|                       | Math 20580 schedule  | Spring 2020              |
|-----------------------|--|--------------------------|
| January 15            | Lay 1.1–1.2: Systems, row reduction  |                          |
| 17                    | 1.3 Vector equations   |                          |
| 20                    | No math 20580 class  |                          |
| 22                    | 1.4 The matrix equation  |                          |
| 24                    | 1.5 Solution sets  |                          |
| 27                    | 1.7 Linear independence  |                          |
| 29                    | 1.8–1.9: Linear transformations  |                          |
| 31                    | 2.1–2.2: Matrix operations and inverses  |                          |
| February 3            | 2.3 Characterizations of invertible matrices                                   |                          |
| 5                     | 2.8 Subspaces  |                          |
| 7                     | 2.9 Dimension and rank   |                          |
| 10                    | 3.1: Determinants  |                          |
| 12                    | 3.2: More on Determinants  |                          |
| February 13           | Exam I: 8:00–9:15 a.m., covers material fr                                     | om Lay 1.1–2.9 inclusive |
| 14                    | 3.3 Cramer's Rule  |                          |
| 17                    | 4.1–4.2: Vector spaces and subspaces, null space                               | s and column spaces      |
| 19                    | 4.3 Linear independence and bases  |                          |
| 21                    | 4.4 Coordinates  |                          |
| 24                    | 4.5 Dimension of vector space  |                          |
| 26                    | 4.6–4.7: Rank and changes of bases   |                          |
| 28                    | 5.1–2: Eigenvalues and characteristic equations                                |                          |
| March 2               | 5.3 Diagonalization  |                          |
| 4                     | 5.4 Eigenvectors   |                          |
| March 5               | Exam II: 8:00–9:15 a.m., covers material                                       | Lay 3.1–5.2 inclusive    |
| 6                     | 5.5 Complex eigenvalues  |                          |
| March 7–15            | Spring Break   |                          |
| 16                    | Classes cancelled  |                          |
| 18                    | Classes cancelled  |                          |
|                       | Classes cancelled  |                          |
| 23                    | 6.1-6.2: Inner product and orthogonality                                       |                          |
| 25                    | 6.3 Orthogonal projections   |                          |
| 27                    | 6.4 The Gram-Schmidt process   |                          |
| 30                    | 6.5 The least squares method   |                          |
| April 1               | Boyce & DiPrima 1.1-1.2: Solutions to Diff Equ                                 | ations, direction fields |
| 3                     | 1.3 Classification of differential equations                                   |                          |
| 6                     | 2.1-2.2: Integrating factors, separable equations                              |                          |
| 8                     | 2.3 Modeling   |                          |
| April 10–13           | Easter holiday   |                          |
| 15<br><b>April 16</b> | Review and leeway  | 2 inclusivo              |
| April 10<br>17        | Exam III, covers material Lay 5.3–B&D 2<br>2.4 Linear and non-linear equations | .2 metusive              |
| $\frac{17}{20}$       | 2.5 Autonomous equations   |                          |
| 20<br>22              | 2.6 Exact equations and integrating factors                                    |                          |
| $\frac{22}{24}$       | 3.1 Homogeneous equations with constant coeffi                                 | cients                   |
| $\frac{24}{27}$       | 3.2 Linear homogeneous equations; Wronskian                                    |                          |
| 21                    | 3.3 Complex roots  |                          |
| 29                    | Final Reading: 3.4–3.6   |                          |
| May 7                 | Final Exam, covers material Lay 1.1–B&I  | ) 3.3 inclusive          |
|                       | I mai Lizam, covers material Day 1.1-D&I                                       |                          |