MATH 272 Calendar

Spring 2021

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.** Surfaces. Implicit and explicit parameterizations.	9th **13** Tangent planes and normals.	10th **14** Integration over surfaces.	12th **15** **Homework 3 due.** Volume integrals.
15th **16** Cont.	16th **17** Cylindrical coordinates.	17th **18** Cont.	19th **19** **Quiz 2.** **Homework 4 due.** Spherical coordinates.
22nd **20** Cont.	23rd **21** Open.	24th **22** **Oral Exam 1.**	26th **23** **Oral Exam 1.**
Mar 1st **24** Higher dimensional ODEs.	2nd **25** Cont.	3rd **26** Continuum limit and partial differential equations.	5th **27** **Homework 5 due.** Example equations: Laplace/ Poisson's/ heat/ wave equation.

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8th **28** Cont.	9th **29** Time dependent Schödinger equations. Superposition states.	10th **30** Cont.	12th **31** **Quiz 3. Homework 6 due.** Cont.
15th **32** Maxwell's equations.	16th **33** Cont.	17th **34** PDEs in other coordinate systems.	19th **35** **Homework 7 due.** Cont.
22nd **36** Open.	23rd **37** Open.	24th **38** **Oral Exam 2.**	26th **39** **Oral Exam 2.**
29th **40** Complex functions, phase.	30th **41** Function spaces and inner products.	31st **42** Symmetries of inner products.	Apr 2nd **43** **Homework 8 due.** Orthonormal bases and projection.
5th **44** Series and integrals as linear combinations.	6th **45** Linear operators and adjoints.	7th **46** Differential operators and domains.	9th **47** **Quiz 4. Homework 9 due.** Orthonormal bases of functions.
12th Spring Break.	13th Spring Break.	14th Spring Break.	16th Spring Break.
19th **48** Spectra of differential and Hermitian operators.	20th **49** Fourier series.	21st **50** Cont.	23rd **51** **Homework 10 due**. Fourier transforms.
26th **52** Dirac delta and fundamental solutions.	27th **53** Cont.	28th **54** Applications.	30th **55** **Quiz 5. Homework 11 due**. Cont.
May 3rd **56** Project and review.	4th **57** Project and review.	5th **58** **Oral Exam 3**	7th **59** **Oral Exam 3**