MATH 272 Calendar
Spring 2021

Color coding:

- **Reading assignments to be done before class on the scheduled day.**
- **Quizzes or exams set to take place on those days.**
- **Assignments due on these days.**
- **No class on this day.**

Monday	Tuesday	Wednesday	Friday
Jan 18th **Martin Luther King Day.**	19th **1** First day, review. Functions in higher dimensions.	20th **2** Curves and velocity/acceleration vectors.	22nd **3** Scalar Fields and partial differentiation.
25th **4** Vector fields and the directional derivative. Gradient.	26th **5** Cont.	27th **6** Divergence and curl of vector fields. Jacobian. Laplacian.	29th **7** **Homework 1 due.** Cont.
Feb 1st **8** Integration over curves.	2nd **9** Cont.	3rd **10** Potential functions and conservation.	5th **11** **Quiz 1.**
8th **12** **Homework 2 due.** Area and volume integrals.	9th **13** Surfaces. Implicit and explicit parameterizations.	10th **14** Tangent planes and normals.	12th **15** Integration over surfaces and flux.
15th **16** **Cold day.**	16th **17** Cont.	17th **18** **Homework 3 due.** Cylindrical coordinates.	19th **19** Cont.
22nd **20** Spherical coordinates.	23rd **21** Open.	24th **22** Open	26th **23** **Quiz 2** **Homework 4 due.**
Mar 1st **24** Open.	2nd **25** Open.	3rd **26** **Oral Exam 1.**	5th **27** **Oral Exam 1.**

Monday	Tuesday	Wednesday	Friday
8th **28** • Higher dimensional ODEs. • **Ch. 5.1, 5.2.**	9th **29** • Continuum limit and partial differential equations. • **Ch. 5.2, 5.3**	10th **30** • Continue.	12th **31** • **Discussion due: A mathematician's lament.** • Understanding the – Laplace – Poisson – heat – wave equations.
15th **32** • **Homework 5 due.** • d'Alembert's solution to the wave equation.	16th **33** • Separation of variables.	17th **34** • Continue.	19th **35** • **Quiz 3.** • **Discussion due: Homework 5.** • **Discussion due: The interesting utility of geometry and topology.**
22nd **36** • **Homework 6 due.** • Time dependent Schödinger equation.	23rd **37** • Superposition states.	24th **38** • Maxwell's equations.	26th **39** • **Homework 6 discussion due.** • PDEs in other coordinate systems.
29th **40** • **Homework 7 due.** • Continue.	30th **41** • Continue.	31st **42** • **Oral Exam 2.** • **Homework 7 discussion due.** • No class.	Apr 2nd **43** • **Oral Exam 2.** • No class.
5th **44** • Complex functions and phase.	6th **45** • Function spaces and inner products.	7th **46** • Linear operators and adjoints.	9th **47** • Differential operators and domains.
12th **Spring Break.**	13th **Spring Break.**	14th **Spring Break.**	16th **Spring Break.**

Monday	Tuesday	Wednesday	Friday
19th **48** • **Homework 8 due.** • Spectra of differential and Hermitian operators.	20th **49** • Orthonormal bases and projection.	21st **50** • Continue.	23rd **51** • **Quiz 4.** • **Homework 8 discussion due.**
26th **52** • **Homework 9 due.** • Fourier series.	27th **53** • Fourier transform on $\mathbb{R}$ and $\mathbb{R}^n$.	28th **54** • Dirac delta and fundamental solutions.	30th **55** • **Quiz 5.**. • Continue.
May 3rd **56** • **Homework 10 due.** • Project and review.	4th **57** • Project and review.	5th **58** • **Oral Exam 3.** • **Homework 10 discussion due.** • **No class.**	7th **59** • **Oral Exam 3.** • **No class.**