

Numerical Methods
Syllabus, Spring 2009
02/17/09

Instructor: 王雲哲 (Yun-Che Wang, Assistant Professor)

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Office: 土木系新館 四樓 Room 47450-3

Office hours: 10-12 (Friday) or by appointment

Class code: E638100

Credits: 3, optional

Class: Spring 2009

Class hours: To be confirmed. Classroom: to be confirmed

Teaching assistant: TBA. Office phone: TBA

Grading: Homework **40%**, Midterm exam **20%**, Final exam **30%**, Project report **10%**

Textbooks:

Atkinson, K. E., An introduction to numerical analysis, 2nd Edition. John Wiley & Sons, 1989.

Press, W. H., Teukolsky, S. A., Vetterling, W. T., Flannery, B. P., Numerical recipes, 3rd Edition, Cambridge University Press, 2007.

Weekly schedule

| Week | Dates | Topics |
|------------------|-------|---|
| 1 st | 2/19 | Root-finding methods |
| 2 nd | 2/26 | Root-finding methods, cont'd |
| 3 rd | 3/5 | Root-finding methods, cont'd |
| 4 th | 3/12 | Root-finding methods, cont'd |
| 5 th | 3/19 | Solving linear algebraic equation systems |
| 6 th | 3/26 | Solving linear algebraic equation systems, cont'd |
| 7 th | 4/2 | Spring break, no class |
| 8 th | 4/9 | Solving linear algebraic equation systems, cont'd |
| 9 th | 4/16 | Midterm exam |
| 10 th | 4/23 | Interpolation and curve-fitting |
| 11 th | 4/30 | Interpolation and curve-fitting, cont'd |
| 12 th | 5/7 | Numerical integral |
| 13 th | 5/14 | Numerical integral, cont'd |
| 14 th | 5/21 | Ordinary differential equation |
| 15 th | 5/28 | Ordinary differential equation, cont'd |
| 16 th | 6/4 | Ordinary differential equation, cont'd |
| 17 th | 6/11 | Eigenvalues and eigenvectors |
| 18 th | 6/18 | Final exam |