



CENTRAL CITY CAMPUS
1245 EAST BUCKEYE ROAD
PHOENIX, AZ 85034

CNC MACHINING

CERTIFICATE # 1700

SYLLABUS

This Syllabus covers your program and includes your instructor's' contact information, the courses, hours, policies and procedures which will govern your time here at GateWay Community College Central City Campus. It is your responsibility to read and understand the information contained in this Syllabus and the Student Handbook, as well as to track your attendance. Although this Syllabus may be changed at any time, your instructors will notify you of any changes.

PROGRAM INSTRUCTOR(S)

James Smith

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(602) 238-4383

Michael Kase

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(602) 286-8657

GATEWAY LEARNING OUTCOMES

1. Learners will develop the mindset to gather, organize, synthesize, analyze, and evaluate information to solve problems and make evidence-based decisions as defined by four competency areas: metacognition, decision-making, information literacy, and analytical inquiry/quantitative reasoning.
2. Learners will communicate effectively in a range of social, academic, and professional contexts, as defined by four competency areas: emotional intelligence, active listening, written, oral & visual modes, effective use of technology, and collaboration skills.

PROGRAM OVERVIEW

SECTION NO.	COURSE NO.	COURSE NAME	HOURS
10149	ESP110	TOOLS FOR INDUSTRY SUCCESS	48
10125	ISP118	COMPUTER ESSENTIALS	48
10156	MT0100	MACHINING FUNDAMENTALS	96
10157	MT0105	GEOMETRIC DIMENSIONING & TOLERANCES	54
10158	MT0111	BENCHWORK & LAYOUT	42
10159	MT0115	DRILL PRESS	66
10160	MT0120	MANUAL MILL	96

10161	MT0125	MANUAL LATHE	82
10162	MT0130	SURFACE GRINDING	54
10163	MT0135	CNC MILL	112
10164	MT0141	CNC LATHE	112
10166	ESP120	CAREER READINESS FOR TRADE AND TECHNICAL	24
10165	MT0145	CAM PROGRAMMING	66
			900 TOTAL HOURS

TEXTBOOKS

Textbooks can be purchased from the GateWay Bookstore or any other supplier of your choice.

ISBN	TITLE & EDITION	AUTHOR
9781640610095	1-64061-009-X GATEWAY CC CUSTOM BUNDLE (WTCB, WD 2016 L1, EX 2016 L1)	LABYRINTH LEARNING
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES
978-0-12-2172202-2	BLUEPRINT READING FOR THE MACHINE TRADES, 7TH EDITION	SCHULTZ, SMITH

IMPORTANT

1. All information in this Syllabus subject to change. Students will be notified by the instructor of any changes in course requirements or policies.
2. Keep a copy of this Syllabus for reference at all times; it is considered the ruling document.
3. All students are expected to read and are bound by the [GWCC Student Handbook](#).

POLICIES, PROCEDURES, AND STANDARDS

GateWay Community College is committed to providing a superior learning environment that is safe and healthful for students and staff. To meet this objective, it is imperative that each department conduct our classrooms and labs in a neat, clean and efficient manner that demonstrates pride in ourselves and in our work.

CATALOG & STUDENT HANDBOOK

The Catalog & Student Handbook can be located online at [GWCC Student Handbook](#). Please refer to this handbook for current policies and procedures.

Before entry into the program, or any materials issued, all students must read and acknowledge in Canvas their commitment to following the policies, procedures, and standards contained in this Syllabus as well as those in the GWCC Student Handbook.

Violation of any of these procedures will result in appropriate disciplinary action to be taken, up to and including dismissal from the program.

COURSE COMPETENCIES

Every GateWay Community College course has a list of the competencies each student must achieve in order to successfully complete the course. GWCC course competencies are aligned with leading industry feedback and may also include opportunities for external certifications. Every competency is comprised of learning tasks (designed to teach the competencies) and assessments (designed to measure how well a student has mastered the competency). Full listings of courses, associated competencies, program syllabus, textbook and supply lists are available from instructors at any time.

MINIMUM PROGRESS

Your progress is measured by your ability to accomplish competencies within stated time frames. Instructor observations and formal skills assessments will determine whether these competencies are met. To maintain satisfactory academic progress, you must successfully complete all assigned work with a P (equivalent to a C or better). You must successfully complete your courses in the order in which they are scheduled.

