1. **Course number and name**
   CptS 430: Numerical Analysis

2. **Credits and contact hours**
   3 credits, 3 lecture hours

3. **Instructor’s or course coordinator’s name**
   Robert Dillon

4. **Textbook, title, author, and year**

5. **Specific course information**
   a. **Catalog description:** Fundamentals of numerical computation; finding zeroes of functions, approximation and interpolation; numerical integration (quadrature), numerical solution of ordinary differential equations.
   b. **Prerequisites or corequisites:** Math 315 with a C or better, one of CPT S 121, CPT S 251, or Math 300.

6. **Specific goals for the course**
   By the end of the course, students will be able to
   ● Understand the theory and application of a broad range of fundamental numerical methods (1e, 2g, 6a).

7. **Brief list of topics to be covered**
   ● Computer arithmetic and roundoff errors
   ● Solution of one variable and systems of nonlinear equations.
   ● Interpolation
   ● Numerical integration and differentiation
   ● Numerical solution of ordinary differential equations
   ● Introduction to solution of PDEs