

**DEPARTMENT OF MARKETING AND LOGISTICS  
4388 WAREHOUSE OPERATIONS  
COURSE SYLLABUS**

**TERM:**

Spring 2020, Session 1 (01/06/18 – 02/24/18)

**COURSE TITLE:**

BUSML 4388, Warehouse Operations

**COURSE TIME/PLACE:**

Lectures: Schoenbaum Hall Room. 220, MW 7:05 pm – 8:25 pm

Exam: Monday February 24 (in class)

**COURSE DESCRIPTION:**

*The study of warehouse operations focusing on facility layout, process, automation, warehouse management systems, productivity improvement, inventory management, measurement and general management along with the impact corporate and industry strategies have on warehouse operations.*

**INSTRUCTOR:**

Thom Rogers

E-mail: rogers.1097@osu.edu

Thom has held a number of leadership positions within the manufacturing, retail and engineering consulting industries. Leadership positions include Distribution Engineering Manager for Rubbermaid, Director of Logistics Engineering for OfficeMax Corporation, Vice President – Distribution and Purchasing for Famous Supply and Operations Director for NACSCORP. In addition to these positions, Thom also has experience in the areas of Facilities Planning and Design, Productivity and Labor Planning, Inventory Analysis and Planning, and WMS Systems Development and Integration including Manhattan Associates (PkMS), Marc Global Systems, Eclipse and SAP.

Thom is the founder and President of Mainspring Solutions which is a consulting firm focused on Supply Chain, Distribution and Operations Management.

**OFFICE HOURS:**

By appointment, before or after class

**REQUIRED TEXT:**

Course lecture materials will include PowerPoint slides and industry journal articles. Class materials will be made available on Carmen/ Canvas for downloading/printing prior to class.

## COURSE OBJECTIVE:

Course will provide an understanding of the function of distribution and warehousing within the supply chain as well as the design/layout, processes and system infrastructure required to process goods efficiently. Students will learn warehouse conventional and automated design techniques used in warehouse operations across various industries. An appreciation of the roles within an operation will be gained from facility tours and industry practitioners.

## COURSE FORMAT

Course will use a combination of class discussion, lecture, guest speakers, industry problems and potential site visits. Each lecture will cover the assigned reading. You are expected to attend all classes and to be prepared to discuss and/or apply assigned readings. Students will be called upon to discuss assigned topics and concepts. In addition, students are expected to actively participate through classroom, tour, and guest speaker interaction.

## CLASS POINT TOTAL:

Grades will be based upon performance on the following:

Assignment	Points	Percentage
Final Exam	150	30%
Assignment 1	60	12%
Assignment 2	60	12%
Research Assignment & Presentation	130	26%
Case Study	100	20%
TOTAL	500	100%

## ASSIGNMENT DETAILS:

**Exam:** One comprehensive exam will be given. The exam will consist of questions drawn from the text, readings, lectures, assignments, guest speakers and industry tours. You are responsible for the material even if it is not emphasized during the lectures. Pre-exam review will be held **prior** to the exam. This review will be focused on material which may be included in the test. Due to the nature of the course and subject matter, exam may contain some comprehensive elements from guest speakers and industry visits. There will be no make-up exams except in extraordinary situations, which require approval 1 week before the scheduled exam. All tests will need to be returned to me at the conclusion of the exam – else a grade of 0 (zero) will be assigned.

**Research Assignments:** A team-based research assignments will be given out early during the term. Each assignment will require independent research on a separate industry related topic, students should target a 10-page PowerPoint Presentation. Presentations will be graded based on their understanding of the issues. Students may work in teams of 5. Members of each team should be prepared to give a 10 - 15 min (10 min minimum) overview presentation of their team's findings. The Presentations will be presented in class and scheduled. The content may be part of the final exam.

**Team Analytical Case Study:** A case study will be given out after lectures on warehouse profiling, sizing and resourcing have been completed. The case study will require students to complete a series of calculations based on logical assumptions. These assumptions should be made based on the lessons taught in class and independent research. Each team should target a 15-20 page PowerPoint report out detailing their findings. The report will be graded based on their approach and logic. Students may work in teams of 5. Assignments will be due before the start of the class on **February 17**.

