

MATH 271, CALENDAR
FALL 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
<div>Aug 23rd</div> <div>1</div> <ul style="list-style-type: none"> First day. Syllabus and course material. Review Chapter 1. 	<div>24th</div> <div>2</div> <ul style="list-style-type: none"> Complex numbers. Chapter 3 Sections 1, 2. 	<div>25th</div> <div>3</div> <ul style="list-style-type: none"> Geometry of \mathbb{C} and polar coordinates. Chapter 3 Sections 3, 4. 	<div>27th</div> <div>4</div> <ul style="list-style-type: none"> Polar coordinates and periodicity. Chapter 3 Sections 4, 5. Homework 0 due. Discussion due: A mathematician's lament.
<div>30th</div> <div>5</div> <ul style="list-style-type: none"> Intro to ODEs. Chapter 4 Section 1, 2. 	<div>31st</div> <div>6</div> <ul style="list-style-type: none"> General and particular solutions. Separable ODEs. Chapter 4 Sections 3, 4. 	<div>Sep 1st</div> <div>7</div> <ul style="list-style-type: none"> Changing variables and qualitative analysis. Chapter 4 Section 5, 6. 	<div>3rd</div> <div>8</div> <ul style="list-style-type: none"> Quiz 1. Homework 1 due. Discussion due: TBD. Review due: Homework 0.

MONDAY	TUESDAY	WEDNESDAY	FRIDAY
6th Labor Day	7th 9 <ul style="list-style-type: none"> First order linear equations and integrating factor. Chapter 4 Section 7. 	8th 10 <ul style="list-style-type: none"> Chemical kinetics. Chapter 4 Section 8. 	10th 11 <ul style="list-style-type: none"> Second order ODEs and initial value problems. Chapter 4 Section 9. Homework 2 due. Discussion due: TBD. Review due: Homework 1.
13th 12 <ul style="list-style-type: none"> Continue. Chapter 4 Section 9. 	14th 13 <ul style="list-style-type: none"> Damped and driven oscillation. Chapter 4 Section 9. 	15th 14 <ul style="list-style-type: none"> Boundary value problems. Chapter 5 Section 1. 	17th 15 <ul style="list-style-type: none"> Quiz 2 Homework 3 due. Discussion due: TBD. Review due: Homework 2.
20th 16 <ul style="list-style-type: none"> Understanding the Schrödinger equation. Chapter 5 Section 2. 	21st 17 <ul style="list-style-type: none"> More on the Schrödinger equation. Chapter 5 Section 2. 	22nd 18 <ul style="list-style-type: none"> Exam 1. Review due: Homework 3. 	24th 19 <ul style="list-style-type: none"> Exam 1.
27th 20 <ul style="list-style-type: none"> Sequences and series. Chapter 6 Section 1, 2. 	28th 21 <ul style="list-style-type: none"> Series and convergence. Chapter 6 Section 2. 	29th 22 <ul style="list-style-type: none"> Power series and radius of convergence. Chapter 7 Section 1. 	Oct 1st 23 <ul style="list-style-type: none"> Continue. Chapter 7 Section 1. Homework 4 due. Discussion due: TBD.

MONDAY	TUESDAY	WEDNESDAY	FRIDAY
4th 24 <ul style="list-style-type: none"> Integration and differentiation with power series. Chapter 7 Section 2. 	5th 25 <ul style="list-style-type: none"> Taylor series. Chapter 7 Section 3. 	6th 26 <ul style="list-style-type: none"> Approximation with Taylor series and Morse potential. Chapter 7 Section 4. 	8th 27 <ul style="list-style-type: none"> Quiz 3. Homework 5 due. Discussion due: TBD. Review due: Homework 4.
11th 28 <ul style="list-style-type: none"> Series solutions to ODEs. Chapter 7 Section 5. 	12th 29 <ul style="list-style-type: none"> Continue. 	13th 30 <ul style="list-style-type: none"> Special polynomials. Chapter 7 Section 6. 	15th 31 <ul style="list-style-type: none"> Quantum harmonic oscillator. Chapter 7 Section 7. Homework 6 due. Discussion due: TBD. Review due: Homework 5.
18th 32 <ul style="list-style-type: none"> Continue. 	19th 33 <ul style="list-style-type: none"> Open. 	20th 34 <ul style="list-style-type: none"> Oral Exam 2. Review due: Homework 6. 	22nd 35 <ul style="list-style-type: none"> Oral Exam 2.
25th 36 <ul style="list-style-type: none"> Vectors and vector spaces. Chapter 8 Sections 1, 2. 	26th 37 <ul style="list-style-type: none"> Algebra of vector spaces. Chapter 8 Section 3, 4. 	27th 38 <ul style="list-style-type: none"> Inner and cross products. Chapter 8 Section 5. 	29th 39 <ul style="list-style-type: none"> Linear transformations and matrices. Chapter 9 Section 1. Homework 7 due. Discussion due: TBD.

MONDAY	TUESDAY	WEDNESDAY	FRIDAY
<div>Nov 1st</div> <div>40</div> <ul style="list-style-type: none"> Continue. 	<div>2nd</div> <div>41</div> <ul style="list-style-type: none"> Matrix algebra. Chapter 9 Section 2. 	<div>3rd</div> <div>42</div> <ul style="list-style-type: none"> Systems of inhomogeneous linear equations. Chapter 9 Section 3, 4. 	<div>5th</div> <div>43</div> <ul style="list-style-type: none"> Systems of homogeneous equations, nullspace. Chapter 9 Section 3, 4. Homework 8 due. Discussion due: TBD. Review due: Homework 7.
<div>8th</div> <div>44</div> <ul style="list-style-type: none"> Linear independence, span, and bases. Chapter 9 Section 5. 	<div>9th</div> <div>45</div> <ul style="list-style-type: none"> Determinants, traces, and their properties. Chapter 9 Section 6. 	<div>10th</div> <div>46</div> <ul style="list-style-type: none"> Continue. 	<div>12th</div> <div>47</div> <ul style="list-style-type: none"> Quiz 4. Homework 9 due. Discussion due: TBD. Review due: Homework 8.
<div>15th</div> <div>48</div> <ul style="list-style-type: none"> Inverse and similar matrices. Chapter 9 Section 7. 	<div>16th</div> <div>49</div> <ul style="list-style-type: none"> Eigen-problem. Chapter 9 Section 8. 	<div>17th</div> <div>50</div> <ul style="list-style-type: none"> Diagonalization and Hermitian matrices. Chapter 9 Section 9. 	<div>19th</div> <div>51</div> <ul style="list-style-type: none"> Continue. Homework 10 due. Discussion due: TBD. Review due: Homework 9.
<div>22nd</div> <div>Fall Break</div>	<div>23rd</div> <div>Fall Break</div>	<div>24th</div> <div>Fall Break</div>	<div>26th</div> <div>Fall Break</div>

MONDAY	TUESDAY	WEDNESDAY	FRIDAY
29th 52 <ul style="list-style-type: none"> Groups and symmetries. Chapter 9 Section 10. 	30th 53 <ul style="list-style-type: none"> Continue. 	<div>Dec 1st</div> 54 <ul style="list-style-type: none"> Continue. 	3rd 55 <ul style="list-style-type: none"> Quiz 5. Homework 11 due. Discussion due: TBD. Review due: Homework 10.
6th 56 <ul style="list-style-type: none"> Project and review. 	7th 57 <ul style="list-style-type: none"> Project and review. 	8th 58 <ul style="list-style-type: none"> Exam 3. Review due: Homework 11. 	10th 59 <ul style="list-style-type: none"> Exam 3.