University of Florida
College of Public Health & Health Professions
Department of Health Services Research, Management, and Policy
Course Syllabus

HSA 6196: Health Services Operations Management

Spring 2014 - Mondays 11:45am-1:40pm, Wednesdays 1:55pm-2:45pm

Location: HPNP G316
Course Website (Sakai) - elearning2.courses.ufl.edu

INSTRUCTORS INFORMATION

Lead Instructor:
Roque Perez-Velez, PE, DSHS
Health Science Center Administration Services, Office # 3124
1329 SW 16th Street, Gainesville, FL 32608
Phone: (352) 265-8048
Email: perero@shands.ufl.edu
Office Hours: By appointment, please contact Instructor

Teaching Assistant:
Sarah Bauer, MPH
1225 Center Drive, HPNP 4151, Gainesville, FL 32611
Phone: (443) 350-6580
Email: secbauer@gmail.com
Office Hours: By appointment, please contact TA

REQUIRED COURSE TEXTBOOKS:

Krajewski L, Ritzman L, and Malhotra, M. *Operations Management: Processes and Value Chains*, 9th ed., 2009, Pearson/Prentice Hall, Upper Saddle River, New Jersey. ISBN-10: 0136065767

Ragsdale, C. Spreadsheet Modeling & Decision Analysis: A Practical Introduction to Management Science, Revised, 2007, 5th Edition South-Western College Pub. ISBN-10: 0324656637

**Chapters 13, 15 ONLY,

**Rather than pay for the entire book, students can (and I expect will prefer to) buy and download individual chapters here http://www.cengagebrain.com/shop/ISBN/9780324656633?cid=APL1

REQUIRED SUPPLEMENTAL MATERIAL:
Supplemental readings will be posted on the course's Sakai web site (elearning2.courses.ufl.edu).

COURSE DESCRIPTION:
On a day to day basis, health care managers are charged with improving costs and financial outcomes while simultaneously improving clinical and service quality. Health care organizations are being "squeezed" by declining reimbursements, while at the same time they are struggling to recruit and retain staff during a significant clinical workforce shortage. To effectively "do more with less," managers are turning to operations

management in an effort to decrease costs while enhancing quality. Supply chain initiatives, quality improvement projects, and organizational restructurings are commonplace in today's healthcare environment.

HSA 6196 is designed to arm you with the practical and analytical tools required to make effective tactical and operational decisions in a health care environment. The course examines operations decisions through a combination of lectures, in-class problems, homeworks, and readings. Specific topics to be covered include process flow, simulation, decision-making, quality improvement, forecasting, capacity management, project management, and inventory management. A specific emphasis will be placed on learning and using new tools and technologies to solve analytic problems and then articulate solutions to those problems in managerially-understandable and actionable terms.

COURSE OBJECTIVES	TARGETED COMPETENCIES
Demonstrate an understanding of the language of management science, operations management, and systems analysis.	Understand and communicate the value of administrative, clinical, and decision-support technologies in improving organizational performance.
Describe the services sector in general, and service management processes in particular, from strategic and operational perspectives.	Use evidence based approaches to design and implement programs that improve community health. Apply general and health economics concepts and show demonstrated competence with analyses of pricing, service demand, and risk.
Demonstrate an understanding of the contexts in which operations management can be applied to improve quality and reduce costs in the service sector.	Use marketing and needs assessment techniques in support of health care program development and implementation.
Apply various analytical tools and techniques to various health care problems related to quality, patient and employee satisfaction, and inventory management; and interpret the results within the context of the problem.	Measure and improve clinical and organizational performance and, as needed, redesign, organizational systems and processes. Use project management techniques and systems thinking to plan and manage an initiative involving significant resources, scope, and impact. Use statistical and analytical tools to measure and improve organizational performance.
Demonstrate the ability to merge both quantitative and qualitative information in decision-making.	Apply quality improvement principles and evidence-based techniques to analyze and improve patient care processes.

EVALUATION OF THE STUDENT:
Grades for this course will be determined according to student performance on the four requirements as shown in the table below. The same evaluation procedure will be applied to ALL students.