You and the instructor will discuss your progress at regular intervals throughout each course. Upon failure of a competency, the instructor will develop an action plan, with a timeline to assist you in meeting the competency prior to the end of the course. Failure to meet all required competencies in a course will result in withdrawal from the program at the end of the course. Additionally, you may lose financial aid eligibility, Veterans benefits and/or agency support.

If a student does not make satisfactory academic progress in a current class, the student will be withdrawn from that course and cannot advance to the next course in the sequence. The student will also be terminated from the Program of Study and withdrawn from remaining courses due to failure to meet program completion requirements by not maintaining satisfactory academic progress

CLASS SCHEDULING

Full-time students will be scheduled to attend class for a minimum of 24 hours per week and may be required to select from a designated block of time. Students may request to change their scheduled block of time by following the designated procedures for their program. Part-time and/or evening options may be available and will vary by program.

GRADING SCALE (INDIVIDUAL COURSE WILL DIFFER; SEE COURSE PAGES WHICH FOLLOW)

PASS/FAIL

- **PASS** – Student independently completes the skill or task without prompts or assistance to the identified level of competency.
- **FAIL** – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

LETTER GRADES

90 – 100%	A
80 – 89%	B
70 – 79%	C
0 – 69%	D

USE OF CANVAS

GateWay uses Canvas to manage your learning resources. At a minimum, you will find this Syllabus and unofficial assignment and test grades in Canvas: learn.maricopa.edu

- All changes in this Syllabus will be communicated via Announcements in Canvas, so always check Canvas for Announcements from your instructor
- All instructions and assignments for this class can be found in Canvas
- Proper posture for computer use will be found in Canvas
- Required assignments must be submitted through Canvas for grading
- Your instructors may have you complete additional assignments not on the weekly schedule to improve or expand your learning

STUDENT MISCONDUCT

Students are expected to behave in an appropriate manner while attending this program, and misconduct will not be tolerated. Respect the instructor and each other. Please see the [GWCC Student Handbook](#) regarding [District policies on academic misconduct and sanctions](#) related to these behaviors.

Behavior which disrupts the learning environment and / or hampers the ability of other students to learn and of instructors to teach will not be tolerated. Students who disrupt the educational process may be removed from class. Refer to the [GWCC Student Handbook](#) for policies regarding Disciplinary Standards.

ATTENDANCE

- ✓ The attendance standard for this program is 100%
- ✓ Arrive on time, return from break or lunch on time, and stay for the entire duration of class.
- ✓ See individual course page for scheduled make-up days, if any. **Note: There are no make-up days included in any course under 48 clock hours.**

- ✓ To be eligible to make-up time you must:
 - Immediately notify instructor if an absence or tardy incident will occur by calling your instructor
 - You will need to follow-up with an email through Canvas (Canvas Conversations)
 - You will need to include the following information:

To: (your instructor)
 Your name:
 Student ID:
 Today's Date:
 Course:
 Date Missed:
 Make-up date and time requested:

- All unofficial make-up time must be approved and scheduled through the instructor within 24 hours of the absence
 - You must complete a Student Communication Form and return it to the instructor for approval prior to attending on a scheduled make-up day
 - If you have a scheduled appointment and will be not attending class, get pre-approval from the instructor and schedule your make-up time
 - If make-up time is approved, the time must be made up **before the end date of the course where the absence occurred** so that you have the correct number of hours required for that course
 - You are required to make up the material missed and/or any additional material assigned by the instructor
- ✓ Students who fail to maintain attendance standards may be withdrawn and /or experience a loss of eligibility of funding to include, but not limited to, Federal Student Aid, Veterans benefits, and third-party agency funding. Refer to the catalogs section on Satisfactory Academic Progress regarding continuation of federal financial assistance.
- ✓ Students withdrawn from this course may be eligible to return on the next available start date to repeat this course. Refer to Admissions and Records for eligibility.

DRESS CODE

Industry Standard attire is required by all students in the classroom and lab areas.

No shorts, No open toed shoes. No cut off shirts.

Long hair must be tied up secured in a manner to avoid injury.

No dangling or loose jewelry.

No badge lanyards.

Badges are to be worn at all times on campus.

For common courses (ESP110, ISP118, and ESP120), as part of the professionalism expected in industry, business casual attire is required in the classroom.

