**Math 8 Schedule**

(Based on 29 lectures)

**Text:** *Course notes and reference,* by Ron Rorace

(Contact Zhiqin Lu for details)

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| **Lecture** | **Section** | **Topic** |
| 1 |  | Course orientation, basics of problem solving |
| 2 |  | Definition of function, function aborting activity |
| 3 |  | Parabola roots exploration, comparing definitions of function |
| 4 |  | Qualitative graphing lab |
| 5 |  | Finding roots, conic sections, quadratic formula derivation |
| 6 |  | Sequence introduction, difference columns |
| 7 |  | Finding sequences and series limits |
| 8 |  | Functions as sequences |
| 9 |  | Exploration on function patterns |
| 10 |  | Review |
| 11 |  | **Midterm 1** |
| 12 |  | Modeling functions and linear regression |
| 13 |  | Higher-order regressions, residuals, Lollipop lab |
| 14 |  | Exploration on linear regression |
| 15 |  | Terminal speed lab |
| 16 |  | Modeling functions with matrices I |
| 17 |  | Modeling functions with matrices II |
| 18 |  | Parametric models |
| 19 |  | Trigonometric functions, unit circle |
| 20 |  | Exploration on parametric model |
| 21 |  | Polar coordinate systems |
| 22 |  | Review |
| 23 |  | **Midterm 2** |
| 24 |  | Exponential and logistic models |
| 25 |  | Multiple topic synthesis |
| 26 |  | Roller Coaster lab |
| 27 |  | Geometry of complex numbers |
| 28 |  | Polar complex numbers |
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