
NUMERICAL METHODS in CE

BLG 202E

Fall Term

2014-2015



General Info

► **Class Time:** Tuesday, 09:30-12:30

► CRN 22545:

Class Location: EEB 4104

Instructor: Asst. Prof. Dr. Yusuf YASLAN

Email: yyaslan@itu.edu.tr

CRN 22546:

Class Location: EEB 5207

Instructor: Inst. Erke Aribas

Email: erke.aribas@be.itu.edu.tr



General Info

► **Prerequisites:**

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



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 \square $2 \times 15 = 30 \%$

1 Quiz \square $1 \times 10 = 10 \%$

1 Midterm \square $1 \times 20 = 20 \%$

1 Final \square 40%

Attendance \square 70%

Final Exam Condition \square [Attendance]



Syllabus

Week	Content
03.02.2015	Introduction
10.02.2015	Error Analysis – Number Representation
17.02.2015	Linear Systems (Matlab Demo)
24.02.2015	Non-Linear Systems
03.03.2015	Interpolation (Demo HW1)
10.03.2015	Approximation Smoothing
17.03.2015	Linear Regression
24.03.2015	Midterm
31.03.2015	Non-Linear Regression (Demo HW1 deadline)
07.04.2015	Integration
14.04.2015	Integration (HW2)
21.04.2015	Optimization (Demo)
28.04.2015	Linear Programming
05.05.2015	Monte Carlo Simulation (Demo HW2 deadline)