Instructor:	Geza Bottlik, E-mail: bottlik@usc.edu
Office Hours:	Tuesdays/Thursdays, 3:30 P.M. – 4:30 P.M., Room GER 202 or by appointment.
Phone	213 740 – 5050
TA:	TBD
TA Office Hours:	TBD
Class time/place:	Tuesdays and Thursdays 8:00 A.M. – 9:20 A.M., Room KAP140

Web Pages: www.gezabottlik.com. See for Lecture notes, assignments, grades and notices. We will use Blackboard only for email and submission of assignments.

Co-Requisites:
ISE 330. You must have this prerequisite to enroll in this class. You will be expected to apply methods from this course.

Test Schedule:

Midterm 1:	Thursday, October 1, 2015	8:00 A.M. – 9:20 A.M.
Midterm 2:	Thursday, November 3, 2015	8:00 A.M. – 9:20 A.M.
Final:	Tuesday, December 15, 2015	4:30 P.M. – 6:30 P.M.

The midterms and final will be based on problems similar to the ones assigned in the homework and the discussions in class. **All tests and quizzes are open book and open notes and laptops**. Students are expected to **apply** what they should have learned up to that point to analyzing situations, identifying the problems and applying the appropriate techniques to solve them or interpreting computer solutions.

Assignments:
          Readings, problems and software exercises will be included in each week's assignment. These are assigned on Monday and are due on the following **Wednesday at midnight on the assignment manager on Blackboard.** The assignment manager assigns a file name. The grader will return the assignments electronically only if there are any points taken off. Reading assignments are due when the material will be covered in class. It is imperative that you **prepare for class** -- you will find it extremely difficult to follow the discussion if you have not read the material.

          I will **not accept** late homework, unless **prior** arrangements have been made (e.g. out of town funeral). Homework is to be a **digital Word (or Excel) 97 or later printable file**. Do not type results into spreadsheets – use formulas. If it is a team assignment, the team members' names, assignment number, the date and any other team that you worked with must be in the **header**. Use a consistent template and format the output for a professional appearance. A sample will be available on the web site. **There can only be one file per homework. (no zip files!)**.

          The assignments should be as professional in appearance as if you were preparing reports at work or for publication. Clearly label the problem number and your conclusions for each problem, followed by the supporting calculations. **The problems must be in the order assigned. Out of sequence problems will receive no credit.**

          Assignments will be either individual or team. If two teams discuss or collaborate on a homework, they must indicate that on their assignments. Each team must turn in a separate homework. Generated data and essay questions must be unique to each team. Team assignments should have all team members' names on them, but only if they worked on it.

It's OK to work on individual homework together, but finish it by yourself and indicate whom you worked with. For individual homework each student must turn in a separate homework. Do not give your files to others, and do not use others' files. Do not copy solutions from people you have worked with or from anyone else. Generated data and essay questions must be unique to each student. If you use solutions from prior semesters, indicate that. **If the answer is given in a book, don't just copy it, explain how you got it**

Objectives and Content

This course covers planning and scheduling systems. While the emphasis is on implementing effective production planning and scheduling systems, the material is equally applicable to service systems. While a prior knowledge of operations research, probability and statistics, engineering economy and supply chain management is assumed, each of these will be reviewed briefly as the need arises. The focus is on mathematical models for solving problems arising in planning and scheduling.

It is up to you to become familiar with and learn the mechanics of the material in the text. I am here to explain things you don't understand, to add things that are not in the book, and to evaluate whether you can apply the material to real problems.
The lecture is a supplement to what is contained in the book. It is NOT intended to be a duplication of what is contained in the book.

I am looking forward to an intellectually stimulating and rewarding semester with you.

Grading:

Homework	~16%	16.5 points	1. 5 pts each (- 0.5 if not
Midterm Exam 1	~15%	15 points	
Midterm Exam 2	~20%	20 points	
Final Exam	~30%	30 points	
Participation (Attendance, **discussion**, **preparedness for class**)	~ 5%	4.8 points	0.2 pt. each, drop 2 lowest
Quizzes	~14%	13.5 points	1.5 pt. each, drop 1 lowest

The grade for the course will only be based on the required work listed above and cannot be improved with additional work. Note that the usual average difference between adjacent grades is less than 0.5%.

Quizzes:

We will have 10 quizzes during the semester. These are short, usually with one or two problems or about 10 True and False or fill in the blank. **We will start on 09/03**. The lowest grade will be dropped. There are no make up quizzes.

Required Text:

Manufacturing Planning and Control – Jacobs, Berry, Whybark and Vollman, McGraw-Hill 2011, ISBN 978-0-07-337782-7

Approximate Course Outline:

Session	Date	Material	Homework No. due	Quiz
01	08/25	Introduction and Organization		
02	08/27	Inventory, Cost Components, Chapter 11		
03	09/01	Inventory, Economic order quantity	No. 1	
04	09/03	Inventory, Order points		QU1
05	09/08	Inventory, Safety stock	No. 2	
06	09/10	Inventory, Lot sizing		QU2
07	09/15	Forecasting, Chapter 3	No. 3	
08	09/17	Forecasting, Regression		QU3
09	09/22	Forecasting, Smoothing	No. 4	
10	09/24	Forecasting, Seasonality		QU4
11	09/29	Review	No. 5	
12	10/01	Midterm 1		
13	10/06	Review Midterm		
14	10/08	Enterprise Resource Planning (ERP) Chapters 4 thru 6	No. 6	QU5
15	10/13	ERP - Sales and operations		
16	10/15	ERP - materials	No. 7	QU6
17	10/20	ERP - Capacity		
18	10/22	Scheduling Chapter 8		QU7
19	10/29	Scheduling, Performance and Gantt charts		
20	11/01	Review	No. 8	
21	11/03	Midterm 2		
22	11/08	Review midterm 2	No. 9	
23	11/10	Scheduling, Single machine		
24	11/12	Scheduling, Flow shops	No. 10	QU8
25	11/17	Scheduling, job shops		
26	11/19	Integrated Production Planning, Chapter 9	No. 11	QU9
27	11/24	Just-in Time, Lean, Kan-ban, Theory of Constraints		
28	12/01	Just-in Time, Lean, Kan-ban, Theory of Constraints		QU10
29	12/03	Review		
	12/15	Final		

ALWAYS BE SURE TO GIVE THE SOURCE OF ALL YOUR INFORMATION. ANYTHING TAKEN VERBATIM FROM SOMEONE ELSE MUST BE IN QUOTATION MARKS AND REFERENCED. THIS INCLUDES PARTIAL SENTENCES.
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This is intended to be an interactive class and your participation should increase as the semester progresses. Attendance at **all** classes for the **whole** class is expected of everyone. Frequent absences will result in a reduction in grade. Punctuality is expected. If you are late, be sure not to disturb the class as you enter.
PLEASE DO NOT BRING FOOD OR DRINKS TO THE CLASS. BEVERAGES IN PLASTIC CONTAINERS ARE OK. NEATNESS, SPELLING, AND GRAMMAR COUNT. THEY ARE AN EXPRESSION OF YOUR COMMITMENT TO DO A GOOD JOB.
USE THE TOOLS IN WORD AND EXCEL!

No phone, Ipad or laptop use in class ecept when specifically allowed.

Last, but most important:

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* http://equity.usc.edu or to the *Department of Public Safety* http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage http://sarc.usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* http://emergency.usc.edu will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.