UNIVERSITI TEKNOLOGI MARA

BTP313: MODELLING AND SECTORAL FORECASTING

Course Name (English)	MODELLING AND SECTORAL FORECASTING APPROVED
Course Code	BTP313
MQF Credit	2
Course Description	This course deals with the quantitative elements in urban planning. It strives to train students to think analytically when dealing with urban planning problems and issues. Various modeling techniques employed in planning will be taught to students and exercises to improve their understanding of the concepts and techniques. The principal topics include: estimating needs and demand for land use, infrastructure and facilities, understanding economic conditions and making decisions for effective land use planning and management of urban phenomena
Transferable Skills	Demonstrate ability to identify and articulate self skills, knowledge and understanding confidently and in variety of contexts. Demonstrate ability to socialize with people from different walks of life.
Teaching Methodologies	Lectures, Tutorial, Presentation
CLO	CLO1 Ability to comprehend techniques used in planning, their use as well as their strengths and limitations CLO2 Ability to define the terms, concepts and assumptions associated with the techniques covered in the course CLO3 Ability to apply the correct techniques in planning analysis CLO4 Ability to calculate and apply quantitative analysis of the various techniques
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction 1.1) Use of Techniques in Planning 1.2) Elementary Analysis of Planning, Goals and System Structure 1.3) Problem determination and Objective Formulation
2. Planning Information 2.1) Survey Research Process 2.2) Data Collection variables 2.3) Design questionnaires
3. Decision Models of Choice and Chance Probability Theory: Decision Tre 3.1) Probability theory 3.2) Discrete Choice Modelling 3.3) Decision Tree Model
4. Regional Income and Employment Analysis 4.1) Economic Base 4.2) Multiplier Model 4.3) Shift Share Analysis 4.4) Input Output Analysis
5. Forecasting Techniques 5.1) Need Gap Analysis 5.2) Trend Analysis 5.3) Linear Regression

6. Evaluating and Selecting Programs
6.1) Cost Effectiveness Analysis
6.2) Cost Achievement Matrix

Assessment Breakdown	%
Continuous Assessment	40.00%
Final Assessment	60.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Individual Assesment	40%	CLO1 , CLO2 , CLO3 , CLO4

Reading List

Reference Book Resources

- **Alias Abdullah 1995, *An Integrated Method of MCDM amd GIS for land*, Unpublished Ph.D. Thesis,**
- **Hara, Tadayuki 2008, *Quantitative Tourism Industry Analysis: Intro*, Butterworth-Heinemann, Oxford**
- **Krueckeberg, D. and Silvers, A 1974, *Urban Planning Analysis: Methods and*, John Wiley and Sons, New York**
- **Oppenheim, N 1980, *Applied Models in Urban and Regional Analysis*, Prentice Hall, Englewood Cliff.**
- **Osborne, Jason W (ed) 2008, *Best Practices in Quantitative Methods,*, Sage Publication, Los Angeles.**
- **Singh, Kultar 2007, *Quantitative Social Research Methods, Sage Pu*, Los Angeles**
- **Stage, Frances K 2007, *Using Quantitative Data to Answer Critical Qu*, Jossey-Bass, San Francisco**
- **Sugden, R and Williams A. 1981, *The Principles of Practical Cost Benefit Anal*, Oxford University Press, London**
- **Yaakup. A.B.et al 2004, *œGIS and Decision Support System for Malays*, International Islamic University Malaysia**
- **Yin, Robert K 1994, *Case Study Research: Design and Methods*, Sage Publication, London**

Article/Paper List

This Course does not have any article/paper resources

Other References

This Course does not have any other resources