This chart compares the equivalent sections of the UC Davis MAT 22B and (enter your college name here + course name and number).

**Differential Equations Course Comparison**

Equivalency of UC Davis (MAT 22B) and (enter your college here + course name and number)

Textbooks used for (college name) course: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ISBN:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **UC Davis MAT 22B Sections** | **(enter your college + course name and number) Sections** |
| 1.1-1.3 Introduction and terminology, direction fields, discussion and solution of some ODE |  |
| 2.1 Linear equations; integrating factors |  |
| 2.2 Separable equations |  |
| 2.3-2.4 Modeling, mechanics; Linear versus non-linear equations |  |
| 2.5 Autonomous equations; Population dynamics |  |
| 2.7 Numerical approximation; Euler’s method |  |
| 2.8 Existence and uniqueness theorem |  |
| 2.9 First order difference equations |  |
| 3.1 Homogeneous 2nd order equations with constant coefficients |  |
| 3.2-3.3 Fundamental solutions, linear independence, Wronskian |  |
| 3.4 Complex roots |  |
| 3.5 Repeated roots; Reduction of order |  |
| 3.6 Nonhomogeneous equations; Method of undetermined coefficients |  |
| 3.7 Variation of parameters |  |
| 3.8-3.9 Applications to oscillating systems |  |
| 6.1 Laplace Transform, definition |  |
| 6.2 Solution of initial value problems with Laplace Transform |  |
| 7.1 Systems of linear ODE, introduction |  |
| 7.2-7.3 Review of related linear algebra |  |
| 7.4 Basic theory of first order linear systems |  |
| 7.5 Homogeneous linear systems with constant coefficients |  |
| 7.6 Complex eigenvalues |  |
| 7.7 Fundamental matrices |  |
| 7.8 Repeated eigenvalues |  |
| 7.9 Nonhomogeneous linear systems |  |
| Applications and Review |  |