

COURSE SYLLABUS
IME 4120: Industrial Systems Management
Fall 2010

Class Information

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Class meeting time and location
 Tues/Thurs 8:30-9:45 a.m.
 C-122 Parkview

Web Site: drmallak.com

Catalog Description

“Principles and applications of advanced systems management: including project management, continuous improvement and advanced quality systems. Computer tools to manage systems will be introduced. Philosophies of systems management will be discussed. Students will acquire advanced systems management skills as applied to multiple industries including manufacturing and service.”

Course Objectives (corresponding to Modules 1-6)	Performance Criteria¹	ABET/TAC Outcomes²
1. Define, build, and scope a domain of responsibility.	A3 Applies systems tools (LP, MSM) to model and solve problems.	a*
2. Identify performance criteria for the domain and identify data and information needs.	D3 Evaluates the performance of a system or process.	d*
3. Design relevant information portrayals.	G2. Conveys technical information effectively in graphical form (posters, PPT,	g, j*

	histograms, FEA outputs).	
4. Conduct an ABC Audit and time log.	K3 Considers the role of time in the design process, in decision making, and/or in manufacturing and service processes.	k*
5. Develop Data Flow Diagrams for the domain.	F3 Applies tools and modeling techniques suited to the problem (DFDs, inventory control, FEA, OR, NPV).	f
6. Build and use a management tool.	B3 Uses appropriate engineering, science, and mathematical tools for decision making (OR, statics, materials).	b

¹**Performance Criteria:** IME performance criteria may be found at <http://www.wmich.edu/ime>

²**ABET/TAC Outcomes:** Outcomes may be found at <http://www.abet.org/>

*Tracked to course notebook.

Required Text: Each of the six modules will have assigned reading provided from Kurstedt, H. A. 2000. ISE 4015 Course Pack [MSE Textbook]. Blacksburg, VA: Virginia Tech. All course materials can be found on e-learning. One required Harvard Business School case can be purchased via the link provided in e-learning.

Prerequisite Learning

Students are expected to have knowledge of and the ability to apply the following concepts in class:

1. Basic understanding of key business processes (e.g., production, finance, marketing) and technical processes (e.g., manufacturing processes, engineering design process). This is typically accomplished through active participation and successful completion of the first two years of coursework in an engineering or engineering-related curriculum and through work experience, whether part-time, coop, intern, or full-time employment.
2. Ability to define, model, and solve problems using tools and techniques from operations research, including linear programming, integer programming, etc.
3. Able to understand, write, speak, and present in clear, understandable English.
4. Experience finding articles using databases such as ABI/Inform, FirstSearch, InfoTrac, Lexis-Nexis, and other sources.

Description of Graded Assignments and Evaluation Guidance

Note on preparation of assignments: All assignments must be neatly word-processed or typed and submitted via e-learning. *Handwritten work will not be accepted.* I place special emphasis on the use of proper grammar, spelling, and the use of an appropriate writing style.

Reading

I lecture and discuss material after you've read the material, not before you've read the material. You need to have some ideas from the reading before class, because in my lectures and discussions I have time only for the critical or subtle points, to fill in gaps in the reading, or to extrapolate what you've read.

Homework

Each module will have three assignments—one in-class, one individual, and one group assignment. In-class assignments are due at the end of the class period and individual and group assignments are due at the beginning of class on the day they are listed in the schedule presented later in this syllabus.

If you know you'll miss class, contact me in advance by e-mail or phone and make arrangements to e-mail or upload your assignment(s).

Late Policy—All homework is due no later than the beginning of the class period for which it was assigned. The first three late homeworks will be subject to a 20% penalty; after three late homeworks, no further late homeworks will be accepted. No homework will be accepted later than the class period following the one when the homework was originally due. Students who believe their lateness should not be penalized should present appropriate documentation.

Final Exam—The final exam will be comprehensive.

