Math087 - Mathematical Modelling - AY2025-2026 spring

George McNinch

Course Calendar

Date	DOW	Desc	Seq	Week	Details
01/14	Wed	Meeting	Office hours	1	15:00-16:00 JCC 559
01/14	Wed	Lecture	1	1	One dimensional optimization & sensitivity analysis
01/15	Thu	Meeting	Office hours	1	15:00-16:00 JCC 559
01/16	Fri	Assignment		1	no assignment collected
01/19	Mon	Tufts		2	**No classes:** *MLK Day*
01/21	Wed	Meeting	Office hours	2	15:00-16:00 JCC 559
01/21	Wed	Lecture	2	2	Multi-dimensional optimization; Lagrange
01/21	Wed	Tufts		2	**Academic Date:** *Last day to add a course*
01/21	Wed	Tufts		2	**Tufts:** *Monday schedule*
01/22	Thu	Meeting	Office hours	2	15:00-16:00 JCC 559
01/23	Fri	Assignment		2	PS01: Optimization
01/26	Mon	Lecture	3	3	Lagrange continued; root finding via Newton's method & variants
01/28	Wed	Meeting	Office hours	3	15:00-16:00 JCC 559
01/28	Wed	Lecture	4	3	Types of optimization & linear programming
01/29	Thu	Meeting	Office hours	3	15:00-16:00 JCC 559
01/30	Fri	Assignment		3	PS02: Linear programs
02/02	Mon	Lecture	5	4	Duality & complementary slackness
02/04	Wed	Meeting	Office hours	4	15:00-16:00 JCC 559
02/04	Wed	Lecture	6	4	Network flows
02/05	Thu	Meeting	Office hours	4	15:00-16:00 JCC 559
02/06	Fri	Assignment		4	PS03: Dual linear programs
02/09	Mon	Lecture	7	5	integer programming
02/11	Wed	Meeting	Office hours	5	15:00-16:00 JCC 559
02/11	Wed	Lecture	8	5	Branch & Bound algorithms
02/12	Thu	Meeting	Office hours	5	15:00-16:00 JCC 559
02/13	Fri	Assignment		5	midterm report 1 (linear programming)
02/16	Mon	Tufts		6	**No classes:** *Presidents' Day*
02/18	Wed	Meeting	Office hours	6	15:00-16:00 JCC 559
02/18	Wed	Lecture	9	6	max flow & min cut
02/18	Wed	Tufts		6	**Academic Date:** *Last day to drop a course without record*
02/19	Thu	Meeting	Office hours	6	15:00-16:00 JCC 559
02/20	Fri	Assignment		6	PS04: integer programming & max flow
02/23	Mon	Lecture	10	7	graph models
02/25	Wed	Meeting	Office hours	7	15:00-16:00 JCC 559
02/25	Wed	Lecture	11	7	Bipartite graphs & matching
02/26	Thu	Meeting	Office hours	7	15:00-16:00 JCC 559
02/27	Fri	Assignment		7	PS05: matching and finite-state machines
03/02	Mon	Lecture	12	8	Finite-state machines & Transition diagrams
03/04	Wed	Meeting	Office hours	8	15:00-16:00 JCC 559
03/04	Wed	Lecture	13	8	Iteration matrices; eigenvectors & power iterations
03/05	Thu	Meeting	Office hours	8	15:00-16:00 JCC 559
03/06	Fri	Assignment		8	PS06: eigenvalues & Markov processes

