				MATH;319 ;000;11922;A ;Mathematical Modeling		
				final: Tue Dec 17, 9:00-10:30 A HALF-HOUR EARLY		
Date	day	unit	Wor	Topic	Assigned	Due
2013-09-05	Thu	general modeling		intro; math model examples; a math model has; graph sketching	M1	
2013-09-10	Tue	general modeling		bloom's taxonomy; CCSS-M standards for mathematical practice; malaria nets--start simple; evacuation; modeling cycle	M2	M1
2013-09-12	Thu	general modeling		real modeling cycle; oper tact strat; airline problems; concept maps; intro to excel (graphing, label axes, title, autofill, control-shift-down)	M3	M2
2013-09-17	Tue	regression		linear regression: houses, predictions, residuals, graph residuals!	R1, R2	M3
2013-09-19	Thu	regression		R^2; school district data; correlation/causation; ecological fallacy; common resid graphs; basic procedure; LSRL math model; averaging before regression?	R3	R1
2013-09-24	Tue	regression	yes	Pre-Lab at home: 4-function pre-quiz; in-class: answers; exponential fits, compound interest		R3 before class, R2
2013-09-26	Thu	regression		yeast; logplots; power fit	R4	
2013-10-01	Tue	regression		model selection, occam's razor, mention orthogonal regression	R5	R4
2013-10-03	Thu	regression		multivariate regression school data; heat index; polynom		R5
2013-10-08	Tue	regression	yes	sines	R6	quiz on R5
2013-10-10	Thu	regression NLP		falstad.com java fourier app; waves and trends; overfitting; Logistic	R7, R8, R9	R6
2013-10-15	Tue	LP		LP toys, wyndor (no sensitivity analysis), knapsack	O1	R7
2013-10-17	Thu	LP	yes	swimmers; shift scheduling; MCNF start; network terms	O2	R9
2013-10-22	Tue	LP		network problems (MST, TSP, VRP) overview; MCNF continued (node-arc formulation)		O1
2013-10-24	Thu	LP	yes	remind about toy soldiers/trains, then ramen; brief fast-food intro; sensitivity analysis on wyndor; feas region; fundamental theorem of LP	O3	O2
2013-10-29	Tue	LP		MCNF node-node; other graph problems	M4	O3
2013-10-31	Thu	NLP		NLP: manufacturing, electricity	O4	M4
2013-11-05	Tue	NLP	yes	manufacturing and electricity: concavity		
2013-11-07	Thu	NLP		concavity; airport; shotspotter	O5	proposal 1
2013-11-12	Tue	dynsys	yes	compound interest; decay; credit card; repeated dosing; cooling; limited-growth	D1	O4, O5
2013-11-14	Thu	dynsys	yes	equilibria; multiple initial conditions; delta plots; stability; PID mention	D2	quiz
2013-11-19	Tue	dynsys	yes	Presentation Sample; car rental; pagerank; leslie		D1
2013-11-21	Thu	projects		project presentations		project 1
2013-11-26	Tue	projects		project presentations		
2013-11-28	Thu	break		Thanksgiving Break		
2013-12-03	Tue	dynsys		SIR; predator-prey; phase-plane plots; oil-spill		proposal 2
2013-12-05	Thu	dynsys		student evaluations; multivar dynsys exercises	D3	D2
2013-12-10	Tue	dynsys		seasonal heating; repeated dosing; observation noise; process noise; fitting	D4	D3
2013-12-12	Thu	dynsys		chaos; splines; pert/cpm; modeling misconceptions	M5	D4
2013-12-17	Tue	projects		final presentations: 9:00-10:30 A HALF-HOUR EARLY		project 2, M5
2013-12-19	Thu			last day of other classes' finals		