Math087 - Mathematical Modelling - AY2024-2025 spring

George McNinch

Lectures

Date	DOW	Desc	Seq	Week	Details
01/15	Wed	Lecture	1	1	One dimensional optimization & sensitivity analysis
01/20	Mon	Tufts		2	**No classes:** *MLK Day*
01/22	Wed	Lecture	2	2	Multi-dimensional optimization; Lagrange
01/22	Wed	Tufts		2	**Academic Date:** *Last day to add a course*
01/27	Mon	Lecture	3	3	Lagrange continued; root finding via Newton's method & variants
01/29	Wed	Lecture	4	3	Types of optimization & linear programming
02/03	Mon	Lecture	5	4	Network flows
02/05	Wed	Lecture	6	4	Duality & complementary slackness
02/10	Mon	Lecture	7	5	Dual prices
02/12	Wed	Lecture	8	5	integer programming
02/17	Mon	Tufts		6	**No classes:** *Presidents' Day*
02/19	Wed	Lecture	9	6	Branch & Bound algorithms
02/19	Wed	Tufts		6	**Academic Date:** *Last day to drop a course without record*
02/20	Thu	Lecture	10	6	Graph models
02/20	Thu	Tufts		6	**Tufts:** *Monday schedule*
02/24	Mon	Lecture	11	7	max flow & min cut
02/26	Wed	Lecture	12	7	Bipartite graphs & matching
02/26	Wed	Exam		7	**in-class quizzes (~20-30 minute)**
03/03	Mon	Lecture	13	8	Finite-state machines & Transition diagrams
03/05	Wed	Lecture	14	8	Iteration matrices; eigenvectors & power iterations
03/10	Mon	Lecture	15	9	Markov chains
03/12	Wed	Lecture	16	9	statistics
03/15	Sat	Tufts		9	**No classes:** *Spring Break*
03/16	Sun	Tufts		9	**No classes:** *Spring Break*
03/17	Mon	Tufts		10	**No classes:** *Spring Break*
03/18	Tue	Tufts		10	**No classes:** *Spring Break*
03/19	Wed	Tufts		10	**No classes:** *Spring Break*
03/20	Thu	Tufts		10	**No classes:** *Spring Break*
03/21	Fri	Tufts		10	**No classes:** *Spring Break*
03/22	Sat	Tufts		10	**No classes:** *Spring Break*
03/23	Sun	Tufts		10	**No classes:** *Spring Break*
03/24	Mon	Lecture	17	11	the Central Limit Theorem
03/26	Wed	Lecture	18	11	Monte-Carlo integration
03/31	Mon	Lecture	19	12	Monte-Carlo simulation
04/02	Wed	Lecture	20	12	Binomial & Poisson distributions
04/02	Wed	Exam		12	**in-class quizzes (~20-30 minute)**
04/02	Wed	Tufts		12	**Academic Date:** *Last day to withdraw from a course with W*
04/02	Wed	Tufts		12	**Academic Date:** *Last day to select Pass/Fail Option*
04/07	Mon	Lecture	21	13	Binomial & Poisson distributions
04/09	Wed	Lecture	22	13	Linear least squares
04/14	Mon	Lecture	23	14	Linear least squares
04/16	Wed	Lecture	24	14	

Date	DOW	Desc	Seq	Week	Details
04/21	Mon	Tufts		15	**No classes:** *Patriots' Day*
04/23	Wed	Lecture	25	15	
04/28	Mon	Lecture	26	16	
04/29	Tue	Tufts		16	**No classes:** *Makeup Day (no classes)*
04/29	Tue	Tufts		16	**Academic Date:** *Reading Period*
04/30	Wed	Tufts		16	**Academic Date:** *Reading Period*
05/01	Thu	Tufts		16	**Academic Date:** *Reading Period*
05/02	Fri	Tufts		16	**Academic Date:** *Final Exam Period*
05/03	Sat	Tufts		16	**Academic Date:** *Final Exam Period*
05/04	Sun	Tufts		16	**Academic Date:** *Final Exam Period*
05/05	Mon	Tufts		17	**Academic Date:** *Final Exam Period*
05/06	Tue	Tufts		17	**Academic Date:** *Final Exam Period*
05/07	Wed	Tufts		17	**Academic Date:** *Final Exam Period*
05/08	Thu	Tufts		17	**Academic Date:** *Final Exam Period*
05/09	Fri	Tufts		17	**Academic Date:** *Final Exam Period*