Requirement		**Weight (%)**
4 Homeworks	30	
Excel Quiz		10
Exam 1		30
Exam 2		30
Total		**100**

Grading scale

Percentage	**93%-**	**90%-**	**87%-**	**83%-**	**80%-**	**77%-**	**73%-**	**70%-**	**67%-**	**63%-**	**60%-**	**Below**

or points earned in class	100%	92%	89%	86%	82%	79%	76%	72%	69%	66%	62%	60%
Letter Grade equivalent	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at www.registrar.ufl.edu/catalog/policies/regulationgrades.html

HOMEWORKS:

One of the best ways to learn the quantitative tools discussed in this course is through practice. Each homework will contain problems that are based on material drawn from the text book, lectures, supplemental readings, and other sources. For each assignment, you must turn in the following:

1. **A typewritten hard copy** including calculations, final answers and spreadsheet screen shots (see the end of syllabus for instructions on how to create screen shots)

2. **An electronic copy** of your Word document uploaded to the appropriate folder on the e-learning website Assignment section. 15% will be deducted for failing to submit a complete electronic copy to e-learning.

READ THESE TIPS BEFORE TURNING IN EACH HOMEWORK

- Homework should be completed in groups of 2 unless otherwise stated on a particular assignment. Homeworks should not be discussed between groups.

- Include your name(s) and student ID number(s) on a cover page.

- All submitted work must be typewritten, and you must show your work. Your final answers should be clearly labeled. For assignments that require significant non-spreadsheet calculations, you are encouraged to first use scratch paper to arrive at your answer and then type your primary calculations and final answers in Word (see the Insert tab in Word 2007 for the Microsoft equation editor tool). 15% will be deducted for handwritten homeworks.

Ways to unnecessarily lose points on homework:

1. Assignments that are poorly organized.

2. Including unnecessary computer output in your homework write-up.

3. Not including Excel screen shots - If your work requires calculations in Excel, you are expected to turn in screen shots of your workbook and formulae in your hard copy and with your electronic submission. See the end of the syllabus for an example on how to submit screen shots.

4. Assignments that are not stapled.

Late/Make-up Homework: Late work will not be accepted. The policy to drop the lowest homework grade is in place for extenuating circumstances that prevent you from completing an assignment.

Plagiarism/Copying: Your assignment submissions will be compared by the grader and electronically for evidence of copying between groups. If found, both groups will receive a zero on the assignment and be subject to departmental and university procedures on academic honesty violations.

LECTURE FORMAT:
Classroom sessions will be a mix of traditional lecturing and practice problems. For many of the practice problems, you will find it useful to have your laptop with you in class. Lecture notes will be posted to Sakai prior to each class session.

ADDITIONAL POLICIES:
Directions – Proper directions will be communicated to you in class, through the homework assignments and in this syllabus. If you do not understand the expectation, ASK the instructor or TA before you turn in the assignment. It is too late to seek clarification after grades have been assigned.

Professionalism –Please be punctual! No phone calls, text messages, e-mails, tweets, or any other new electronic communication method that may be invented between now and the end of the semester. **Laptops may be used in class for course-related work. Otherwise your computer should remain closed during class times.**

Academic Honesty (cheating and use of copyrighted materials) - Students are expected to act in accordance with the University of Florida policy on academic integrity (see Graduate Student Handbook for details). Cheating or plagiarism in any form is unacceptable and inexcusable behavior.

We, the members of the University of Florida community,
pledge to hold ourselves and our peers to the
highest standards of honesty and integrity.

Class Attendance - Attendance is mandatory. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. It is your responsibility to inform the instructor about upcoming absences. Excessive absences may result in a lowering of your grade at the instructor's discretion.

Accommodations for Students with Disabilities - Students requesting classroom accommodation must first register with the Dean of Students Office, which will provide documentation to the student. The student should then provide this documentation to me.

University Counseling Services and Mental Health Services -

University Counseling Services Student
http://www.counsel.ufl.edu/services.asp
P301 Peabody Hall – 392-1575

Mental Health Services
http://www.health.ufl.edu/shcc
Room 245, Infirmary Bldg.- 392-1171

Topic and Reading Assignments

Date	Topic	Readings **(These readings are tentative – See Sakai regularly for additions or other changes)**
1/6	Course Introduction	Krajewski Ch. 1
1/8	Statistics Review	Statistics Supplement
1/13	Excel Basics Review (*In-class hands-on exercise)*	*(see Sakai for instructions on online lecture/tutorial prior to In-class exercise)*
1/15	Process Flow	
1/20	Process Flow & Excel Quiz	Krajewski Ch. 3 & 4
1/23	*No class – MLK Day*	
1/27	Quality Improvement	Krajewski Ch. 5
1/29	Quality Improvement	
2/3	Simulation	Krajewski Supplement B
2/5	Simulation	
2/10	Decision Making	Ragsdale Ch. 15 (Sections 15.1-15.7.1, 15.8-15.9, 15.15-15.15.4); Krajewski Supplement A
2/12	Decision Making	
2/17	Behavioral decision making	
2/19	Exam Review	
2/24	**Exam 1**	
2/26	*Topic TBA*	
3/3, 3/5	*No class – Spring Break*	
3/10	Forecasting	Krajewski Ch. 13
3/12	Forecasting	
3/17	Lean Concepts and Health Care Applications	
3/19	*Topic TBA*	
3/24	*No Class – ACHE Spring Congress*	
3/26	*Topic TBA*	
3/31	Capacity & Queuing	Krajewski Ch. 6, Suppl. C, Ragsdale Ch. 13
4/2	Capacity & Queuing	
4/7	Project Management	Krajewski Ch. 2, 14, & 15
4/9	Project Management	
4/14	Inventory Management	Krajewski Ch. 9- 12 Supplement D
4/16	Inventory Management	

