





Seminar

Dept of Mathematics and Statistics King Fahd University of Petroleum and Minerals

Presenter	Dr. Mohammad H. Omar Dept of Mathematics and Statistics KFUPM
Title	Statistical Process Control Charts to Measure and Monitor Rating Consistency over Time
Topic & (Level)	Statistics in Educational Testing (General Methodology)
Audience	All KFUPM community are cordially Invited (including graduate students)
Date	Sunday, Apr 11, 2010
Time	12:20 PM - 1:20 PM
Location	Building 5, Smart Classroom # 102

Abstract

Although Statistical Process Control (SPC) has been long implemented in many manufacturing area, this technique has found less application in the non-manufacturing areas. Specifically, the application of such techniques in the science of measuring academic performance (educational measurement) or psychological performance (psychometrics) of individuals is very limited to say the least. SPC methods have been investigated in the field of educational measurement as early as 1999. However, only the use of a cumulative sum (CUSUM) chart on multiple choice assessments was explored. In this talk, other methods of statistical quality control are introduced and explored. In particular, SPC methods in the form of Shewhart \bar{x} control chart and s chart are introduced as potential techniques in ensuring quality in a measurement process for rating performance items in operational assessments. Several strengths and weaknesses of the procedures are explored with illustrative real and simulated rating data. Further research directions are also discussed.

Tea and Coffee will be served