MISCELLANEOUS BUT **IMPORTANT** INFORMATION

- Your instructors may require you to use third-party learning tools; these will be identified on the specific course page.
- While reading this syllabus for the first time, be sure to click **all** of the links.
- Treat your instructors and fellow classmates with respect, as well as their property and the property of the school.
- Set your phone to vibrate while in class.
- Step outside of classroom to address calls or texts.
- No food or drink in class and in the inspection room.
- Resolve conflict in a professional manner.
- Be considerate of your neighbors.
- You are responsible for keeping your workspace and locker clean. Cleaning supplies are available from your instructor.
- Do not leave anything (books, headsets, USB drives, eyeglasses, personal safety equipment, etc.) unsecured overnight. Unauthorized items may be thrown away by the cleaning crew.

IMPORTANT

All information in this Syllabus subject to change. Students will be notified by the instructor of any changes in course requirements or policies.

GATEWAY COMMUNITY COLLEGE SERVICES

College Security (Emergency)	480-784-0911
College Security (Non-emergency)	480-784-0900
Counseling (stress and psychology)	602-286-8900
Disability Resources	602-286-8170
Veteran Services	602-286-8076
Financial Aid	602-286-8300
Washington Campus Main Library	602-286-8458
Tutoring Services (Learning Center)	602-286-8800

EARLY ALERT - GateWay is committed to the success of its students by providing an environment conducive to teaching and learning. To ensure that every student takes full advantage of the educational opportunities, the College has implemented a retention program supported through an Early Alert System (EAS) that is managed by the Student

Success Coordinator. The goal of the Early Alert program is to improve students' persistence and promote the development of cognitive and affective skills. The system allows faculty to be proactive, supportive, and involved in facilitating the academic components of student retention through early detection and intervention of students who are experiencing problems that affect academic performance.

THE LEARNING CENTER - The [Washington Campus Learning Center](#) is located in IE 2108 and is a great place to get some help understanding your reading or writing homework. Tutors and multi-media materials are available at no cost to you. Phone: 602-286-8800.

RICOH COPY CENTER - Conveniently located in B008, they are available from 7 am to 3:30 pm to make copies for students for a reasonable fee.

VETERANS SERVICES OFFICE - If you are active military or a student veteran, thank you for your service. There are resources on the **Washington campus** to keep you informed of your rights and privileges. If you have any questions regarding the certification of educational benefits for active duty military, dependents and veterans please contact the [Veterans' Services Department](#); veterans@gatewaycc.edu; (602) 286-8076.

DISABILITY RESOURCES - The [Disability Resources Department](#) is located in B411, providing information and resources to students with disabilities on a case-by-case basis. Email: disability.services@gatewaycc.edu; (602) 238 - 0040.

COUNSELING - The [Counseling Department](#) offers services in B411, providing a unique and confidential relationship between a professional and a person in need of help. Email: counseling.centralcity@gatewaycc.edu; (602) 286-8900.

YOUR RESPONSIBILITIES AND RIGHTS AS A STUDENT

The [GWCC Student Handbook](#) has information on your rights and responsibilities. Please make note of the following sections:

- Copyright Act Compliance
- Technology Resource Standards
- Abuse-Free Environment
- Disability Resources and Services - Eligibility for Accommodations and Required Disability Documentation
- Academic Misconduct
- Disciplinary Standards
- Student Conduct Code

DISCLAIMER

Students will be notified by the instructor of any changes in course requirements or policies. Your instructor reserves the right to make changes to the class calendar and materials based upon the needs of this class.

EMERGENCY EVACUATIONS

Whenever the evacuation alarm or fire alarm sounds or students are verbally informed to evacuate the classroom/building:

1. Remain calm. Do not call the Public Safety Department to ascertain if the alarm is false or not. The phone lines will be needed to contact assisting agencies.
2. Leave the building, following the evacuation route posted in the area or classroom in an orderly manner or shared at the beginning of class.
3. While leaving:
 - a. Please assist disabled persons or others requiring assistance.
 - b. Shut all doors behind you as you go. Closed doors tend to slow the spread of fire, smoke and water.
 - c. Follow the instructions of instructors and staff.
4. Once outside, proceed to the designated assembly area. Follow the instructions of emergency personnel at the scene.

