Subject: **Engineering Mathematics**  
Instructor: **Cheng-Ying Yang, Ph.D.**  
Meeting Hours: Tuesday 15:10-18:00  
Office Hours:  
   Tuesday 10:10-12:00  
   Wednesday 10:10-12:00  
Textbook:  
Contents:  
  1. Ordinary Differential Equations  
     - First Order DE; -Linear DE  
     - Modeling; -Homogeneous Linear Equations  
     - Euler-Cauchy Equation;  
     - Higher Order Linear DE  
  2. Laplace Transform  
     - Laplace Transform and Inverse Transform  
     - Transforms of Derivatives and Integrals  
     - Unit Step Function;  
     - Delta Function  
     - General Formulas  
  3. Fourier Analysis  
     - Fourier Series; -Even and Odd Functions  
     - Half-Range Expansions;  
     - Fourier Integrals  
     - Fourier Cosine and Sine Transforms  
     - Fourier Transform  
  4. Complex Analysis  
     - Complex plane; -Polar Form of Complex Number  
     - Exponential Functions; -Complex Integration  
Grading:  
   Midterm (2) 25%  
   Final 30%  
   Assignment 20%  
Reference:  
6. 羅文陽，工程數學精要，高立，2006  
7. 許世璧、邱劍雄，工程數學，高立，2006  
8. 鄯宏基，陳自雄，工程數學 第五版，儒林，1998