IT 209 Manufacturing Processes Laboratory
Spring 2016 – Syllabus

Primary Instructor: Dr. Bruce DeRuntz
Office Phone: (618) 453-7829
E-mail: bruce@siu.edu
Office: ENGR D-119

Instructors: Michael Maiorano
Office: ENGR D-108A/B

Class Hours:
Lecture: Fri: 11:00 am – 11:50 am
Lab: Sec. 001 Tue/Thu: 1:00 pm – 02:50 pm
Lab: Sec. 002 Wed: 9:00 am – 11:50am
Fri: 1:00 pm – 02:50 pm

Class Room:
Lecture: Applied Sciences & Arts 0112A
Lab: EGRD 0014B

Email: Mike: mmaiorano@siu.edu

Office Hours: Mike
Friday: 11:50am – 1:00pm

Course Objective:
To enable students to understand the theory and principles of traditional manufacturing in industry such as safety, use of precision measuring instruments, and operation of manufacturing equipment by means of an in-depth, hands-on course in which they manufacture items in an industrial type environment.

Course Format:
Class/Lab Attendance & Participation…………………………….5%
Lab Projects (5 Required)…………………………………………25%
Exam 1 ………………………………………………………………..20%
Exam 2 ………………………………………………………………..20%
Quizzes……………………………………………………………..20%
Research Paper…………………………………………………..10%

Final Exam:
Date: May 13th, 2016 Time: 10:15 am - 12:15 pm Location: Applied Sciences & Arts 0112A
Grading Scale:
A: 100% - 90%
B: 89.99% - 80%
C: 79.99% - 70%
D: 69.99% - 60%
F: Less than 60%

Academic Conduct:
Cheating on examinations, submitting work of other students as your own, or plagiarism in any form will result in penalties ranging from an F on the assignment to expulsion from the university, depending on the seriousness of the offense.

Grading Policy:
Missed exams have a 30% penalty unless the instructor, prior to the regularly scheduled exam, approves an appropriate excuse. The missed exam must be completed on the makeup date set by the instructor. Quizzes will NOT be made up.

Emergency Procedures:
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on the BERT’s website at www.bert.siu.edu, Department of Public Safety’s website www.dps.siu.edu (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.
SIU Policy on Incomplete Grades

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or *graduation*, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student’s grade point average. Students should not reregister for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Re-registration will not prevent the *INC* from being changed to an *F*.

Attendance Policy

Number of unexcused absences allowed, acceptable excuses, tardiness policy and the effect of absences and tardiness on a student’s final grade. Explicitly note if there is a point at which missing a specific number of classes results in a failing grade.

Mobile Technology Policy

Students are allowed to use laptop and tablet computers, but no other electronic device in class.

Inclusive Excellence

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ from you is an important part of your education in this class, as well as an essential preparation for any career.

Student Code of Conduct/Plagiarism

Refer to the following sites for information on the SIU’s student code of conduct and Morris Library’s guide on plagiarism:


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Resources for Academic Assistance

Learning Support Services: [http://tutoring.siu.edu/](http://tutoring.siu.edu/)

- Provides academic assistance in courses/tutoring

Disability Support Services: [http://disabilityservices.siu.edu/](http://disabilityservices.siu.edu/)

- Provides the required academic and programmatic support services to students with permanent and temporary disabilities

SIUC Writing Center: [http://write.siu.edu/](http://write.siu.edu/)

- Offers free tutoring services to all SIUC undergraduate and graduate students and faculty.

SIU Email Policy

Official SIU Student Email Policy: [http://policies.siu.edu/policies.email.htm](http://policies.siu.edu/policies.email.htm)

Saluki Cares

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in distress. By working closely with faculty, staff, students and their families, SIU Carbondale continues to display a culture of care by demonstrating to our students and their families that they are an important part of the community. To make a referral to Saluki Cares click, call, or send: http://salukicares.siu.edu/index.html, (618) 453-5714, or siucares@siu.edu.
IT 209 Manufacturing Processes
Detailed Competencies

Upon completion of this course, students should know/understand the following:

Section A – Shop Safety
- Identify common shop hazards
- Identify and use common shop safety equipment

Section B – Hand Tools
- Identify the proper tool for a given job
- Determine the correct use of a selected tool

Section C – Dimensional Measurement
- Identify and use various kinds of rules in shop measurements
- Use dial and digital micrometers and calipers
- Measure and record dimensions using outside micrometers to an accuracy of +/- .001 inch

Section E – Layout
- Prepare the workpiece for layout
- Measure for and scribe layout lines on the workpiece outside the various features

Section G – Sawing Machines
- Properly use vertical and horizontal band machines in cutoff applications

Section H – Drilling Machines
- Properly use drilling machines in drilling, countersinking, counterboring, and reaming operations
- Use Decimal Equivalent Chart for Drills

Section I – Turning Machines
- Identify the important components and controls of a lathe and their functions
- Properly perform basic functions on a lathe

Section J – Vertical Spindle Milling Machines
- Identify the important components and controls on a vertical milling machine
- Properly perform basic functions on a vertical milling machine

Section L – Grinding and Abrasive Machining Processes
- Truing and dressing of grinding wheel
- Correctly position a single-point diamond dresser in relation to the grinding wheel

Section M – Computer Numerical Control
- Identify the programmable axes on a CNC machining or turning center
- Identify preparatory and miscellaneous function commands
- Describe interpolation modes

Welding – Arc, MIG, and Acetylene/Oxygen
- Understand basic principles of welding operations
- Define welding terminology
- Demonstrate ability to properly use the welding processes to create Butt, Lap, and T-Joint welds
**IT 209 Manufacturing Processes**

QUIZ INFO: There will be a weekly quiz over material from each previous lecture / reading assignment (11 total).

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<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
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<td>January 22</td>
<td>Introduction and Lab Tour</td>
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<tr>
<td>January 29</td>
<td>Safety and Hand Tools</td>
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<tr>
<td>*February 5</td>
<td>Dimensional Measurements*</td>
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<td>February 12</td>
<td>Blueprint Reading and Layout</td>
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<td>February 19</td>
<td>Sawing Operations</td>
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<td>February 26</td>
<td>Welding Operations</td>
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<td>March 4</td>
<td>Drilling Operations</td>
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<td>March 11</td>
<td>Exam 1</td>
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<td>March 18</td>
<td>Spring Break</td>
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<td>March 25</td>
<td>Tapping Operations</td>
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<td>April 1</td>
<td>Milling Operations</td>
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<td>April 8</td>
<td>Turning Operations</td>
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<td>April 15</td>
<td>Grinding Operations</td>
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<td>April 22</td>
<td>Computer Numerical Control (CNC)</td>
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<td>April 29</td>
<td>Turn in Research Paper</td>
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<td>May 6</td>
<td>Last Day of Labs/Review for Final Exam</td>
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<td>May 13</td>
<td>Final Exam</td>
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The schedule will be followed as closely as possible, but may change to facilitate student learning. Any changes will be announced in class.

*Lab sections (Tuesday and Thursday 1:00-2:50pm, Wednesday 9:00-11:50am and Friday 1:00-2:50pm) will begin after this class period.*