

OZARKS TECHNICAL COMMUNITY COLLEGE

Our mission:

To provide accessible, high quality, affordable learning opportunities that transform lives and strengthen the communities we serve.

Our Values:

Quality, Accessibility, Diversity, Community, Integrity, Opportunity, Learning, Innovation, Respect, Personal Growth

COURSE SYLLABUS

COURSE INFORMATION

Semester: Fall 2015

Course Title/Number: MTT-260-GH101 MACHINE TOOL SPECIALIST



Credit Hours: 32, **Lecture:** 0 , **Lab:** 6

Class time and location: Mon - Thur. 11:00 AM.-5:00 PM. in ITC 106

Course begins: Aug. 17th, 2015

Course ends: Dec. 10th, 2015

INSTRUCTOR INFORMATION



Instructors: John Rude

Office: ITTC 106 OTC Springfield Campus

Office Phone: 417-447-8268

Emails: rudej@otc.edu

Because of privacy regulations, faculty, staff, and students must use their @otc.edu account for all email communications.

TEXTBOOK AND OTHER REQUIRED MATERIALS

PRECISION MACHINING TECHNOLOGY BY HOFFMAN, HOPEWELL, JANES & SHARP
ISBN; 9781435447677 (**SUPPLIED BY OTC**)

PRECISION MACHINING TECHNOLOGY WORKBOOK AND PROJECTS MANUAL BY DAVID
LENZI ISBN; 9781435447684 (**SUPPLIED BY OTC**)

180 DAY SUBSCRIPTION TO TOOLINGU.COM (**SUPPLIED BY OTC**)

SAFETY GLASSES

POCKET CALCULATOR

COMPUTER USE EXPECTATIONS AND REQUIREMENTS

In today's computer based society, it is imperative that students develop computer based skills. Therefore, OTC students will be expected to use technology to assist them in the learning process, regardless of the format of the course. All students should be sure they have access to a computer with a reliable internet connection. For more information please see page 25 of the [Academic Catalog](#).

Internet Explorer is not compatible with Blackboard and is not recommended. [Google Chrome](#), [Mozilla Firefox](#) and [Safari](#) web browsers are recommended for use with Blackboard. If you are having issues using one of these browsers, please try using another. If you continue having issues, please contact online@otc.edu.



Students taking online and hybrid courses at OTC must have access to a computer that meets OTC [Computer Requirements for Online Courses](#). If you have any questions about these computer requirements, please email helpdesk@otc.edu. If you have difficulty using Blackboard, please contact online@otc.edu.

PREREQUISITES, COURSE RATIONALE, AND COURSE DESCRIPTION

None required..

Course Rationale

This course will provide students with thorough quality training to adequately prepare them for entry level employment within the machine tool technology workforce.

Course Description

This course introduces students to entry level skills and knowledge of machine shop operation and practices. Students are introduced to manual and Computer Numerical Controlled machine applications, and Computer Aided Manufacturing terminology and programming. Students will read and interpret drawings to manufacture a product.

Course Objectives

Upon completion of this course, the student will be able to:

1. Demonstrate safety practices required for the operation of manual and power equipment used in the manufacturing process.
2. Interpret dimensions and tolerances using standard orthographic drawings.
3. Perform proper quality control techniques using precision measuring equipment common to the machine tool industry.
4. Demonstrate the proper operation of the drill press, surface grinder, engine lathe, vertical mill, and power cut-off saws.
5. Calculate proper feeds and speeds needed to machine various types of metals.

