

NUMERICAL METHODS
MAT 202E
Spring Term
2012-2013

General Info

- **Class Location:** EEB XXXX
- **Class Time:** Tuesday, 09:30-12:30
- **Instructor:** Asst. Prof. Dr. Berk CANBERK

Office: EEB- 4310

Email: canberk@itu.edu.tr

Web: <http://web.itu.edu.tr/canberk>

- **Teaching Assistant:** Res. Asst. Hasan ÜNLÜ

Office: EEB- 4307 (Research Lab-2)

Email: unluh@itu.edu.tr

Web: <http://www.bb.itu.edu.tr/tr/calisanlar/hasan-unlu>

General Info

- **Prerequisites:**

- Basic Linear Algebra Knowledge.
- Basic Calculus Knowledge.
- Basic Programming Skills.

- **Course Webpage:**

on Ninova with name “CRN 20964”

General Info

- **Textbook:**

Numerical Mathematics and Computing, 6th Edition, by Ward Cheney and David Kincaid, Thomson Brooks & Cole, 2008.

- **Software tool:**

MATLAB.

General Info

- **Additional Sources:**

- An Introduction to Programming and Numerical Methods in MATLAB; S.R. Otto and J.P. Denier, Springer, 2005.

- Numerical Computing with MATLAB, Mathworks, Cleve Moler, 2004

- A First Course on Numerical Methods, Uri M. Ascher and Chen Greif, SIAM 2011.

- Course Slides.

General Info

- **Grading Policy:**

2 Homeworks $\rightarrow 2 \times 10 = 20 \%$

2 Midterms $\rightarrow 2 \times 20 = 40 \%$

1 Final $\rightarrow 40\%$

Attendance $\rightarrow 70\%$

Final Exam Condition \rightarrow [Attendance] AND
[30/60 from HWs+Midterms]

Syllabus

Week	Content	Extra	Textbook
W1 / 12-02-2013	Introduction		Additional
W2 / 19-02-2013	Error Analy. - Number Repr.		Ch.2
W3 / 26-02-2013	Linear Systems	DEMO (MATLAB)	Ch.7 and Ch.8
W4 / 05-03-2013	Non-Linear Systems		Ch.3
W5 / 12-03-2013	Interpolation	DEMO, HW1	Ch.4
W6 / 19-03-2013	MIDTERM 1		
W7 / 26-03-2013	Approximation-smoothing		Ch.9 and Ch.12
W8 / 02-04-2013	Linear Regression		Additional
W9 / 09-04-2013	Non Linear Regression	HW1 (deadline)	Additional
W10 / 16-04-2013	Integration	DEMO, HW2	Ch.5 and Ch.6
W11 / 23-04-2013	HOLIDAY		
W12 / 30-04-2013	MIDTERM 2		
W13 / 07-05-2013	Optimization-Linear Prog.		Ch.17
W14 / 14-05-2013	Monte-Carlo Simulation Meth.	DEMO, HW2 (deadline)	Ch.13