

## MA 26200 - Assignment Sheet - Summer 2024

**TEXT:** *Differential Equations & Linear Algebra*, 4th edition, by Edwards, Penney, and Calvis, published by Pearson

**Handwritten problems (the bolded problems ONLY):** From the textbook. These do NOT need to be turned in.

**Online homework problems:** through Brightspace at <https://purdue.brightspace.com>

Sec 1.1 (Differential Equations and Mathematical Models) 15, 19, 21, 23, 25, 31, 35,

Sec 1.2 (Integrals as General and Particular Solutions) 1, 5, 7, 11, 13, 21, **35, 37**

Sec 1.3 (Slope Fields and Solution Curves) 3, 5, 22, 25, **27, 30**

Sec 1.4 (Separable Equations and Applications) 1, 4, 6, 19, 22, 33, 35, **29, 49**

Sec 1.5 (Linear First-Order Equations) 2, 5, 6, 9, 13, 18, 24, **27**

Sec 1.5 (Linear First-Order Equations) 33, 36, **37, 45**

Sec 1.6 (Substitution Methods and Exact Equations) 1, 5, 9, 15, 17, 19, 27

Sec 1.6 (Substitution Methods and Exact Equations) 31, 35, 37, 39, 45, 46, **56, 59**

Sec 2.1 (Population Models) 1, 5, 17, 21, **30, 31**

Sec 2.2 (Equilibrium Solutions and Stability) 1, 7, 15, **17, 19**

Sec 2.4 (Numerical Approximation: Euler's Method) 1, 5, 27

Sec 3.1 (Introduction to Linear Systems) 5, 7, 9, 13, 17, 23, 27, **22, 25**

Sec 3.2 (Matrices and Gaussian Elimination) 3, 5, 9, 11, 15, 24, **13, 23**

Sec 3.3 (Reduced Row-Echelon Matrices) 3, 9, 14, 19, 21, 23, **24**

Sec 3.4 (Matrix Operations) 2, 3, 5, 7, 9, 10, 14, 21, **15, 17**

Sec 3.5 (Inverse of Matrices) 1, 5, 9, 13, 21, 27, **28**

Sec 3.6 (Determinants) 2, 3, 6, 8, 11, 17, 21, 28, 33, **29, 37**

Sec 4.1 (The Vector Space  $\mathbf{R}^3$ ) 1, 3, 7, 11, 17, 19, 23, 25, **31, 33**

Sec 4.2 (The Vector Space  $\mathbf{R}^n$  and Subspaces) 1, 3, 5, 15, 19, **21**

Sec 4.3 (Linear Combinations and Independence of Vectors) 3, 5, 9, 15, 17, 19, **21**

Sec 4.4 (Bases and Dimension for Vector Spaces) 3, 5, 9, 13, 15, 19, **23**

Sec 4.5 (Row and Column Spaces) 1, 5, 9, 13, 15, 19, 21, **23**

Sec 5.1 (Introduction: Second-Order Linear Equations) 1, 3, 9, 11, 33, 35, 39, 44, 45, 47, **51, 52, 54**

Sec 5.2 (General Solutions of Linear Equations) 1, 4, 5, 7, 13, 17, 38, **19, 41**

Sec 5.3 (Homogeneous Equations with Constant Coefficients) 1, 3, 5, 7, 11, 13, 25, 28, 39

Sec 5.3 (Homogeneous Equations with Constant Coefficients) 9, 17, 18, 23, 33, 35, 54, **58**

Sec 5.4 (Mechanical Vibrations) 3, 4, 13, 15, 17, 19, **35**

Sec 5.5 (Nonhomo Eqns and Underdetermined Coefficients) 1, 2, 3, 4, 8, 10, 13, 15, 19, **21, 22, 24, 29**

Sec 5.5 (Nonhomo Eqns and Underdetermined Coefficients) 49, 50, 51, 53, **54, 61**

Sec 6.1 (Introduction to Eigenvalues) 5, 13, 17, 23, 29, **40**

Sec 7.1 (First-Order Systems and Applications) 1, 3, 8, **26**

Sec 7.2 (Matrices and Linear Systems) 5, 9, 15, 17, 21, **29**

Sec 7.3 (The Eigenvalue Method for Linear Systems) 1, 5, 17, 22, 25, **43**

Sec 7.6 (Multiple Eigenvalue Solutions) 7, 11, 15, 19, 23, 25, **33**

Sec 7.4 (A Gallery of Solutions Curves of Linear Systems) 1, 5, 6, 9, 17

Sec 7.4 (A Gallery of Solutions Curves of Linear Systems) 19, 23, 24, **29**