1035-28-470   **Seung Jun Chang**, **Hyun Soo Chung** and **David L. Skoug*** (`dskoug@math.unl.edu`), Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588-0130. *Integral Transforms of Functions in $L_2(Ca, b[0, T])$.*

In this paper we use generalized Fourier-Hermite functionals to obtain a complete orthonormal set in $L_2(C_{a,b}[0, T])$ where $C_{a,b}[0, T]$ is a very general function space. We then proceed to give a necessary and sufficient condition that a functional F in $L_2(C_{a,b}[0, T])$ has an integral transform also belonging to $L_2(C_{a,b}[0, T])$. (Received September 08, 2007)