

Prof. Andrew Ross			Math 319, CRN 11189; Mon/Wed 11:00-12:15, Pray-H 521		Bonus Tech before class	HW assigned	HW due
Block#	Date 2016	day	unit	topics			
1	9/7	Wed	general modeling	intro; math model examples; a math model has; graph sketching		M1	
2	9/12	Mon	general modeling	bloom's taxonomy; CCSS-M standards for mathematical practice; malaria nets--start simple; evacuation; modeling cycle	text-to-colum	M2	M1
3	9/14	Wed	general modeling	real modeling cycle; oper tact strat; airline problems; concept maps; intro to excel (graphing, label axes, title, autofill, control-shift-down)	left/mid/right and =DATE	M3	M2
4	9/19	Mon	regression	linear regression: houses, predictions, residuals, graph residuals!	vlookup	R1, R2	M3
5	9/21	Wed	regression	R ² ; school district data; correlation/causation; ecological fallacy; common resid graphs; basic procedure; LSRL math model; averaging before regression?	marked scatterplots	R3	R1
6	9/26	Mon	regression	Pre-Lab at home: 4-function pre-quiz; in-class: answers; exponential fits, compound interest	sparklines		R3 before class, R2
7	9/28	Wed	regression	yeast; logplots; power fit	Pivot Tables	R4	
8	10/3	Mon	regression	log-of-log, model selection, occam's razor, multivariate regression school data	parallel axis plots	R5	R4
9	10/5	Wed	regression	heat index; polynom; sines	LiveRegression		R5
10	10/10	Mon	regression	falstad.com java fourier app; waves and trends		R6	
11	10/12	Wed	regression	Quiz on R5; Logistic; overfitting/crossvalidation; Machine Learning overview	generating random numbers	R7, R8, R9	R6
12	10/17	Mon	optimization	LP toys, wyndor (no sensitivity analysis), knapsack, swimmers		O1	R7
13	10/19	Wed	optimization	shift scheduling; network flow		O2	R9
14	10/24	Mon	optimization	Networks			O1
15	10/26	Wed	optimization	MCNF node-node; ramen; brief fast-food intro; sensitivity analysis on wyndor; feas region; fundamental theorem of LP		O3, M4	O2
16	10/31	Mon	optimization	example papers: dinosaur and relay; NLP: manufacturing, electricity	Pasting into Word/PPT: live or dead copies?		O3, M4
17	11/2	Wed	optimization	concavity			proposal 1
18	11/7	Mon	optimization	airport		O4	
19	11/9	Wed	optimization	shotspotter		O5	
20	11/14	Mon	dynsys	Dynamical Systems; PID; credit card, repeated dosing			O4, O5
21	11/16	Wed	projects	Project Presentations			report 1; presentation
22	11/21	Mon	projects	Project Presentations			
23	11/23	Wed		Thanksgiving break			
24	11/28	Mon		limited population growth; quiz		D1	
25	11/30	Wed	dynsys	pagerank; leslie; SIR; pred/prey;oilspill		D2	D1
26	12/5	Mon	dynsys	multiple initial conditions; equilibria; delta plots; phase-plane plots; fitting limited-pop growth		D3	proposal2
27	12/7	Wed	dynsys	observation noise, process noise			D2
28	12/12	Mon	dynsys	repeated dosing? accel/vel/pos? chaos? splines? PERT/CPM?		D4, M5, M6	D3
29	12/14	Wed		wrapup; M5 & M6 discussion			D4, M5, M6
	12/19	Mon	presentations	present in "final exam" slot: 11:00am (usual class time)			report 2; presentation