

# Syllabus of Numerical Analysis (I)

## 數值分析 (一) 課程簡介

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- **Instructor:** Hung-Yuan Fan (范洪源)
- **TA:** 胡政德 (師大數學系博士生)
- **Course:** Numerical Analysis (I), 數值分析 (一)
- **Course No.:** MAU0019, 數三, 必修 3 學分
- **Time:** Every Tuesday, 133:20–16:20 (每週二第 6 至 8 節)
- **Place:** 理圖 807, 公館校區
- **Textbook:** R. L. Burden and J. D. Faires, *Numerical Analysis*, 9th ed., Brooks/Cole, Cengage Learning, 2011
- **Course Website:**  
[http://math.ntnu.edu.tw/~hyfan/linked\\_files/courses/NumerAnal/104\\_2\\_NumerAnal.htm](http://math.ntnu.edu.tw/~hyfan/linked_files/courses/NumerAnal/104_2_NumerAnal.htm)



**Computational Mathematics** (or Numerical Mathematics) contains two research subareas:

- ① **Numerical Linear Algebra** (數值線性代數)
  - Chap. 2 Solutions of Equations in One Variable
  - Chap. 10 Numerical Solutions of Nonlinear Systems of Equations
  - Chap. 6 Direct Method for Solving Linear Systems
  - Chap. 7 Iterative Techniques in Matrix Algebra
  - Chap. 9 Approximating Eigenvalues (Optional)



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- ② **Numerical ODEs/PDEs** (數值微分/偏微分方程式)  
Chap. 3 → Chap. 4 → Chap. 5 → Chap. 11 → Chap. 12

**Note:** Preliminaries are given in Chap. 1



# Evaluation (評分標準)

- 期中考試佔 35% (第 9 週隨堂考)
- 期末考試佔 35% (第 18 週隨堂考)
- 程式作業或報告佔 15%
- TA 平時成績佔 15% (上課時間另定)
- 詳細情形請參考本課程教學網頁，謝謝!



# Any Questions?

