DE LA SALLE UNIVERSITY - MANILA
COLLEGE OF SCIENCE
Mathematics Department

SYLLABUS

COURSE CODE:	MSS515M
COURSE TITLE:	Introduction to the Theory of Linear Models
CLASS DAY & TIME:	
ROOM:	
NAME OF FACULTY:	
COURSE CREDIT:	3 units
CONTACT NO. (DEPT):	536-0270, 524-4611, loc. 420
TERM/SCHOOL YEAR:	

COURSE DESCRIPTION

A course on linear models, estimation and test of hypothesis in both the full and less than full rank models.

COURSE OBJECTIVES

The students will:
1. explain the motives behind using linear models;
2. differentiate between least squares and maximum likelihood estimation procedures;
3. implement simple and multiple regression models in conjunction with model checking procedures;
4. interpret all statistical results derived from all procedures related to regression;
5. exhibit values such as:
   5.1 cooperation through group study;
   5.2 honesty by claiming credit only for the work he has done;
   5.3 zeal and seriousness of intent to learn by participating actively in class discussion, doing his homework regularly and consulting his mentor;
   5.4 patience, perseverance and diligence by solving assigned exercise completely including the difficult ones;
   5.5 faith by doing what is right and giving his best in performing any assigned task;
   5.6 self-reliance by being able to solve problems independently.

Topic/ Subtopic	Learning Strategies /Activities	Week/ Meeting
1. Introductory Concepts 1.1 Elementary Matrix Operations 1.2 Inverses of Matrices 1.3 Eigenvalues and Rank	Lecture Facilitated group discussion Problem solving	

2. Quadratic Forms and their Distributions

2.1 Quadratic Forms

2.2 Exo2996 -13.56 Td [(2)-7.00166(.)-3.50046(1)-7.00166(239( )-3.503(i)0.356603(c)-2.64432( )-3.5004( )-3.5012(( )]TJ 13.8 -7(n)0.71

Facilitated group discussion
Poblem solving

TEACHING STRATEGIES/METHODOLOGY

1. Lecture
2. Report
3. Computer Hands-on Exercises using SAS

REQUIREMENTS OF THE COURSE

1. Examinations / Reports
2. SAS outputs with discussions
3. Learning Output – critique of a paper
4. Problem Sets

REFERENCES

- Bapat, R. B. (2012) Linear algebra and linear models. New Delhi: Hindustan Book Agency/Springer.
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- Freedman, D. (2009). Statistical models: theory and practice. Cambridge: Cambridge University Press.
- Graybill, F. A. (1976). Theory and Application of the Linear Model. Duxbury Press.
- Kahane, L. H. (2008). Regression basics. Los Angeles: Sage Publications.
- Montgomery, D.C. & Peck, E.A. (1992). Introduction to linear regression analysis (2nd ed.). New York: Wiley.
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- Yan, X. (2009). Linear regression analysis: theory and computing. Hackensack, NJ: World Scientific.

FACULTY OUTPUT

- Arcilla, R., Co, F. and Ocampo, S. (2011). “Correlates of Poverty: Evidence from the Community-Based Monitoring System (CBMS) Data”. DLSU Business and Economics Review, Vol. 20, No. 2, January 2011, pp. 33-43 (ISSN 0116-7111, http://www.philjol.info/philjol/index.php/BER/article/view/1912).
- Beltrano, Elline Jade, Leong, Robert Neil F., and Co, Frumencio F. (2013). Regression Analyses of the Philippine Birth Weight Distribution. The Philippine Statistician, 62(2), 31-52.
- Carandang, J. and Co, F. (2012). “Some factors affecting the student evaluation ratings of Biology faculty at DLSU”. Proceedings of the 3rd International DLSU Education Congress, DLSU College of Education, Manila, September 2012.
- Co, F., Arcilla, R., and Ocampo, S. (2012). “Correlates of Hunger: Evidence from the CBMS Data of Pasay City”. Proceedings of the 2012 Philippine Statistical Association Annual Conference, Quezon City, August 2012.

- Janairo, J.I.B., Janairo, G.C., Yu, D.E.C. and F. Co. (2010). "Regression Analysis on the Chemical Descriptors of a Selected Class of DPP4 Inhibitors". Studies in Mathematical Sciences, Vol. 1, No. 1, 2010, pp. 01-06 (ISSN 1923-8444-Print; ISSN 1923-8452 – Online, www.cscanada.net).
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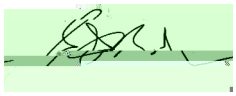
- Ocampo, S., Arcilla, R., Co, F., Jumangit, R. and F. J. Diokno. (2011). "Exploring Latent Factors Using Non-Bayesian and Bayesian Factor Analyses". Proceedings of the DLSU Science and Technology Congress, DLSU, Manila, February 2011.
- Ocampo, S., Arcilla, R., Co, F., Jumangit, R. and F.J. Diokno. (2013). "Enthusing students towards statistical literacy using transformative learning paradigm: Implementation and Appraisal" . Proceedings of the 2013 IASE/IAOS Conference, IASE/IAOS, Hong Kong/Macau, China, August 2013.

Noted by



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