6. Select proper cutting tools and accessories to create various machined features.
7. Plan proper machining sequences for manufacturing process.
8. Use Machinist Ready Reference to select and calculate proper mathematical formulas.
9. Define CNC machine code meanings and their proper uses.
10. Prepare a manual program to perform common CNC operations.
11. Set-up and operate table top 3-Axis CNC Mill.
12. Select proper sequence of tooling and machining operations.
13. Interpret mechanical drawings to ascertain machining operations required to process a machined part.
14. Demonstrate use of linear and circular interpolation using Cartesian coordinate system.
15. Demonstrate the use of Canned cycles.
16. Demonstrate a working knowledge of CAM software in the production of 2D engineering drawings.
17. Create proper sequencing of machine operations to complete manufactured CNC parts.
18. Write a basic CAM Mill and Lathe CAM program using industry standard tooling.
19. Identify and apply the proper use of precision inspection instruments.
20. Set-up and operate tabletop CNC Milling machine to produce machined parts programmed on CAM software.
21. Read and interpret mechanical drawings.
22. Measure Parts within 0.001" using a variety of precision measurement tools.
23. Sharpen cutting tools to perform a variety of machining operations.
24. Operate manual lathes and their accessories.
25. Operate different types of manual milling machines and their accessories.
26. Operate CNC milling machine and its accessories.

GRADING SCALE

This course follows the OTC grading guidelines:

- 100 and 200 level General Education, Technical Education, and Business courses:

A=100%-90%, B=89%-80%, C=79%-70%, D=69%-60%, F=less than 60%

COURSE AND COLLEGE POLICIES

GRADING

Students will be graded in a variety of weighted areas:

Daily Participation	10%
Performance Projects	40%
Assignments	10%
Mid-Term and Final Exam	25%
Quizzes & Tests	15%

*The advisory committees for the Technical Education Division tell us that employability skills include the following characteristics: punctuality, good attendance, a cooperative and positive attitude, effective verbal and written communication skills, and a strong work ethic. It is imperative that a student demonstrate these characteristics in order to be successful in business and industry.

MAKE-UP WORK

Your success in this class depends upon completing the assignments given and attending lectures and lab. If you are absent, the attendance points and lab points cannot be awarded and cannot be made up. If you miss a test, you will be responsible to make arrangements to make up the test. It will be your responsibility to find out what information, assignments, or projects were missed. Extra lab time can be arranged on a case-by-case basis. The composition of the make-up test will be at the discretion of the instructor. All tests **must be made up within one (1) week** of returning to class. Unless other arrangements are made with the instructor, at the end of the grace period a **zero (0)** will be entered into the grade book.

FINAL EXAM

The final exam will be given on Thursday, December 10th, 2015, at 11:00 AM -1:00 PM.

ATTENDANCE

Regular attendance is essential for student success and is expected during all courses for which the student is registered. In seated and hybrid courses, your attendance will be recorded in each class session.

Attendance will be taken at the start of each class period with the use of a sign-in sheet. Absences will be considered justified and excusable only in cases of emergencies,

serious illness or death in the immediate family. It is the student's responsibility to provide documentation to justify an excused absence.

ADMINISTRATIVE WITHDRAWAL

It is the policy of the college that a student will be administratively withdrawn from a course due to lack of attendance in seated and hybrid courses, or nonparticipation in online and hybrid courses. See [OTC Policy 5.36](#) for further information.

The number of absences that will result in administrative withdrawal from this course is 12 days or 2 consecutive calendar weeks.

You should be aware that administrative withdrawal for lack of attendance or nonparticipation may reduce the amount of financial aid you receive, delay your graduation, require repayment of aid you have already received, and does not relieve your obligation to pay all tuition and fees due to the college.



A fee of \$10 will be charged if you are administratively withdrawn from this course.

DROPPING THE COURSE

You are responsible for understanding OTC procedures for dropping a course, which can be found on the webpage of the [Registrar](#). The last day to drop a course is listed in the current Academic Calendar.

A fee of \$10 will be charged if you drop this course.

MEETING DEADLINES



Many college students juggle school, work, family, and other life responsibilities all at the same time. If a serious life issue prevents you from staying current in your coursework, contact your instructor as soon as possible and explain your circumstances. The faculty and staff at OTC are committed to your success and are aware that students face challenges. Often, we may be able to help you see a way to deal with your circumstances and still complete your courses.

