

530.354
MANUFACTURING ENGINEERING

COURSE SYLLABUS

SUMMER 2017

Lecturer: **Dr. YURY RONZHES, PhD**

OFFICE: Latrobe 33
OFFICE HOURS: After 3 pm; Call or email to make an appointment
OFFICE PHONE: 410 – 516 – 7869
E-MAIL ADDRESS: yury@jhu.edu

GRADER: TBD

TAs: TBD

WEB PAGE: <https://blackboard.jhu.edu>
https://blackboard.jhu.edu/webapps/login/jhu/?new_loc=%2Fwebapps%2F
CLASS HOURS: 10:00 – 11:45 A.M. MON, WED & FR Lectures, Labs as schedule
CLASS LOCATION: TBD
LAB HOURS Signed Time (see Schedule and TBD)

A. DESCRIPTION

The course presents a modern, all-inclusive look at manufacturing processes. This course is focused on manufacturing processes as an objective science rather than a descriptive art. Quantitative and engineering-oriented approach provides numerical problem exercises, homework & case study, labs, quizzes and final exam.

The course presents a modern, all-inclusive look at manufacturing processes. This course is focused on manufacturing processes as an objective science rather than a descriptive art. Quantitative and engineering-oriented approach provides numerical problem exercises, homework and case study, mini quizzes and final exam. This course is ideal as selectable course for non-Mechanical Engineering students where this course is require. For other engineering departments as Biomedical, Civil and Environmental Engineering, Management Graduate Engineering who are interested in gaining knowledge of the manufacturing process.

Mechanical Engineering majors may not take this version of the course but must instead take 530.254 Manufacturing Engineering in the Fall or Spring semesters.

B. ORGANIZATION

The class meets for 1.5 hours period each week at 10 am on Mondays, Wednesdays, and Fridays in Hall's room (TBD)

C. COURSE OBJECTIVES

1. To help students have a meaningful educational experience, prepare for productive employment within the industrial community.
2. The role of manufacturing in the economic strength of a country and/or community including internal issues.
3. Orient students to the area of engineering and technology in general and manufacturing engineering technology and management specifically.
4. Introduce elements of good problem solving and design.
5. Course will include at least one tour of businesses where precision manufacturing is practiced.

D. COURSE TOPICS

The course will cover an "N" of topics – See the Schedule.

E. REQUIRED TEXT

The textbook is Introduction to Manufacturing Processes Material, by Mikell P. Groover, Wiley, 2012 ISBN 978-0-470-63228-4

F. GRADING POLICY

Coursework will be weighted as follows:

Lab Exercises (6 Labs + Question & Problem)	40%
<i>Sand Casting</i>	10%
<i>G-code & EDM Cutting</i>	10%
<i>Welding</i>	10%
<i>Rapid Prototyping</i>	10%
Homework (5 HW x 2)	10%
MQ (Mini Quiz) (4 MQ x 5)	20 %
Final Exam (1) – 3 hours (12 Review Questions + 8 Problems)	30%

In borderline cases, the professor reserves the right to adjust final grades slightly based on the following criteria:

- Completion of all assignments on time.
- Activities and joins in discussions frequently.
- Contributes new knowledge based on experience or independent study.
- Valuable contributor to group in labs and group activities.
- Demonstrates original creative thinking.

Labs: Participation in the labs is critical for this class. Missed labs cannot be made up unless prior arrangements have been made for extraordinary circumstances. Make ups must be arranged with the student lab assistants if available. If a lab is missed for extraordinary circumstances and can not be made up, it will not be averaged in the final grade.

Homework: Homework will generally be assigned weekly or by schedule, and problem solutions are generally due one week after their assignment unless otherwise indicated. Late homework will generally not be accepted, unless prior arrangements have been made for extraordinary circumstances. Missed homework assignments will be assessed a "0" grade.

MiniQuizzes, Final Exam and Grade: Quizzes and Final Exam determined in numerical value by %%. Final Grade will be determined for each assignment based on performance relative to classmates and the expectations of the Professor. The letter will be assigned a numerical value (such as A+, A, A-, etc.). Averaging all assignments and comparing the result to the following chart will determine the final grade.

G. ETHICS

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

Report any violations you witness to the instructor. You may consult the associate dean of students and/or the chairman of the Ethics Board beforehand. See the guide on "Academic Ethics for Undergraduates" and the Ethics Board web site (<http://ethics.jhu.edu>) for more information.

You may collaborate with other students on homework problems, but these must be discussions and not duplications. In other words, you may talk about the work, but you must prepare your own submission.

H. CLASSROOM RULES OF CONDUCT

In order to create a classroom atmosphere that respects your fellow students, I request that you

- Silence or turn off cell phones
- Arrive on time and in time to turn in homework if that is the due date
- Do not leave during a class period unless you are ill