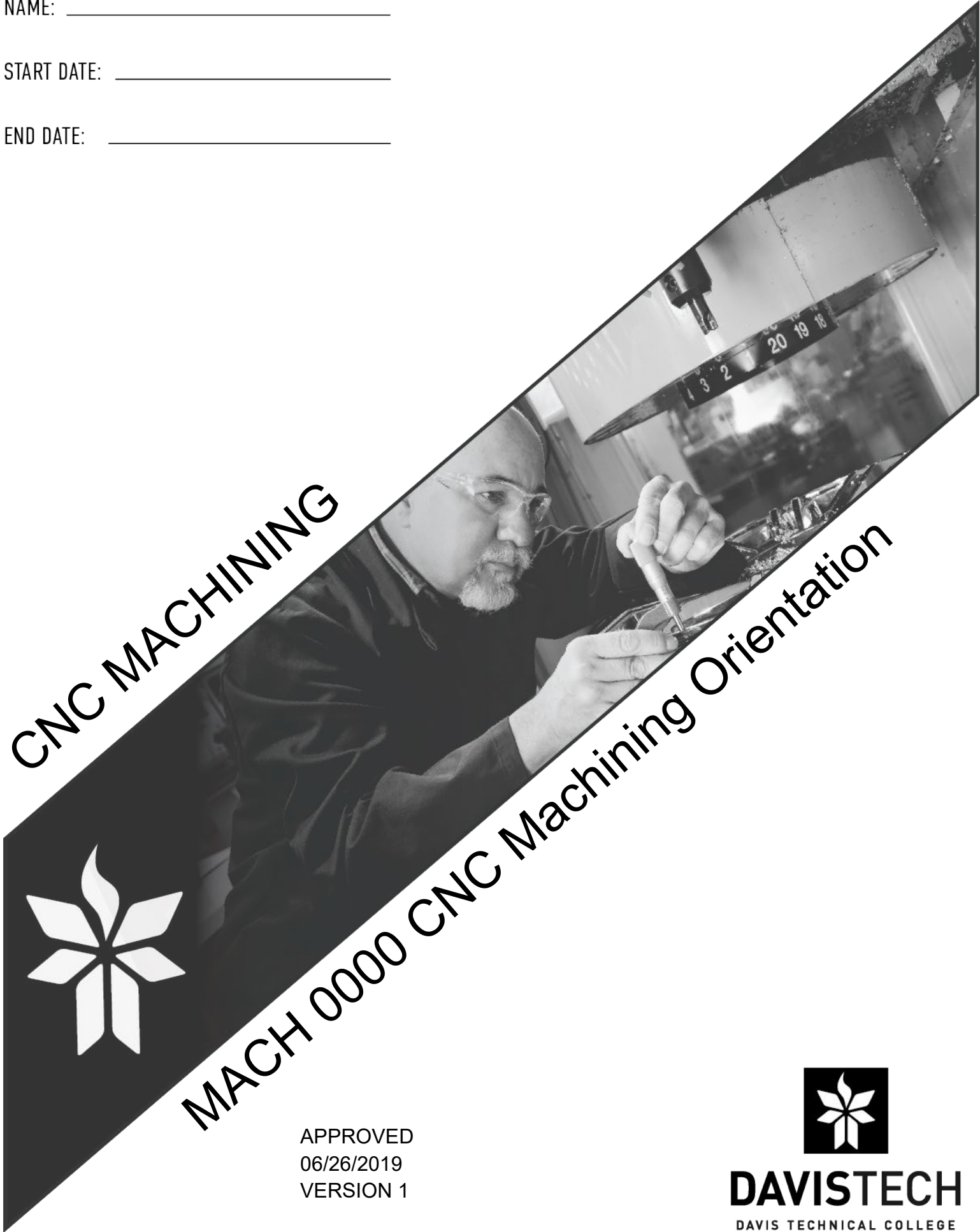
# MACH 0000 CNC Machining Orientation



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**DAVISTECH**  
DAVIS TECHNICAL COLLEGE



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## MACH 0000 CNC Machining Program Orientation

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Advisement Hours: During Classroom Hours

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### Introduction

Welcome to the CNC Machining program at the Davis Technical College (Davis Tech)! The purpose of this program orientation is to familiarize you with information specific to the program and its unique policies and procedures. You are required to read this document thoroughly and discuss any unclear sections with your instructor or a Career and Academic Advisor. You may also review college policies on the Davis Tech website ([www.davistech.edu](http://www.davistech.edu)), or in Student Services.