TOOLS FOR INDUSTRY SUCCESS

ESP110

Section # 10149

INSTRUCTOR(S)

Peggy Shortridge

shortridge@gatewaycc.edu

(602) 238-4329

CLASS DAYS

Mondays, 7/31, 8/7, 8/14, 8/21, 8/28, 9/11, 9/18, 9/25

CLASS HOURS

8:00 am until 2:30 pm. Lunch will usually be from 11:30 - Noon

ROOM

B415

SCHEDULED MAKE-UP DAY(S)

Missing class time is strongly discouraged. If you are ill or have another urgent reason to miss, communicate with me as soon as possible as outlined on pp. 5.

REQUIRED MATERIALS

No textbooks are required for this course. All supplies and tools will be provided in class.

DESCRIPTION

Effective communication, critical thinking, time management, exam preparation, and other workplace learning skills. Develop career and education plans to support continued success in school and the workplace.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

1. effectively navigate student life at campus
2. understand professional workplace behavior and demonstrate it throughout their time on campus
3. effectively communicate with others
4. utilize effective exam preparation and test-taking strategies
5. utilize various personal assessments and decision-making skills in creating achievable career goals and an educational plan to support them

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 48 hours.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 6 hours of class per week and spend an additional 2 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

LETTER GRADES

90 – 100%	A
80 – 89%	B
70 – 79%	C
0 – 69%	D

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas

COMPUTER ESSENTIALS

ISP118

Section # 10125

INSTRUCTOR(S)

Joanne Perez-Arreola
arreola@gatewaycc.edu
602/238-4381

Bruce Thompson
thompsonb@gatewaycc.edu
602/238-0055

CLASS DAYS Tuesday, Wednesday, Thursday 8/1 – 8/16

CLASS HOURS 8:00 am until 2:30 pm. Lunch is at 11:00 am to 11:30 am

ROOM B-420

SCHEDULED MAKE-UP DAY(S)

There are no scheduled make-up days for this class. Missing class time is strongly discouraged. If you are ill or have another urgent reason to miss, communicate with me as soon as possible as outlined on pp. 5.

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
9781640610095	1-64061-009-X Gateway CC Custom Bundle (WTCB, WD 2016 L1, EX 2016 L1)	LABYRINTH LEARNING

TOOLS/SUPPLIES

USB

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Students learn computer concepts, how to navigate an operating system, control programs, manage files locally and in the "Cloud", and search the internet. Students will establish email habits necessary to accomplish workplace success. In Microsoft Word, students learn how to create and edit a document and upload assignments. With Microsoft Excel, students

learn how to create and edit worksheets using simplified formulas and functions.
Prerequisite: None.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Demonstrate a basic understanding of a computer and its components
- Demonstrate the ability to navigate applications in Windows 10
- Manage files and folders in Windows 10
- Utilize Cloud based technology including Office Online
- Search for information efficiently on the Web
- Participate in a threaded discussion
- Establish professional email work habits
- Collaborate using Google Applications
- Create, format, and edit, business documents using Microsoft Word
- Create, format, and edit, workbooks using Microsoft Excel
- Create basic mathematical formulas and use functions to calculate values using Microsoft Excel
- Effectively communicate using technology

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 48 Hours.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 2 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas

MACHINING FUNDAMENTALS

MTO100

Section # 10156

INSTRUCTOR(S)

James Smith

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(602) 238-4383

Michael Kase

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(602) 286-8657

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 9/14/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION
78-1-285-44454-	PRECISION MACHINING TECHNOLOGY

AUTHOR
HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Understand basic terms, applications, measuring equipment, machining tools and machine theory.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand the fundamental knowledge of standard steel classification/numbering system
- Effectively read precision measuring devices
- Apply machining safety procedures
- Apply general machining practices
- Effectively apply inspection techniques

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 96 Hours.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS, ToolingU

GEOMETRIC DIMENSIONING AND TOLERANCING

MTO105

Section # 10157

INSTRUCTOR(S)

James Smith

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Michael Kase

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(602) 286-8657

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 10/16/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES
978-0-13-2172202-2	Blueprint Reading for the Machine Trades, 2nd Edition	Schultz, Smith

