## COMPARISON OF STUDENT FLOW IN DIFFERENT COLLEGES OF KUWAIT UNIVERSITY USING ABSORBING MARKOV ANALYSIS

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This paper presents an application of Markov Analysis of student flow in Kuwait University. A random sample of about 1100 students were obtained from Kuwait University and the data for the period of 9 years from the academic year 1996-1997 to 2004-2005 was investigated. Results are obtained for each of the colleges and of Kuwait University in total which give way for a comparative study. Results indicate that among the freshman students in the colleges of Business Administration, Sharia (Islamic studies), Science, Art, Engineering and Allied Health, the graduation rate ranges between 60% to 80%, while that of Social Sciences, Medical sciences, Education and Law ranges between 90% to 98%. For Kuwait University as a whole the graduation percentage is about 74%. Also the probabilities of progression to a higher level and of graduation increase as students move on to advanced levels in the system. The students' mean life times in different levels of study in the colleges as well as the percentage of dropping out of the system are estimated. This may cast the light on the education process in the Kuwait University and provides a feedback to the admission's administration.

## REFERENCES

- Al-Awadhi, S. & Konsowa, M. (2007). An Application of Absorbing Markov Analysis to the Student Flow in Kuwait University. *Kuwait Journal of Science and Engineering*, 34(2A), 77-89.
- Bessent, E.W., & Bessent, A. W. (1980). Student flow in a university department: Results of Markovian analysis. *Interfaces*, 37-43.
- Kolesat, P. (1970). A Markovian model for hospital admission scheduling. *Management Science*, 16, 384-396.
- Kemeny, J. G., & Snell, J. L. (1970). *Finite Markov chains*. Princeton, NJ: D.Ban Mostrand Company, Inc.
- Kwak, N. K., Brown, R. & Schniederjans, M. J. (1985). A Markov analysis of estimating student enrollment transition in a trimester institution. *Socio-Economic Planning Science*,20(5),311-318.
- Merddith, J. (1976). Selecting optimal training programs in a hospital for the mentally retarded. *Operations Research*, 24, 899-915.
- Mc Namara, J. F. (1974). Markov chain theory and technological forecasting. In *Futurism in Education*, S. P. Hendey & J. R.Yates (Eds.). Berkeley, CA: Mc Cutchan.
- Nicholls, M. (2008). Short term prediction of student numbers in the Victorian secondary education system. *Australian and New Zealand Journal of Statistics*, 24(2), 179-190.
- Resnick, S. I. (1994). Adventures in stochastic processes. Boston, MA: Birkhauser.
- Reynolds, D., & Porath, J. (2008). *Markov chains and student academic progress*. Unpublished manuscript, Department of Mathematics, University of Wisconsin-Eau Claire, USA.