### Program Description

Students enrolled in the CNC Machining program will utilize industry standard tools, equipment, and procedures as entry-level machinists. Students will study blueprint reading, sketching, part design, CNC operation, and CNC programming. The program offers training in lathe, mill, and drill press, as well as related skills in math, use of precision measuring tools, and mechanical inspection methods to produce precision parts with extremely close tolerances. Students are provided a learning environment similar to what they will encounter in small machining shops, as well as large manufacturing firms throughout the country.

### Program Objectives

Students will practice through hands-on experience, instructional videos, information sheets, and competency tests. Upon completion of this program or a given certificate, students will have received specialized training as a Manual Machinist or CNC Operator. Students will learn and apply the following while enrolled in the CNC Machining program:

- Recognize proper safety and hazardous material management
- Use precision measuring tools
- Perform cutting operations on a horizontal band saw
- Identify common metal classifications
- Operate and create parts on an engine lathe and a vertical mill
- Operate CNC turning centers and machining centers
- Write manual G-code programs



- Diagnose and troubleshoot program errors
- Use CAM software to simplify machining programming

## General Information

You can access this orientation on the Davis Tech program web site, as well as current information on the following items:

- Admission Requirements
- Classroom Availability
- Training Location
- Graduation Requirements
- Course Descriptions
- Program Requirements
- Gainful Employment Disclosures
- Estimated Cost (*tuition, fees, program and course materials*)
- Financial Aid
- Credentials
- Job Outlook
- Transfer Options
- Academic Agreements
- Industry Licensing and Certification

## Program and Course Materials

Tooling U is an online training program that is used across the country by many large manufacturing facilities to train their personnel. Tooling U is used at Davis Tech to help students learn fundamental skills. The Machine Tool program also uses hands-on training and videos to cover all the courses in this program. You must purchase Tooling U subscriptions from the Davis Tech bookstore. They are available in varying lengths from 90-120 day subscription to 365 day subscription. Tooling U is first used in *MACH 1001 Machining Introduction* and you will need to have your subscription purchased by the time you are ready to begin work in this course. High school students will not be required to purchase Tooling U, but it is highly recommended. **If you purchase a Tooling U subscription directly from the Tooling U website and not from the Davis Tech bookstore, your instructor will not be able to assign you to the correct courses, and you will pay a higher price for the subscription.**

## Advisement

You will meet with your instructor at the beginning of each course and at least once a month. These meetings will allow you and the instructor to accomplish the following tasks:

- Update any changes in your employment status and contact information in Northstar.
- Review course performance and attendance requirements.
- Define and clarify training and career goals.
- Select appropriate courses according to your interest and aptitude and that achieve program completion requirements.



- Discuss professional work ethic.
- Discuss challenges and support services that can help improve your success.

## **Scheduling**

Courses in this program have an Open-start/Defined-end schedule. Students in this program may start courses at any time. Following course enrollment, you'll receive a schedule that shows the date by which you must complete the course. If you fail to complete a course by the end date, you will be required to re-enroll and repay for the course.

## **Campus Technology**

Each time that you attend class, you will log in to and out of the Northstar Classroom Login Station using your 10-digit student number. You were given this number when you completed the Davis Tech enrollment process. You will use your student number to access the Student Portal as well. Your instructor will provide you with information on Canvas access.

You can access Canvas from any internet-connected computer at the following URL:

<https://davistech.instructure.com/login>. If you have problems logging in to Canvas, please see your instructor or email [online.support@davistech.edu](mailto:online.support@davistech.edu). If you encounter technical problems while in Canvas, use the Help button in Canvas and the "Report a Problem" link. A general orientation to Canvas can be found in the New Student Orientation, but faculty will also offer an orientation specific to technology in your program on your first day of class.

## **Learning Resources**

### **Student Resource Center**

The classroom includes a Student Resource Center where you will find industry publications, periodicals, manuals, media materials. In addition, you will be given opportunities to use equipment and materials, such as computers with Internet access and software applications that are currently being used in industry.

### **Electronic Student Resources**

Your Canvas orientation course contains electronic learning resources that can be used throughout your time in the program. Each canvas course links to these resources, and they will be updated regularly. If you find a frequently used resource (website, video, tutorial, etc.) that you think would be helpful for other students in your program, consider sharing the link with your instructor.

### **First Aid Supplies**

The classroom also includes first aid kit, and other supplies needed in case of emergency. Evacuation maps can be found in strategic locations throughout the college.

### **Students with Disabilities**

If you have a disability that may require some accommodation by the instructor, contact the instructor and document the disability through a Davis Tech counselor in Student Services.



## Student Policies and Procedures

You may find further information on institutional student policies and procedures here:  
<http://www.davistech.edu/student-policies>.

## Instructor Response Time

Your instructor will respond to any question regarding the program, assignments, or assessments in 24 hours within the Davis Tech operational schedule.

