課程名稱 工程數學(二) (Engineering Mathematics II)
科目碼 F920120 學分數 3
授課學期 101學年度 第2學期
授課教師 生物醫學工程學系 胡晉嘉 助理教授
授課對象 大二學生

課程目標 Objective:
This course aims to establish the mathematical ability of undergraduates in biomedical engineering. Fundamental concepts and examples are introduced in the course.

課程綱要 Outline:
I. Linear Algebra
   1. Vectors and matrices
   2. Systems of linear equations
   3. Determinants
   4. Eigenvalue problems
   5. Diagonalization and quadratic forms
   —First midterm
   6. Vector differential calculus
   7. Vector integral calculus
—Second midterm
II. Partial Differential Equations
   1. Modeling by PDEs - wave equation
   2. Solution by separating variables
   3. Types and normal forms of PDEs
   4. Heat equation
   5. Laplace’s equation
—Final exam

教科書 Textbook:

參考書 Reference:

課程進行方式、課程要求及評分標準：
Lectures will be given in the order listed above.

General policies:
• Homework is due prior to the lecture. No late homework will be accepted.
• Final exam is COMPREHENSIVE.
• No make-up exams except in case of medical emergencies.

Grading:
Two Midterms (20% each)
Homeworks (20%)
Final Exam (40%)
In-class quiz (extra credit)