Class Participation—Your attendance and participation in class discussions and exercises is crucial to the learning process. Effective class participation requires your reading and studying assigned readings prior to class time. Even if you are absent, you have the responsibility to complete all assignments on time and obtain class notes from a classmate. Notify me in advance of any planned absences.

Evaluation Distribution

Exercises		Grading Scale			
In-class	10%	92-100	A	72-77.9	C
Individual	25%	88-91.9	BA	70-71.9	DC
Group	25%	82-87.9	B	60-69.9	D
Class Participation	10%	78-81.9	CB	00-59.9	E
<u>Final Exam</u>	<u>30%</u>				
Total	100%				

Academic Integrity

You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate and Graduate Catalogs that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. [The policies can be found at <http://www.wmich.edu/catalog> under Academic Policies, Student Rights and Responsibilities.] If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

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Class Schedule—updated July 26, 2011.

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Note: Refer to e-learning for links and up-to-date information.

	Date	Day	Topics	Assignment Due	TAC outcome/ Performance Criterion
1	9/7	Tu	Module 0: Intro to the class Group formation		
2	9/9	Th	Module 0: RIMM and Buster Bronco Coffee Shop	Module 0 in-class	
3	9/14	Tu	Module 1: Domains of Responsibility (lect)	Module 0 individual (fast food)	
4	9/16	Th	Module 1: Domains of Responsibility (in- class exercise)	Module 1 in-class	
5	9/21	Tu	Module 1: Domains of Responsibility (lab for group work)	Module 1 individual	a/A3
6	9/23	Th	Module 2: Performance Criteria (lect)	Module 1 group	
7	9/28	Tu	Module 2: Performance Criteria (in-class exercise)	Module 2 in-class	
8	9/30	Th	Module 2: Performance Criteria (lab for group work)	Module 2 individual	d/D3
9	10/5	Tu	Catch-up and adjustment period		
10	10/7	Th	Module 3: Information Portrayals (lect)	Module 2 group	
11	10/12	Tu	Module 3: Information Portrayals (in- class exercise)	Module 3 in-class	
12	10/14	Th	Module 3: Information Portrayals (lab for group work)	Module 3 individual	
13	10/19	Tu	Module 4: ABC Audits and Frameworks (lect)	Module 3 group	
14	10/21	Th	Catch-up period		
15	10/26	Tu	Module 4: ABC Audits and Frameworks (in-class exercise)	Module 4 in-class	
16	10/28	Th	KIA Visit		
17	11/2	Tu	Module 4: ABC Audits and Frameworks (lab for group work)	Module 4 individual Art & Science assignment (KIA)	j/J3
18	11/4	Th	Module 5: Data Flow Diagrams (lect)	Module 4 group	k/K3
19	11/9	Tu	Module 5: Data Flow Diagrams (in-class exercise)	Module 5 in-class	
20	11/11	Th	Catch-up period		
21	11/16	Tu	Module 5: Data Flow Diagrams (lab for group work)	Module 5 individual	
22	11/18	Th	Module 6: Building Management Tools (lect)	Module 5 group	

23	11/23	Tu	Module 6: Building Management Tools (in-class exercise)	Module 6 in-class	
	11/25	Th	No class-Thanksgiving		
24	11/30	Tu	Module 6: Building Management Tools (lab for group work)	Module 6 individual	
25	12/2	Th	Closure and feedback on modules	Module 6 group	
26	12/7	Tu	No class-Sr. Projects		
27	12/9	Th	Review and hand out final exam		
28	12/13		Final Exam 10:15-12:15		

Name: _____

Uninterrupted time spent reading: _____

Uninterrupted time spent on feedback: _____

Interruptions (brief description and time): _____

Feedback for 4120 reading material—FB# ____

0. What “aha’s” did you have from the reading?

1. What are the two or three main points you found in the reading assignment?

2. How can (or have) these main points been applied in organizations?

3. What questions or concerns do you have as a result of the reading?