## Performance Standards

Davis Tech courses are competency-based, requiring you to demonstrate your knowledge and skill according to industry-based objectives and performance standards. Course lengths are based on actual clock-hours and are calculated on the average length students are expected to complete designated course work. At the beginning of each course, you will receive course curriculum which provides guided learning modules for you to follow. This includes the amount of time that should be spent on each learning activity. Because Architecture and Engineering design firms typically function with deadlines in mind, this approach is designed to mimic the typical time standards and deadlines the student will eventually experience.

## Progress

Students are expected to complete course work according to a timeline in the course curriculum. The timeline shows the maximum number of hours it should take you to complete each module of the course. Progress is calculated by the number of scheduled hours versus the amount of coursework completed. Progress and attendance must be maintained at 67% and 85% or better respectively. If you have difficulty meeting the progress requirement, you are encouraged to talk to your instructor. Failure to maintain the required progress standard, or failure to complete a course by the end date will result in academic corrective action being taken.

## Grading

Students will receive a grade for each course based on the average score earned on all graded assignments, projects, and tests. For written assignments, tests in Canvas, and final tests in Tooling U, students are required to score a minimum of 70 percent to pass. On labs and projects, students are required to score above B or better, which is considered the minimum industry standard. Please note that some courses may have weighted scores.

### Grade Scale:

A	95-100%	A-	94-90%	B+	87-89%
B	83-87%	B-	80-82%	C+	77-79%
C	73-76%	C-	70-72%	D+	67-69%
D	63-66%	D-	60-62%	F	0-59%

### Citizenship:

Students will earn citizenship grades based on attendance.

H	95-100%	G	90-94%	S	85-90%
N	81-84%	U	80% or below		



## Project Grading

Parts built by students in the CNC Machining program are graded using a Grading Scale and Skills Level Assessment. Each part receives a letter grade based on the student's demonstrated Skill Level, as outlined below. Students can also find this grading procedure on the last page of each Skills Checklist.

### Grading Scale:

<b>A</b>	Part is in tolerance. Surface finish is correct Time standard was met, or was no more than 0.5 hours over standard time.
<b>B</b>	No more than 1 features out of tolerance Surface finish was no more than 1 level below standard Time was over standard time by 50%
<b>C</b>	More than 2 features out of tolerance Surface finish more than 2 levels below standard Time was 1 1/2 time standard

## Attendance

Although high school students in this program are required to have a defined schedule, adult students have flexible scheduling options with a minimum attendance standard. Although you are in a classroom environment, the College's purpose is to help you prepare to work in the business world. Good work habits include punctuality and attendance. Employers pay close attention to attendance and tardiness. The attendance policy for the CNC Machining program is a minimum of 85%; however, you should have a personal goal of 100% attendance.

You are responsible to sign in to Northstar at the beginning of your first class period and sign out at the completion of your last class period. Problems with signing in must be reported to an instructor as soon as possible.

- Clock-in window is 10 minutes before and after the bell.
- If you clock-in 10-20 minutes late, you will be marked tardy.
- If you clock-in more than 20 minutes late, you will be marked absent.
- If you leave before the bell, you will be marked absent.
- If you are hanging out in the hallway, talking on cell phones, visiting, or whatever it is that is not approved by the teacher first, you will be given an "N" for a nonproductive day.
- If you miss 10 consecutive days, you will be dropped for the 10-day rule, and may lose placement in the program. (Be sure to communicate with instructor.)
- If you have a job interview, a meeting with your caseworker, or something that is class-related and you have to leave class, you are permitted to go, but you will be required to bring back a letter from the organization on organizational letterhead the following day. Failure to do so will result in an absence.



The guidelines for attendance are based upon that of a working environment. If you were at your place of employment and you were continually late or leaving early, you probably wouldn't have your job for long. We are willing to work with you if you have special circumstances, but you must learn to communicate these to your instructor. (This doesn't mean we can excuse an absence.)

## **Academic Performance**

### *Monthly Review*

Every month a progress report is generated for every student in the CNC Machining program; any student not meeting the minimum standards of **85 % attendance and 67% progress** will meet one-on-one with an instructor. During this meeting, the student and instructor will discuss how to improve the student's performance. A note will be entered into NorthStar, which becomes part of a student's permanent record.

Your success in this program is important to us. We will work with you to help you succeed, but if we feel that you are not meeting the minimum standards of **85 % attendance and 67% Progress** as described in this orientation, we are committed to taking appropriate actions to help you improve. The following steps may be taken if you fail to meet the minimum performance, progress, and attendance standards or violate CNC Machining policies and procedures:

### **High School Students**

Your success in this program is important to us. We will work with you to help you succeed, but if we feel that you are not meeting the minimum standards as described in this orientation, we are committed to taking appropriate actions to help you improve.

