

KMAT-0306 Introduction to Grinding

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Competencies and Learning Objectives

1. Demonstrate finishing surfaces of workpiece on a grinder
 - Demonstrate dressing and truing the grinding wheel
 - Demonstrate surface grinding a workpiece
2. Demonstrate finishing surfaces of a workpiece using a sine bar
 - Demonstrate mounting the vise on the grinder
 - Demonstrate clamping using the sine bar
 - Demonstrate grinding an angle using a sine bar

Course Description

This course will cover operation and performance of surface grinders in a machine shop lab setting.

Competencies

Upon completion of the course, you will be rated as MC (Mastered Competency) or NM (Not-Mastered Competency) based on ability to demonstrate the established competencies for the course. You will:

- Demonstrate finishing surfaces of workpiece on a grinder
- Demonstrate finishing surfaces of a workpiece using a sine bar

Assessment

During the course you be given written and performance exams.

Lab Final 1

You must pass with at least a score of 80% or higher on each summative assessment to be considered Master Competent and complete the course.

Course work

The course work for this class will be available partially online and partially in the lab. You will need to complete both the online and classroom portions to obtain the all of the course information.

Safety

In this course, you are expected to utilize safe behaviors and safety equipment for a machine shop. Safety will be evaluated in all performance exams.

Flexibility

If you feel that you are ready to do the lab final or exams without completing the course modules, please contact your instructor.

Contact and Assistance

If you need additional assistance with course material, you may consult with your instructor during open lab times Mon-Thur from 5pm to 9pm.

If you have questions about coursework outside of lab hours you may contact your instructor via text/voice 347-920-1047 or email darrell.smith@slcc.edu.

If you have technical issues with Internet access, computer labs, applications, BruinMail, Printing, or software navigate to <http://www.slcc.edu/student/help.aspx>

If you have technical issues with Canvas, navigate to <https://faculty.slcc.edu/elearning/canvas.aspx>

Syllabus

The expectations for this course are described in detail in the course syllabus. (Link to syllabus)

Course Navigation

In the left navigation bar is a Course Tools menu. It provides information about what tools you need for the course, and how to navigate in Canvas. Start the course with the first module below. You can also click on the Modules link in the left navigation bar to navigate through the course.

Modules

Module 1: Finishing Surfaces Using a Grinder

Module 1: Overview

Introduction to the Module: This module will cover finishing the surface of a workpiece using a grinder. You will have access to learning materials and activities including a video demonstration. You will also complete a lab activity in the shop. Assessment of competencies in this module will take place in a lab final in Module 2 to be taken when you have completed modules 1-2.

The course work in this module, combined with class sessions should prepare you to:

Demonstrate finishing surfaces of a workpiece on a grinder

1. Demonstrate dressing and truing the grinding wheel
2. Demonstrate surface grinding a workpiece

Module 1: Tooling U

The learning resources listed below will give you a basic overview of the surface grinder in a machine shop. It is recommended that you complete all of the Tooling U modules listed below within one week. * Learning modules contain learning material, assignments and a practice quizzes.

Click here to enter Tooling U.

1. Dressing and Truing
2. Surface Grinder Operation

*Note: Modules vary in length so budget your time wisely.

Module 1: Video Demonstration

Watch the video listed below.

Information included in these videos demonstration

1. [Demonstrate dressing and truing the grinding wheel](#)
2. [Demonstrate surface grinding of clamp body](#)

Click this link to view the video.

Module 1: Check in Lab 1

Now that you have completed the learning materials for Module 1, check in with your instructor for information about Lab 1: Rough Grind Clamp Body.

Module 2: Finishing Surfaces on a Grinder Using Sine Bar

Module 2: Overview

Introduction to the Module: This module will cover how to finish the surface of a workpiece, on a grinder, using a sine bar. You will have access to learning materials and activities. Assessment of competencies in this module will take place in a lab final at the end of this module, to be taken when you have completed modules 1-2.

The course work in this module, combined with class sessions should prepare you to:

Demonstrate finishing surfaces of a workpiece using a sine bar

1. Demonstrate mounting the vise on the grinder
2. Demonstrate clamping using the sine bar
3. Demonstrate grinding an angle using a sine bar

Module 2: Tooling U

The learning resources listed below will give you a basic overview of using a sine bar with surface grinder in a machine shop. It is recommended that you complete all of the Tooling U modules listed below within one week. * Learning modules contain learning material, assignments and a practice quizzes.

Click here to enter Tooling U.

1. Cylindrical Grinder Operation
2. Centerless Grinder Operation

*Note: Modules vary in length so budget your time wisely.

Module 2: Video Demonstration

Watch the videos listed below.

Information included in these videos demonstration

1. [Grind Clamp Body Sine Bar](#)

Click this link to view the video.

Module 2: Check in Lab 2

Now that you have completed the learning materials for Module 2, check in with your instructor for information about Lab 2: Rough Grind Clamp Body Sine Bar.

Module 2: Check in Lab Final 1

Now that you have completed the learning materials for Modules 1 and 2, check in with your instructor for information about Lab Final 1: Finish Grind Clamp Body and Finish Grind Clamp Body Sine Bar.

Module 2: Check in

Now that you have completed the learning materials, activities and labs for Modules 1 and 2, check in with your instructor for exam results and for completion of the course.