

# Data Conversion and Lab 17.368

Exam #2

Fall 2013

November 21, 2013

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**EXAM GUIDELINES:** This is a take-home exam. Please refer to the following guidelines:

- a) **DO NOT** share answers with other students.
- b) Select **ONE** of the two questions below to answer. I will grade only one answer. If two answers are provided, I will only grade the first one provided.
- c) The exam will be submitted (returned) by email NLT 11:59 PM on Sunday November 24, 2013.
- d) I will accept your answer in PDF (preferred), Word, or text file format. DO NOT include this exam file in your response. You are ALLOWED to handwrite your response so long as it is scanned into PDF format.
- e) Your answer MUST BE in your own words. DO NOT copy and paste from any source. I will allow you to copy and paste drawings and / or figures if you feel you need to include them in your response.
- f) REMEMBER, I look for the quality of your response, not quantity!!!!

**QUESTIONS:** ***Choose ONE*** question, NOT both!!!!

- 1. Identify and explain in detail three of the DAC performance specifications.
- 2. Explain in detail why you cannot use two  $n$ -bit DACs to make a  $2n$ -bit DAC by just summing their outputs proportionally ...  $(OUT_1 + OUT_2)/2n$