

MFG-164

Basic Fabrication

Fall 2020

Instructor: Albert Rossner e-mail: RossnerAlbertG@jccmi.edu

Meeting Information:

JW 171

Lecture/Lab Schedule - TBD See class information schedule at the end of this document.

Credits: 4 credit hours – 6 BCH

Course Description:

This course instructs students in standard fabrication principles and practices used in industry. Safety, terminology, material milling, lathe, grinding, sawing, drilling, tapping, riveting, sheet metal working, standard layout skills, measurement and standard shop procedures are used to complete various projects. A working knowledge of hand and machine tools is achieved through a series of lectures, demonstrations and hands-on projects.

Prerequisite: MFG 105

Course Outcomes:

After completing this course student will be able to:

- Demonstrate the proper procedure for drill and tapping holes
- Show understanding of layout of holes and brackets
- Utilize shop equipment to make various parts
- Complete a typical fabrication project autonomously to specifications
- Pass various competencies as they relate to Mill and Lathe operations

Text:

Reference materials will be provided in an ONLINE format through the JetNet application.

Hybrid Format:

This course is presented in a hybrid format that allows the student to work through the course materials at a pace that will allow them the most effective use of their time. There are ‘hard’ completion dates activities throughout the course and those will be listed in JetNet.

Lecture: This format has NO official in person lecture. Instead, the theory and background information is presented in a series of online learning modules that the students may complete at a location of their convenience. The learning modules have a pre-test, online lectures and activities, with a post-test for each learning module. Some learning modules will be required to be completed BEFORE working in the lab on hands-on projects. Any online learning module will require at least an 80% score on the post-test to move ahead and achieve competency.

The login information and supporting documents will be presented to you on the FIRST CLASS meeting date.

Lab : This format has a lab component to provide a student with the hands-on skills to accompany the knowledge gained in the learning modules. There are (10) hands-on competencies that will require a significant amount of class time to complete. The lab is generally open from 5:30-9:00pm on lab days – but there are other open times that you may work in the lab. The lab equipment is scheduled using an online scheduling tool to guarantee machine availability. You may choose not to reserve slots for your work – but there are no guarantee machines will be available at the time you choose to attend.

ATTENDANCE/HOURS SPENT IN THE LAB WILL NOT COUNT TOWARDS YOUR GRADE. Grading will only occur on the competencies shown on the rubric for each lab assignment.

Grading:

Learning Modules (12 in total) are worth 10 points each 120 pts possible*

Lab Competencies (10 in total) are worth 10 points each + 100 pts possible

Total class points = 220 pts possible

*Learning modules MUST BE COMPLETED with at least an 80%

Modules may be repeated a maximum of 3 times, beyond that will receive a ZERO for that learning module if the score is less than 80%. Learning modules not completed by the due date will also receive a zero.

Grading Scale:

94-100 = 4.0	78-83 = 2.5	60-65 = 1.0
89-93 = 3.5	72-77 = 2.0	55-59 = 0.5
84-88 = 3.0	66-71 = 1.5	0-54 = 0.0

A 2.0 or "C" is a passing grade. Only courses with passing grades count toward graduation or a certificate. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades.

Incompletes

No incomplete grades will be given in this class except under extraordinary circumstances and if the student has completed at least 75% of the work and has at least 2.0 in the course. The grade of "I" is not awarded to students who did not attend, or seldom attended, or to those who simply are not pleased with their final grades. Students receiving an "I" may submit the remaining work during the next class offering by attending the remainder of the class. Or, talk to me about specific arrangements to complete the remaining work in a manner that is acceptable to me. Students do not redo work that had already been graded. Of course, students can drop the class

up to the drop deadline as specified on the website calendar. See http://www.jccmi.edu/studentservices/registration/grading_system.htm for more info

Please Note:

"Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the office of Learning Support Services at 787-0800, extension 8270/8553 as soon as possible to ensure that such accommodations are implemented in a timely fashion."

College Closing:

Usually the College does not close due to inclement weather. Any cancellation of classes will be announced on the local radio stations. You can also call the switchboard (800) 787-0800. Also see <http://www.jccmi.edu/info/closings.htm>

Academic Honesty Policy

The JCC Academic Honesty policy states that **academic honesty is expected of all students**. It is the ethical behavior that includes producing their own work and not representing others' work as their own, either by plagiarism, by cheating, or by helping others to do so. **Cheating is obtaining answers/materials from an outside source without authorization.** Cheating includes, but is not limited to: Plagiarizing in all forms, using notes/books without authorization, copying, submitting others' work as your own or submitting your work for others, altering graded work, falsifying data or exhibiting other behaviors generally considered unethical.

Plagiarism is the failure to give credit for the use of material from outside sources.

Plagiarism includes but is not limited to: Using data, quotations, or paraphrases from other sources without adequate documentation, submitting others' work as your own, or exhibiting other behaviors generally considered unethical. **Faculty members who suspect a student of academic dishonesty may penalize the student by taking appropriate action up to and including assignment a failing grade for the paper, exam, or the course itself.**

<http://www.jccmi.edu/administration/deans/Policies/Academic%20Honesty%20Policy.doc>

Conduct:

Students are expected to behave in a mature, respectful manner in the classroom

and laboratory. No texting, games, or social media usage during class. This class will require you to use potentially dangerous equipment so your adherence to safety is paramount. Students that work in an unsafe manner will be asked to leave the class and may not return for the remainder of the semester.

Other notes:

Check Jetnet regularly, for information on the class; including topics to cover, homework, lab assignments, etc.

Course Schedule MFG 164 – Basic Fabrication

All lab assignments are due complete not later than 12/17/2018. Learning modules are to be completed by the dates shown. Lab work cannot be started until the learning modules listed are complete.

<u>Date</u>	<u>Topic</u>	<u>Assignment(s)</u>
10/28	Class Introduction	Access learning system by 10/30
	Introduction to Manufacturing Hand Tools	Week 1
	Introduction to the Manual Milling Machine	Week 1
	Lab Assignment #1 Introduction to Manufacturing Hand Tools	Week 1
	Introduction to the Drill Press	Week 2
	Lab Assignment #2 Introduction to the Manual Milling Machine	Week 2
	Lab Assignment #3 Introduction to the Drill Press	Week 2
	Drill Press Operations	Week 3
	Band Saw Operations	Week 3
	Lab Assignment #4 Drill Press Operations	Week 3
	Lab Assignment #5 Band Saw Operation	Week 3
	Introduction to the Manual Lathe	Week 4
	Introduction to Lathes	Week 4
	Lab Assignment #6 Introduction to the Manual Lathe	Week 4
	Turning Operations	Week 5
	Lab Assignment #7 Turning Operations	Week 5

Lathe Operations	Week 6
Milling Processes	Week 6
Lab Assignment #8 Lathe Operations	Week 6
Principles of Work holding	Week 7
Lab Assignment #9 Milling Processes	Week 7
Vices and Fixtures	Week 7

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Lab Assignments: Amatrol Skill PDF's

- #1 Introduction to Manufacturing Hand Tools skill pdf
- #2 Introduction to the Manual Milling Machine skill pdf
- #3 Introduction to the Drill Press skill pdf
- #4 Drill Press Operations skill pdf
- #5 Band Saw Operations skill pdf
- #6 Introduction to the Manual Lathe skill pdf
- #7 Turning Operations skill pdf
- #8 Lathe Operations skill pdf
- #9 Milling Processes skill pdf