

Math087 - Mathematical Modelling - AY2023-2024 spring

George McNinch

Course Calendar

Date	DOW	Desc	Seq	Week	Details
01/17	Wed	Lecture	1	1	One dimensional optimization & sensitivity analysis
01/22	Mon	Lecture	2	2	Multi-dimensional optimization; Lagrange multipliers
01/22	Mon	Assignment	1	2	no assignment collected
01/24	Wed	Lecture	3	2	Mutli-dimensional continued: shadow prices
01/24	Wed	Tufts		2	Academic Date: <i>Last day to add a course</i>
01/29	Mon	Lecture	4	3	Optimization via Newton's method and variants
01/29	Mon	Assignment	2	3	
01/31	Wed	Lecture	5	3	Types of optimization & linear programming
02/05	Mon	Lecture	6	4	Network flows & linear programming
02/05	Mon	Assignment	3	4	
02/07	Wed	Lecture	7	4	Duality & complementary slackness
02/12	Mon	Lecture	8	5	Dual prices & integer programming
02/12	Mon	Assignment	4	5	
02/14	Wed	Lecture	9	5	Branch & Bound algorithms
02/19	Mon	Assignment	5	6	
02/19	Mon	Tufts		6	No classes: <i>Presidents' Day</i>
02/21	Wed	Lecture	10	6	Graph models: max flow & min cut
02/21	Wed	Tufts		6	Academic Date: <i>Last day to drop a course without record</i>
02/22	Thu	Lecture	11	6	Bipartite graphs & matching
02/22	Thu	Tufts		6	Tufts: <i>Monday schedule</i>
02/26	Mon	Lecture	12	7	Finite-state machines & Transition diagrams
02/26	Mon	Assignment	6	7	
02/28	Wed	Lecture	13	7	Iteration matrices; eigenvectors & power iterations
03/04	Mon	Lecture	14	8	Markov chains
03/04	Mon	Assignment	7	8	
03/06	Wed	Lecture	15	8	Intro to statistics & the Central Limit Theorem
03/11	Mon	Lecture	16	9	Monte-Carlo integration
03/11	Mon	Assignment	8	9	
03/13	Wed	Lecture	17	9	Monte-Carlo simulation
03/16	Sat	Tufts		9	No classes: <i>Spring Break</i>
03/17	Sun	Tufts		9	No classes: <i>Spring Break</i>
03/18	Mon	Assignment	9	10	
03/18	Mon	Tufts		10	No classes: <i>Spring Break</i>
03/19	Tue	Tufts		10	No classes: <i>Spring Break</i>
03/20	Wed	Tufts		10	No classes: <i>Spring Break</i>
03/21	Thu	Tufts		10	No classes: <i>Spring Break</i>
03/22	Fri	Tufts		10	No classes: <i>Spring Break</i>
03/23	Sat	Tufts		10	No classes: <i>Spring Break</i>
03/24	Sun	Tufts		10	No classes: <i>Spring Break</i>
03/25	Mon	Assignment	10	11	
03/25	Mon	Tufts		11	No classes: <i>Spring Break</i>
03/27	Wed	Lecture	18	11	Binomial & Poisson distributions

Date	DOW	Desc	Seq	Week	Details
04/01	Mon	Lecture	19	12	Recurrence relations & generating functions
04/01	Mon	Assignment	11	12	
04/03	Wed	Lecture	20	12	Linear least squares
04/03	Wed	Tufts		12	Academic Date: <i>Last day to withdraw from a course with W</i>
04/03	Wed	Tufts		12	Academic Date: <i>Last day to select Pass/Fail Option</i>
04/08	Mon	Lecture	21	13	
04/08	Mon	Assignment	12	13	
04/10	Wed	Lecture	22	13	
04/15	Mon	Assignment	13	14	
04/15	Mon	Tufts		14	No classes: <i>Patriots' Day</i>
04/17	Wed	Tufts		14	No classes: <i>Makeup Day (no classes)</i>
04/22	Mon	Lecture	23	15	
04/22	Mon	Assignment	14	15	
04/24	Wed	Lecture	24	15	
04/29	Mon	Lecture	25	16	
04/29	Mon	Assignment	15	16	
04/30	Tue	Tufts		16	Academic Date: <i>Reading Period</i>
05/01	Wed	Tufts		16	Academic Date: <i>Reading Period</i>
05/02	Thu	Tufts		16	Academic Date: <i>Reading Period</i>
05/03	Fri	Tufts		16	Academic Date: <i>Final Exam Period</i>
05/04	Sat	Tufts		16	Academic Date: <i>Final Exam Period</i>
05/05	Sun	Tufts		16	Academic Date: <i>Final Exam Period</i>
05/06	Mon	Tufts		17	Academic Date: <i>Final Exam Period</i>
05/07	Tue	Tufts		17	Academic Date: <i>Final Exam Period</i>
05/08	Wed	Tufts		17	Academic Date: <i>Final Exam Period</i>
05/09	Thu	Tufts		17	Academic Date: <i>Final Exam Period</i>
05/10	Fri	Tufts		17	Academic Date: <i>Final Exam Period</i>