4/21	Inventory Management (*Owens&Minor / Shands site*) 11:45am-1:40pm	
4/23	*Final Exam Review*	
4/30 8:30am- 11:30am	Final Exam	

NOTE: Schedule can change at the discretion of Lead Instructor or Teaching Assistant

Instructions for submitting Excel screen shots with your assignments

For each spreadsheet that you create for an assignment, you must turn in screen shots of your main spreadsheet model and the underlying formulae (see below for instructions on each of these).

The "prnt scrn" key on your keyboard will copy everything shown on the screen to your clipboard. You can then paste the screen into Paint or some other photo editor and crop everything except the picture of the spreadsheet.

1. **Submit screen shots of each of your spreadsheet models, for example:**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
4														
5	Year	Eating & drinking places[2]	Hotels & motels[2]	Retail stores, direct selling[3]	Recreational places[4]	Schools & colleges[5]	All other[6]	Total[7]	Eating and Drinking Linear Trend	Hotels & Motels Linear Trend	Retail Stores Linear Trend	Recreational Places Linear Trend	Schools & colleges Linear Trend	All Other Linear Trend
6	1	75,883	5,906	8,158	3,040	11,115	16,194	120,296	71125	6406	9200	2108	9447	16335
7	2	83,358	6,639	8,830	2,979	11,357	17,751	130,914	81102	6951	9581	2580	10290	17213
8	3	90,390	6,888	9,256	2,887	11,692	18,663	139,776	91078	7497	9962	3053	11133	18091
9	4	98,710	7,660	9,827	3,271	12,338	19,077	150,883	101055	8042	10342	3525	11976	18969
10	5	105,836	8,409	10,315	3,489	12,950	20,047	161,046	111031	8587	10723	3998	12819	19847
11	6	111,760	9,168	10,499	3,737	13,534	20,133	168,831	121008	9132	11104	4470	13662	20725
12	7	121,699	9,665	11,116	4,059	14,401	20,755	181,695	130984	9677	11485	4943	14505	21603
13	8	146,194	11,117	12,063	4,331	14,300	21,122	209,127	140961	10223	11866	5415	15348	22481
14	9	160,855	11,905	13,211	5,144	14,929	22,887	228,930	150938	10768	12247	5887	16191	23360
15	10	171,157	12,179	14,440	6,151	15,728	24,581	244,236	160914	11313	12628	6360	17034	24238
16	11	183,484	12,508	16,053	7,316	16,767	26,198	262,326	170891	11858	13008	6832	17877	25116
17	12	188,228	12,460	16,750	8,079	17,959	27,108	270,584	180867	12404	13389	7305	18720	25994
18	13	183,014	13,204	13,588	8,602	18,983	27,946	265,338	190844	12949	13770	7777	19563	26872
19	14	195,835	13,362	13,777	9,275	19,844	28,031	280,124	200820	13494	14151	8249	20406	27750
20	15	205,768	13,880	14,210	9,791	21,086	28,208	292,943	210797	14039	14532	8722	21249	28628
21	16	214,274	14,195	14,333	10,574	22,093	28,597	304,066	220774	14584	14913	9194	22092	29506
22	17	221,735	14,504	14,475	11,354	22,993	28,981	314,043	230750	15130	15294	9667	22935	30384
23	18	235,597	15,469	14,407	8,290	24,071	30,926	328,760	240727	15675	15674	10139	23778	31262
24	19	248,716	15,800	15,198	9,750	25,141	31,926	346,530	250703	16220	16055	10612	24621	32140
25	20	260,495	16,623	16,397	10,400	26,256	33,560	363,730	260680	16765	16436	11084	25464	33018
26	21	275,695	17,440	16,591	11,177	27,016	34,508	382,427	270656	17310	16817	11556	26306	33896
27	22	290,655	17,899	16,881	11,809	28,012	35,004	400,259	280633	17856	17198	12029	27149	34774
28	23								290610	18401	17579	12501	27992	35652
29	24								300586	18946	17960	12974	28835	36530