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Interpret blueprints and apply specifications to a given project with use of geometrical

dimensioning and tolerances.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Identify and interpret title block information
- Identify line types and their uses
- Describe the principle of orthographic projection
- Identify the three basic views frequently used in engineering drawings
- Identify isometric views
- Identify and describe the use of basic symbols and notation used on engineering drawings
- Define tolerance
- Demonstrate understanding of unilateral, bilateral, and limit tolerances
- Demonstrate understanding of allowances and classes of fit for cylindrical components
- Identify basic geometric dimensioning and tolerancing (GD&T) symbols
- Interpret basic GD&T feature control frames

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 54.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

BENCHWORK & LAYOUT

MTO111

Section # 10158

INSTRUCTOR(S)

James Smith

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(602) 238-4383

Michael Kase

michael.kase@gatewaycc.edu

(602) 286-8657

CLASS DAYS

Days class meets

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 10/30/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Learn about common bench work operations performed on the manual mill before and after machining operations.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Perform and apply hand layout techniques
- Apply machining safety procedures
- Understand applied mathematics
- Apply inspection techniques

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 42.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

DRILL PRESS
MTO115
Section # 10159

INSTRUCTOR(S)

James Smith james.smith@gatewaycc.edu (602) 238-4383	Michael Kase michael.kase@gatewaycc.edu (602) 286-8657
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CLASS DAYS Monday thru Thursday

CLASS HOURS Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 11/20/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Understand hole-making operations, work-holding devices, operations, and speeds/feeds theory.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Perform and apply basic drilling applications
- Perform drilling operation machine set ups
- Understand applied mathematics
- Apply inspection techniques
- Understand and apply safety techniques for drilling operations

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 66.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

MANUAL MILL
MTO120
Section # 10160

INSTRUCTOR(S)

James Smith james.smith@gatewaycc.edu (602) 238-4383	Michael Kase michael.kase@gatewaycc.edu (602) 286-8657
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CLASS DAYS Monday thru Thursday

CLASS HOURS Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 12/7/2017, 12/21/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Gain knowledge of basic components manual mills, common work-holding devices, cutting tools, and tool holders.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Perform and apply basic manual mill machining applications
- Perform manual milling machine set ups
- Apply inspection techniques
- Understand and apply safety techniques for milling machine operations

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 96

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

MANUAL LATHE

MTO125

Section # 10161

INSTRUCTOR(S)

James Smith

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Michael Kase

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(602) 286-8657

CLASS DAYS Monday thru Thursday

CLASS HOURS Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 1/29/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Gain skills in manual lathes, common work holding devices, cutting tools, and tool holders.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Perform and apply basic manual lathe machining & chucking applications
- Perform manual lathe machine set ups
- Apply inspection techniques
- Understand and apply safety techniques for manual lathe operations

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 82.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

SURFACE GRINDING

MTO130

Section # 10162

INSTRUCTOR(S)

James Smith

james.smith@gatewaycc.edu

(602) 238-4383

Michael Kase

michael.kase@gatewaycc.edu

(602) 286-8657

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 2/15/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Learn the steps involved in grinding horizontal and vertical surfaces with a horizontal-spindle, reciprocating-table grinding

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Perform and apply basic surface grinding applications
- Perform surface grinding set ups
- Apply inspection techniques
- Understand and apply safety techniques for surface grinding operations

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 54.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

CNC MILL
MT0135
Section # 10163

INSTRUCTOR(S)

James Smith

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(602) 238-4383

Michael Kase

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(602) 286-8657

CLASS DAYS Monday thru Thursday

CLASS HOURS Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 3/8/2017, 4/2/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen, USB thumb drive and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Learn basic Computer Numeric Control (CNC) milling machines concepts and programming.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Understand and operate CNC Milling Machines
- Perform and apply set up CNC Milling applications
- Maintain Quality and safety standards
- Generate and apply basic G-code programming
- Apply inspection techniques

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 112.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

CNC LATHE

MTO141

Section # 10164

INSTRUCTOR(S)

James Smith

james.smith@gatewaycc.edu

(602) 238-4383

Michael Kase

michael.kase@gatewaycc.edu

(602) 286-8657

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 5/9/2017, 5/10/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
78-1-285-44454-3	PRECISION MACHINING TECHNOLOGY	HOFFMAN, HOPEWELL, JANES

TOOLS/SUPPLIES

Notebook paper, pencil, pen, USB thumb drive and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Learn basic Computer Numeric Control (CNC) lathe machine concepts and programming.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Understand and operate CNC Lathes