High school students must meet minimum standards in grading, progress, and attendance before transitioning into a place in the program as an adult student. These standards are established by the program and may differ across the college. In the CNC Machining program, a high school student, who will become an adult student, should meet the following minimum standards:

Attendance: 85 percent      Progress: 80 percent      Grade: B

If you do not meet Davis Tech or CNC Machining performance standards, you will be subject to academic discipline. Reasons for academic discipline include but are not limited to violations of Davis Tech or program policies and procedures, violations of academic integrity, failure to maintain minimum attendance standards, failure to maintain progress standards, and repeating a course.

### **Student Improvement Plan**

During the first meeting students will be given short term goals to help them reach the desired progress and attendance.

Attendance is critical and is the primary reason for sending the letters

2nd letter / probation status





Students who fail to meet their goals set during their first meeting will be placed on a probationary status. This means the student has not meet the minimum standard for progress and attendance for 2 months or their progress & attendance has not improved.

### 3rd letter

The third letter indicates the students' progress and attendance have not improved or have declined over a 3 month period. Students in this situation will be met with and discuss their options, they include: Moving to a more appropriate program, Academic Probation.

### **Academic Probation**

If you are placed on academic probation may lose Federal Financial Aid, scholarship eligibility, or sponsorship and benefits, as determined in accordance with college Financial Aid requirements and Department of Education regulations.

If you are unable to complete a course by the course end date or meet program performance standards, you will be put on probation and a Student Improvement Plan will be developed. The plan will include details of the unsatisfactory performance, outline a plan and timeframe for performance improvement and describe the process that will be used to monitor and evaluate future performance. This Plan will be submitted to Student Services to become part of your student record. The Plan will be signed by you and the instructor.

If you are unable to correct the unsatisfactory performance or complete the repeated course by the repeated course end date, you will remain on probation and will need to meet with your instructor and a college counselor to modify and further define the Student Improvement Plan. The instructor and counselor may also evaluate barriers that might prevent your success in the program and whether or not other training options should be considered.

If you fail to meet the performance standards outlined in the Student Improvement Plan, you will be required to participate in a Committee Review in order to continue as a student at the DATC. The committee will be composed of you, the instructor, the program director, an impartial program director, and a college counselor. The committee will evaluate the corrective actions taken by the college, the CNC Machining and you to determine a mutually beneficial course of action. Possible options may include but are not limited to: continued academic probation, additional assessment, recommended change to another educational program, suspension, or termination from the program.

If you fail to appear for the Committee Review, you may be considered for disciplinary termination. If you have received a Student Improvement Plan or have been placed on academic probation and subsequently leave the institution, you may be considered for disciplinary termination. If you are terminated for academic performance, you must meet with a Career and Academic Advisor to discuss a plan for correction before being permitted to re-enroll at the DATC.





### **Problem Resolution**

If you are not satisfied for any reason with classroom management, grading or academic disciplinary actions taken, discuss your concerns with faculty in your program. If this does not resolve your concerns, please contact Student Services.

### **Placement Services**

Placement services are available to you when you complete your program. These services include resume review, interview skills and job placement assistance.

### **Student Follow-up**

Your success in finding employment is an indication of the quality of our instruction. To evaluate the effectiveness of our programs, we ask that you notify us of your employment status. If you are already employed, become employed, or if your employment status changes, please notify your instructor. You may also report current military service, the pursuit of additional education, or indicate reasons that may prevent you from completing your program or finding employment. If we don't receive a response from you, a Davis Tech employee will contact you to request your employment status.

### **Program Safety**

You will learn about industrial safety in *MACH 1001 Machining Introduction* and are expected to follow the following safety standards:

- Wear safety glasses in required areas
- Adhere to lab dress code

If at any time, an instructor feels the student is not following proper safety standards, he or she may be asked to leave the shop floor.

### **Course Evaluations**

At the end of each course, your curriculum will guide you to an online evaluation with questions about course, your primary instructor, and general college services. We appreciate and value your feedback. Although you will be asked to enter your student number, this is simply to verify the evaluation is completed only once per student. Feedback is used for program improvement and professional development.

### **Work-Based Activities**

Students have the choice to enroll in a CNC Machining externship where they will work with local companies to apply skills learned through their course work in a real-world setting. The instructor will work with business partners to arrange and manage the details of the externship. Consult with your instructor to see the written instructional plan that specifies the objectives, experiences, competencies, and evaluations for this course.

### **Employer Advisory Committee**

The CNC Machining Employer Advisory Committee is made up of local industry professionals who meet at least twice a year. During the meetings, the advisory team reviews the program, courses,



equipment, materials, facilities, and the learning environment to ensure that what is being taught aligns with industry practices. They also provide information about the employment outlook in the field and specific changes that help us to better meet their employment needs.