**Industry Visits:** During the course, we **may** have an opportunity to visit companies in the Columbus area (as time allows). Companies are either a leader in their market utilizing efficient logistics organization or a leader within the logistics industry. The objective of these visits is to provide the student with a “real world” perspective of the logistics industry. Students unable to attend an industry visit will need to notify me within 24 hours of the tour via email and complete a written analysis of the selected company to gain points attributed to the industry tour. This written paper should include an *overview of warehouse operations*. The expected deliverable consists of a 1 page type-written paper (25 point bonus opportunity).

**Lecture Assignments / Class Participation:** At the end of each lecture, a small group assignment will be given out in class to reinforce the material. Participation marks based on demonstrating knowledge of material and participation will be assigned to each student.

## ASSIGNMENTS AND DUE DATES

You are expected to approach each assignment with the professionalism required of you in the “real” world. This is particularly relevant for your interactions with companies and as part of fulfilling the requirements of this course. Assignments can be submitted via Carmen/ Canvas prior to the due date. A 50% penalty will be assessed for submissions received after the start of class to 24 hours after the assignment is due (one day late). A 100% penalty will be assessed for submissions more than 24 hours after the assignment is due. Correct spelling, grammar, and punctuation are expected and will be considered in the grading of all assignments.

## GRADING SCALE:

The grading scale is guaranteed. You will receive no less than the grade listed within the appropriate interval.

Grade	Numeric Range	Quality Points
A	93% - 100%	4.0
A-	90% - 92.9%	3.7
B+	87% - 89.9%	3.3
B	83% - 86.9%	3.0
B-	80% - 82.9%	2.7
C+	77% - 79.9%	2.3
C	73% - 76.9%	2.0
C-	70% - 72.9%	1.7
D+	67% - 69.9%	1.3
D	60% - 66.9%	1.0
E	0% - 59%	0

## ATTENDANCE AND TARDINESS:

I may call on students by name to answer questions, respond to in-class exercises, or to comment on key concepts.

## ACADEMIC INTEGRITY:

All tests, written exercises, and papers are to be your own work. Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, the Ohio State University and the Committee on Academic Misconduct all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute "Academic Misconduct." The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an "excuse" for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([oaa.osu.edu/coam/home.html](http://oaa.osu.edu/coam/home.html))
- *Ten Suggestions for Preserving Academic Integrity* ([oaa.osu.edu/coam/ten-suggestions.html](http://oaa.osu.edu/coam/ten-suggestions.html))
- *Eight Cardinal Rules of Academic Integrity* ([www.northwestern.edu/uacc/8cards.html](http://www.northwestern.edu/uacc/8cards.html))

## AMERICANS WITH DISABILITIES ACT:

If you have a disability (as defined by the Americans with Disabilities Act-ADA), and feel you requires classroom accommodation or auxiliary aids, please inform me of your needs during the first week of class so that I can take appropriate action.

## COURSE DISCLAIMER:

The schedule, policies, and assignments contained in this course syllabus or on the course website are subject to change in the event of extenuating circumstances, class progress, or by mutual agreement between the instructor and the students.

## OTHER:

**All cellular phones, pagers and other electronic communication devices should be managed appropriately during class.** Any electronic recording of the lecture or presentations is not authorized. The only exceptions will be those authorized in writing by the Office of Disability Services.

### CLASS SCHEDULE:

**Note:** I may revise this schedule to accommodate class progress, provide a more in-depth focus, etc. We will attempt to stay as close to the below schedule as possible.

