

# ELEC 3004/7312: Signals Systems & Controls

## PRACTICAL LABORATORY TWO REPORT

### Due: 20<sup>th</sup> April, 2012

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**Note:** This practical laboratory report is worth 5% of the final course mark (it is worth 50% of the Practical 1 and Practical 2 Assignment, which together is worth 10% of the course mark). You should spend approximately 3 hours preparing for the report. The tutors will *not* assist you further unless there is real evidence you have attempted questions prior to the tutorial. Beyond the lecture and tutorial sessions, it is estimated that you will need 4 to 5 hours to complete the assignment (**7-8 hours total**). Remember that this should be turned in via the submission system.

**Total marks: 100**

1. **[20] Pre-lab**

*Before the laboratory started, there were 4 questions to answer (at the bottom of Page 2). Please submit answers to these.*

2. **[10] Laboratory Part 1**

*In Part 1 of the Laboratory Procedure, it is requested to configure the signal generator (reference Q13 of Part 1).*

1. What offset and peak-to-peak values did you finally select?
2. What would be the result of setting the offset to 0V?

3. **[25] Laboratory Part 2**

*In Part 2 of the Laboratory Procedure (top of Page 4), the section asks 3 questions. Please submit answers to these.*

4. **[10] Laboratory Part 3**

*In Part 3 of the Laboratory Procedure, it is requested to configure the signal generator such that the peak-to-peak voltage is less than 5V (reference Page 5).*

*What might be the result of setting this over 5V?  
(Briefly explain, but do not necessarily run)*

5. **[25] Laboratory Part 4**

*In Part 4 of the Laboratory Procedure, it is requested to record and then plot the signal for the various cases in Part 3 (reference Page 6). Please complete the table and submit plots*

6. **[10] Overall System Review**

*Looking at the overall laboratory, what are some of the limitation(s) on the process of filtering signal? What is the consequence of adding more and more “orders” to a signal?*