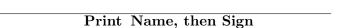
## Proof LT-1

## Accepted Not Accepted

I affirm this work abides by the university's Academic Honesty Policy.



- First due date **Tuesday** April 30, 2013
- Turn in your work on a separate sheet of paper with this page stapled in front.
- Do not include scratch work in your submission.
- There is to be **no collaboration** on any aspect of developing and presenting your proof. Your only resources are: you, the course textbook, me, and pertinent discussions that occur **during class**.
- Follow the Writing Guidelines of the Grading Rubric in the course information sheet.
- Retry: Only use material from the relevant section of the text or earlier.
- Retry: Start over using a new sheet of paper.
- Retry: Restaple with new attempts first and this page on top.

Ignoramus, n. A person unacquainted with certain kinds of knowledge familiar to yourself, and having certain other kinds that you know nothing about. – Ambrose Bierce, 1890

LT-1 (You may  $\mathbf{ONLY}$  use material up to, but not including, Theorem LTLC)

Given vector spaces U and V, prove that a function  $T: U \to V$  is a linear transformation if and only if  $T(\alpha \mathbf{u}_1 + \mathbf{u}_2) = \alpha T(\mathbf{u}_1) + T(\mathbf{u}_2)$  for all vectors  $\mathbf{u}_1, \mathbf{u}_2 \in U$  and all scalars  $\alpha \in \mathbf{C}$ .