

BYM 510E – Biological Signals Processing

Spring 2011

Instructor : İlker Bayram
EEB 1103
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Class Meets : 9.30 – 12.30, Thursday
Mustafa Santur Seminer Odası

Grading : Homeworks (10%), Project(25%), Midterm (25%), Final (40%).

Webpage : <http://web.itu.edu.tr/ibayram/Courses/BYM510E/>

The course will mainly consist of three parts :

- (1) Signal Processing Fundamentals
Linear, time-invariant systems, the Fourier transform for continuous and discrete-time signals, sampling, filter design
- (2) Stochastic Processes and statistical signal processing
Random vectors, correlation and related functions, linear prediction
- (3) Applications to biological signals

Suggested sources for the three parts are :

- (1) A. V. Oppenheim and R. W. Schaffer, 'Discrete-Time Signal Processing', Prentice Hall, 2009.
- (2) C. W. Therrien, 'Discrete Random Signals and Statistical Signal Processing', Prentice Hall, 1992.
- (3) R. M. Rangayyan, 'Biomedical Signal Analysis: A Case-Study Approach', Wiley-IEEE Press, 2001.