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03/09	Mon	Lecture	14	9	Markov chains
03/11	Wed	Meeting	Office hours	9	15:00-16:00 JCC 559
03/11	Wed	Lecture	15	9	statistics
03/12	Thu	Meeting	Office hours	9	15:00-16:00 JCC 559
03/13	Fri	Assignment		9	(no homework – spring break begins)
03/14	Sat	Tufts		9	**No classes:** *Spring Break*
03/15	Sun	Tufts		9	**No classes:** *Spring Break*
03/16	Mon	Tufts		10	**No classes:** *Spring Break*
03/17	Tue	Tufts		10	**No classes:** *Spring Break*
03/18	Wed	Tufts		10	**No classes:** *Spring Break*
03/19	Thu	Tufts		10	**No classes:** *Spring Break*
03/20	Fri	Assignment		10	midterm report 2 (page-rank)
03/20	Fri	Tufts		10	**No classes:** *Spring Break*
03/21	Sat	Tufts		10	**No classes:** *Spring Break*
03/22	Sun	Tufts		10	**No classes:** *Spring Break*
03/23	Mon	Lecture	16	11	the Central Limit Theorem
03/25	Wed	Meeting	Office hours	11	15:00-16:00 JCC 559
03/25	Wed	Lecture	17	11	Monte-Carlo integration
03/26	Thu	Meeting	Office hours	11	15:00-16:00 JCC 559
03/27	Fri	Assignment		11	PS07: Monte-Carlo methods
03/30	Mon	Lecture	18	12	Monte-Carlo simulation
04/01	Wed	Meeting	Office hours	12	15:00-16:00 JCC 559
04/01	Wed	Lecture	19	12	Binomial & Poisson distributions
04/01	Wed	Tufts		12	**Academic Date:** *Last day to withdraw from a course with W*
04/01	Wed	Tufts		12	**Academic Date:** *Last day to select Pass/Fail Option*
04/02	Thu	Meeting	Office hours	12	15:00-16:00 JCC 559
04/03	Fri	Assignment		12	PS08: binomial & poisson distributions
04/06	Mon	Lecture	20	13	Binomial & Poisson distributions
04/08	Wed	Meeting	Office hours	13	15:00-16:00 JCC 559
04/08	Wed	Lecture	21	13	Linear least squares
04/09	Thu	Meeting	Office hours	13	15:00-16:00 JCC 559
04/10	Fri	Assignment		13	PS09: least squares & inverse problems
04/13	Mon	Lecture	22	14	Linear least squares
04/13	Mon	Assignment		14	Final project proposals due
04/15	Wed	Meeting	Office hours	14	15:00-16:00 JCC 559
04/15	Wed	Lecture	23	14	
04/16	Thu	Meeting	Office hours	14	15:00-16:00 JCC 559
04/17	Fri	Assignment		14	
04/20	Mon	Tufts		15	**No classes:** *Patriots' Day*
04/22	Wed	Meeting	Office hours	15	15:00-16:00 JCC 559
04/22	Wed	Lecture	24	15	
04/23	Thu	Meeting	Office hours	15	15:00-16:00 JCC 559
04/24	Fri	Assignment		15	
04/27	Mon	Lecture	25	16	
04/28	Tue	Tufts		16	**Academic Date:** *Reading Period*
04/29	Wed	Tufts		16	**Academic Date:** *Reading Period*
04/30	Thu	Tufts		16	**Academic Date:** *Reading Period*
05/01	Fri	Tufts		16	**Academic Date:** *Reading Period*
05/01	Fri	Tufts		16	**Academic Date:** *Final Exam Period*
05/02	Sat	Assignment		16	Final Project Due
05/02	Sat	Tufts		16	**Academic Date:** *Reading Period*
05/02	Sat	Tufts		16	**Academic Date:** *Final Exam Period*
05/03	Sun	Tufts		16	**Academic Date:** *Reading Period*
05/03	Sun	Tufts		16	**Academic Date:** *Final Exam Period*
05/04	Mon	Tufts		17	**Academic Date:** *Reading Period*

Date	DOW	Desc	Seq	Week	Details
05/04	Mon	Tufts		17	**Academic Date:** *Final Exam Period*
05/05	Tue	Tufts		17	**Academic Date:** *Reading Period*
05/05	Tue	Tufts		17	**Academic Date:** *Final Exam Period*
05/06	Wed	Tufts		17	**Academic Date:** *Reading Period*
05/06	Wed	Tufts		17	**Academic Date:** *Final Exam Period*
05/07	Thu	Tufts		17	**Academic Date:** *Reading Period*
05/07	Thu	Tufts		17	**Academic Date:** *Final Exam Period*
05/08	Fri	Tufts		17	**Academic Date:** *Reading Period*
05/08	Fri	Tufts		17	**Academic Date:** *Final Exam Period*