Announcing the Final Examination of Wilfred Wells for the degree of Doctor of Philosophy

Time & Location: August 4, 2011 at 3:00 PM in Engineering II 312

Title: DEVELOPMENT OF A COGNITIVE WORK ANALYSIS FRAMEWORK TUTORIAL FOR SYSTEMS ENGINEERING USING SYSTEMS MODELING LANGUAGE

At the present time most system engineers do not have a good understanding of the cognitive work analysis and related methods and procedures. This situation may lead to developing system requirements that do not account for the cognitive strengths and limitations of potential users. For example, effective decision support systems cannot be designed without defining cognitive system requirements. In order to remedy this situation, integration of cognitive work requirements in the systems engineering process has to be developed and implemented.

One option to address this gap is the development of a Cognitive Work Analysis (CWA) framework using Systems Modeling Language (SysML). The study has two phases. The first phase is to align the CWA terminology with the SysML diagrams to produce a CWA framework using SysML. The second phase is to create a tutorial using SysML to inform system engineers on the process of identifying and defining cognitive work requirements for system design purposes. This methodology provides a structured framework to define, manage, organize, and model cognitive work requirements. It also provides a tool for system engineers to use in the system design process.

Major: Industrial Engineering

Educational Career:
Bachelor's of Industrial Engineering, BS, 1997, University of Central Florida
Master's of Industrial Engineering, MS, 2004, University of Central Florida

Committee in Charge:
Dr. Waldemar Karwowski, Chair, Industrial Engineering and Management Systems
Dr. Ahmad Elshennawy, Industrial Engineering and Management Systems
Dr. Kent Williams, Industrial Engineering and Management Systems
Dr. Serge Sala-Diakanda, Industrial Engineering and Management Systems
Dr. Tareq Ahram, Graduate Faculty Scholar

Approved for distribution by Dr. Waldemar Karwowski, Committee Chair, on July 18, 2011.

The public is welcome to attend.