Week	Date	Topic	Guest Speaker (If Any)	Assignment
1	1/6	<ul style="list-style-type: none"> <li>Course Overview, Syllabus, &amp; Introduction</li> <li>Research Assignment Review</li> </ul>		Course Syllabus Lecture Notes 1 Lecture Notes 2
	1/8	<ul style="list-style-type: none"> <li>Warehouse Processes (Receiving, Put-away, Replenishment, Picking &amp; Loading)</li> <li>Team Signups</li> </ul>		Lecture Notes 3
2	1/13	<ul style="list-style-type: none"> <li>Warehouse Profiling</li> </ul>		Lecture Notes 4
	1/15	<ul style="list-style-type: none"> <li>Warehouse Sizing &amp; Layout</li> </ul>		Lecture Notes 5 Assignment #1
3	1/20	<ul style="list-style-type: none"> <li>NO CLASS</li> </ul>		
	1/22	<ul style="list-style-type: none"> <li>Warehouse Costing</li> <li><b>Assignment 1 Due</b></li> </ul>		Lecture Notes 6 Assignment #2
4	1/27	<ul style="list-style-type: none"> <li>Warehouse Mechanization &amp; Automation</li> </ul>		Lecture Notes 7
	1/29	<ul style="list-style-type: none"> <li>CASE STUDY REVIEW</li> </ul>		
5	2/3	<ul style="list-style-type: none"> <li>Research Presentations</li> </ul>		
	2/5	<ul style="list-style-type: none"> <li>Research Presentations</li> <li><b>Assignment 2 Due</b></li> </ul>		
6	2/10	<ul style="list-style-type: none"> <li>Research Presentations</li> </ul>		
	2/12	<ul style="list-style-type: none"> <li><b>Possible Facility Tour</b></li> </ul>		
7	2/17	<ul style="list-style-type: none"> <li>Final Exam Study Session</li> <li><b>Case Study Due</b></li> </ul>		
8	2/19	<ul style="list-style-type: none"> <li>NO CLASS</li> </ul>		
	2/24	<ul style="list-style-type: none"> <li><b>Final Exam – In Class</b></li> </ul>		

### Industry organizations and journal websites of general logistics interest

Source	Type	Website
MWPVL	Consulting Company	<a href="http://www.mwpvl.com/">http://www.mwpvl.com/</a>
TranSystems	Consulting Company	<a href="http://www.transystems.com/">http://www.transystems.com/</a>
Chicago Consulting	Consulting Company	<a href="http://chicago-consulting.com">http://chicago-consulting.com</a>
American Society of Transportation and Logistics (AST&L)	Professional Organization	<a href="http://www.astl.org">www.astl.org</a>
APICS The Association for Operations Management	Professional Organization	<a href="http://www.apics.org/default.htm">http://www.apics.org/default.htm</a>
Council of Supply Chain Management Professionals (CSCMP)	Professional Organization	<a href="http://www.cscmp.org">http://www.cscmp.org</a>
Institute of Supply Management	Professional Organization	<a href="http://www.ism.ws">http://www.ism.ws</a>
Reverse Logistics Association	Professional Organization	<a href="http://www.rltinc.com">http://www.rltinc.com</a>
Warehouse Educational Research Council	Professional Organization	<a href="http://www.werc.org/">http://www.werc.org/</a>
DC Velocity	Trade Journal	<a href="http://www.dcelocity.com">http://www.dcelocity.com</a>
Inbound Logistics	Trade Journal	<a href="http://www.inboundlogistics.com">www.inboundlogistics.com</a>
Logistics Management	Trade Journal	<a href="http://www.logisticsmgmt.com">http://www.logisticsmgmt.com</a>
Logistics Today	Trade Journal	<a href="http://www.logisticstoday.com">http://www.logisticstoday.com</a>
Retailing Today	Trade Journal	<a href="http://www.retailingtoday.com">http://www.retailingtoday.com</a>
Supply Chain Brain	Trade Journal	<a href="http://www.supplychainbrain.com/content/index.php">http://www.supplychainbrain.com/content/index.php</a>
Supply Chain Digest	Trade Journal	<a href="http://www.scdigest.com/index.php">http://www.scdigest.com/index.php</a>
Transport Topics	Trade Journal	<a href="http://www.transporttopics.com">www.transporttopics.com</a>