Plan ahead for the unexpected! You are accountable for staying on the semester schedule should technological or other problems arise. You should immediately

communicate with the instructor if an emergency may affect your ability to meet course deadlines.

RECEIVING GRADES AND INSTRUCTOR FEEDBACK

Grades and feedback will be available through Pinnacle

Assignment grades and feedback are provided generally less than one week after the assignment is due, and always before an assignment of the same type is due.

COMMUNICATING WITH YOUR INSTRUCTOR

You may communicate with me by phone, email, office hours, and individual consultations by appointment.

STUDENT CONDUCT EXPECTATIONS

Academic Integrity

Students of OTC are expected to behave as responsible members of the college community and to be honest and ethical in their academic work. See page 11 and page 178 of the [Academic Catalog](#) for further information.

Copyright Infringement and Peer to Peer Use

OTC is committed to operating in compliance with U.S. copyright law. See page 179 of the [OTC Student Handbook](#) and [OTC Policy 2.51](#) for further information.

Standards of Student Conduct

OTC has established guidelines to define appropriate and inappropriate student behavior, both in and out of the classroom. The basic standard of behavior requires a student to comply with, observe, and obey state and/or federal laws; the policies, rules, and regulations of the college; and orders of the Chancellor, faculty, administrators, and staff of the institution who are changed with the administration of institutional affairs.

Computer use may be monitored to ensure accordance with OTC policy. See page 179 the [OTC Student Handbook](#) and [OTC Policy 5.15](#) for further information.

Please note, appropriate academic conduct also includes following these basic rules of netiquette (manners when communicating digitally):

- Using proper capitalization, spelling, and grammar.
- Signing your name to all email messages and discussion postings.
- Providing descriptive but concise subject lines.

ACADEMIC GRIEVANCE PROCEDURES

Your instructor should be your first point of contact and support for any questions or concerns you have about this course. If you cannot resolve your questions or concerns through your instructor, you should then contact either:



- Department Chair, Danelle Maxwell (maxwelld@otc.edu) or 417-447-8273
- Dr. Mathew Hudson, Dean of Technical Education, hudsonm@otc.edu

If a complaint cannot be readily resolved through these channels, students should follow the grievance procedures detailed in pages 181 and 189 in the [OTC Student Handbook](#).

Additionally, students can contact the Academic Ombudsman at ombud@otc.edu for assistance in working through and resolving academic related questions, problems and conflicts. The Academic Ombudsman is a neutral party working to insure that fairness and equity are upheld in decision making processes.

AMERICANS WITH DISABILITIES ACT (ADA)

Any student should notify the instructor immediately if special assistance or devices are needed to accommodate a disability. The college complies with Section 504 of the Rehabilitation Act of 1973 and makes every effort to ensure disabled persons admitted to the college as students or employed by the college are afforded all the rights and privileges provided to them by state and federal law.



To request academic accommodations for a disability, contact Disability Support Services at 417-447-8189 or disabilityservices@otc.edu. Students are required to provide documentation of disability to Disability Support Services prior to receiving accommodations.

SAFE LEARNING ENVIRONMENT

OTC is committed to providing a safe learning and working environment that promotes personal integrity, civility, and mutual respect and an environment free from discrimination. Campus violence is not acceptable. Everyone at OTC (students, faculty, staff, and administration) is expected to do their part to make our campus a safe place. Read our nondiscrimination statement [here](#). Read our sexual misconduct policy on page 191 of the [OTC Student Handbook](#).



Any person having inquiries concerning OTC's compliance with the regulations implementing Title IV and Title IX is directed to contact:

Julia Edwards - Assistant Dean of Disability Support Services

edwardsj@otc.edu

417-447-8188



Have you observed something you feel you should report? If you have concerns, please use the [OTC Cares](#) system to submit a confidential Incident Report.

In an emergency situation, call Security at:

- 417-447-6911 OTC Springfield Campus
- **In case of emergency, dial 911.**

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