

SCHOOL OF ELECTRICAL ENGINEERING

**Signal Theory**: EQ1220 / EQ1210

Reading Assignment: Optimal Filtering (4/5) 2016–09–14,

**Notice:** Should be sent to "ra.signal.theory@ee.kth.se" before Lecture 8 (2016–09–21),  
and after self assessment, papers are collected on Lecture 9 (2016–09–27).  
The essay consists of three questions. If you successfully answer all questions, you obtain 1 bonus point for part A of the final exam. An essay with partially correct answers will give you 1/2 point.  
For the answers you should not copy text from a textbook. Group work is also not allowed, but feel free to discuss with your fellows. The reports will be checked against plagiarism.  
Be brief, i.e., at most 1 page.

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Explain (in your own words) ...

1. ... the difference between parametric and non-parametric methods for estimation.
  2. ... the basic principles and properties of Fourier based methods to estimate the power spectrum of a process.
  3. ... linear MMSE estimation. (Hint) Your short essay could for example answer the following questions: what is a MMSE estimator? why linear? is it optimal? how to find the MMSE estimator?
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