2. **Submit screen shots of the formulae behind each of your models. To show all of your formulas on the screen (using a PC), hold the 'Control' key and press the grave accent key (`). (This is also the tilde key (~). After showing the**

formulas, you may also need to adjust the column widths so you can see more of the formulas. You can then use the 'prnt scrn' to copy/paste as before. For example:

Eating and Drinking Linear Trend	Hotels & Motels Linear Trend	Retail Stores Linear Trend	Recreational Places Linear Trend	Schools & colleges Linear Trend	All Other Linear Trend
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A6)	=TREND($F$6:$F$27,$A$6:$A$27,A6)	=TREND($G$6:$G$27,$A$6:$A$27,A6)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A7)	=TREND($F$6:$F$27,$A$6:$A$27,A7)	=TREND($G$6:$G$27,$A$6:$A$27,A7)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A8)	=TREND($F$6:$F$27,$A$6:$A$27,A8)	=TREND($G$6:$G$27,$A$6:$A$27,A8)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A9)	=TREND($F$6:$F$27,$A$6:$A$27,A9)	=TREND($G$6:$G$27,$A$6:$A$27,A9)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A10)	=TREND($F$6:$F$27,$A$6:$A$27,A10)	=TREND($G$6:$G$27,$A$6:$A$27,A10)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A11)	=TREND($F$6:$F$27,$A$6:$A$27,A11)	=TREND($G$6:$G$27,$A$6:$A$27,A11)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A12)	=TREND($F$6:$F$27,$A$6:$A$27,A12)	=TREND($G$6:$G$27,$A$6:$A$27,A12)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A13)	=TREND($F$6:$F$27,$A$6:$A$27,A13)	=TREND($G$6:$G$27,$A$6:$A$27,A13)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A14)	=TREND($F$6:$F$27,$A$6:$A$27,A14)	=TREND($G$6:$G$27,$A$6:$A$27,A14)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A15)	=TREND($F$6:$F$27,$A$6:$A$27,A15)	=TREND($G$6:$G$27,$A$6:$A$27,A15)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A16)	=TREND($F$6:$F$27,$A$6:$A$27,A16)	=TREND($G$6:$G$27,$A$6:$A$27,A16)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A17)	=TREND($F$6:$F$27,$A$6:$A$27,A17)	=TREND($G$6:$G$27,$A$6:$A$27,A17)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A18)	=TREND($F$6:$F$27,$A$6:$A$27,A18)	=TREND($G$6:$G$27,$A$6:$A$27,A18)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A19)	=TREND($F$6:$F$27,$A$6:$A$27,A19)	=TREND($G$6:$G$27,$A$6:$A$27,A19)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A20)	=TREND($F$6:$F$27,$A$6:$A$27,A20)	=TREND($G$6:$G$27,$A$6:$A$27,A20)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A21)	=TREND($F$6:$F$27,$A$6:$A$27,A21)	=TREND($G$6:$G$27,$A$6:$A$27,A21)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A22)	=TREND($F$6:$F$27,$A$6:$A$27,A22)	=TREND($G$6:$G$27,$A$6:$A$27,A22)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A23)	=TREND($F$6:$F$27,$A$6:$A$27,A23)	=TREND($G$6:$G$27,$A$6:$A$27,A23)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A24)	=TREND($F$6:$F$27,$A$6:$A$27,A24)	=TREND($G$6:$G$27,$A$6:$A$27,A24)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A25)	=TREND($F$6:$F$27,$A$6:$A$27,A25)	=TREND($G$6:$G$27,$A$6:$A$27,A25)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A26)	=TREND($F$6:$F$27,$A$6:$A$27,A26)	=TREND($G$6:$G$27,$A$6:$A$27,A26)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A27)	=TREND($F$6:$F$27,$A$6:$A$27,A27)	=TREND($G$6:$G$27,$A$6:$A$27,A27)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A28)	=TREND($F$6:$F$27,$A$6:$A$27,A28)	=TREND($G$6:$G$27,$A$6:$A$27,A28)
=TREND($B$6:$B$27,$A$6:$A$27,A	=TREND($C$6:$C$27,$A$6:$A$27,A	=TREND($D$6:$D$27,$A$6:$A$27,A	=TREND($E$6:$E$27,$A$6:$A$27,A29)	=TREND($F$6:$F$27,$A$6:$A$27,A29)	=TREND($G$6:$G$27,$A$6:$A$27,A29)