- Perform and apply set up CNC Lathes applications
- Maintain Quality and safety standards
- Generate and apply basic G-code programming
- Apply inspection techniques

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 112.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

CAREER READINESS FOR TRADE AND TECHNICAL
ESP120
Section # 10166

INSTRUCTOR(S)

Katy Mendoza
katy.mendoza@gatewaycc.edu
602-238-4380

CLASS DAYS Monday 5/14, Tuesday 5/15, Wednesday 5/16, Thursday 5/17

CLASS HOURS 8:30am to 3:00 pm Lunch is 30 minutes and varies from
11:30 am to 12:30 pm

ROOM B-422

SCHEDULED MAKE-UP DAY(S) All make-up time must be pre-approved and
scheduled with the instructor. You will not
have any official make-up days for this course

REQUIRED MATERIALS

No textbooks are required for this course.

TOOLS/SUPPLIES

Please bring your own pencil and USB to save your documents (not required)

DESCRIPTION

Learn how to seek employment in your desired field, while using tools that guide you in looking for work, understanding the advantages of networking and the value of Continuous Improvement, as well as the importance of good communication skills (both verbal and written). You will practice critical thinking skills, understand the necessity of ethics in the workplace, build a resume, create a cover letter and learn about interviewing techniques. Prerequisite: None

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Better understand the impact of social media on your job search
- Recognize the value of teamwork
- Build a base resume using O'Net and then modify that resume for a specific job/employer
- Format a reference listing
- Understand the difference between an application and a resume
- Recognize the value of Continuous Improvement and learn what it means
- Review your personality traits and understand why they matter
- Participate in a critical thinking exercise via a group discussion
- Review the importance of maintaining confidentiality and the value of ethics
- Participate in an online discussion about ethical behavior
- Understand the importance of customer service
- Recognize the importance of persuasive writing
- Search for employment using Internet tools and various search methods
- Build an effective cover letter
- Participate in a mock interview with a classroom partner

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 24 Hours.

Classes are conducted in a face-to-face format. Late work is not accepted.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools:

Canvas

CAM PROGRAMING

MTO145

Section # 10165

INSTRUCTOR(S)

James Smith

james.smith@gatewaycc.edu

(602) 238-4383

Michael Kase

michael.kase@gatewaycc.edu

(602) 286-8657

CLASS DAYS

Monday thru Thursday

CLASS HOURS

Class hours 7:00 AM to 2:00 PM, lunch 11:30 to 12:30

ROOM

Lecture A207-B & Lab A301

SCHEDULED MAKE-UP DAY(S) 6/11/2017

REQUIRED MATERIALS

ISBN	TITLE & EDITION	AUTHOR
IBN	Title & Edition	Author

TOOLS/SUPPLIES

Notebook paper, pencil, pen, USB thumb drive and three ring binder

These tools and supplies are included in lab fee and distributed in class. If damaged, lost, or stolen, however, you must replace them at your own cost.

DESCRIPTION

Explore basic Computer Aided Machining (CAM). Learn how to convert part designs into precise machine toolpath movements.

COURSE COMPETENCIES

Upon completion of this course, you will be able to:

- Understand and complete process planning
- Describe the basic applications for Computer Aided Machining (CAM)

- Explain, perform and apply wire frame construction methods and applications
- Describe the basic principles of toolpath creation
- Describe basic toolpath types
- Generate G-code programming
- Describe the basic principles of post-processing

INSTRUCTIONAL METHODOLOGY

The 100% Attendance Standard for this course is 66.

Classes are conducted in a face-to-face format. You will need to spend as much time both inside and outside of the classroom as you need to successfully master the course content, and the amount of time will vary for each student. Still, it is estimated that if you are an average student and attend 24 hours of class per week and spend an additional 8 hours reading, reviewing, and completing assignments per week, you will succeed in the course.

GRADING SCALE FOR THIS COURSE

PASS/FAIL

PASS – Student independently completes the skill or task without prompts or assistance to the identified level of competency.

FAIL – Student does not complete the skill or task without prompts or assistance to the identified level of competency.

THIRD-PARTY TOOLS

During this course, you will be required to utilize the following third-party tools: Canvas, Cengage MindTap, NIMS

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