

Course ID Number: ADC 6521

**Course Title: Development Planning:
Multisector Models**

No. of Credits: 1

Graduate School of International Relations
International University of Japan

Term: Fall 2011

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Course Introduction

This course is designed to introduce some techniques and models of development planning and policy analysis in developing as well as developed countries. The course focuses on multi-sector models and their applications in development planning. Topics covered in the course include national and regional input-output (I-O) models, interregional and international I-O models, regional growth models (shift-share analysis), environmental I-O models, and environmental accounting (e.g., National Accounting Matrix including Environmental Accounts, a System of Integrated Environmental and Economic Accounting). MS-Excel and Gauss, running on MS Windows, will be used to conduct input-output analyses. The course will introduce a number of actual I-O tables including national, regional and interregional I-O tables in Japan and Asian countries, Asian bilateral and multilateral international I-O tables (including China, ASEAN, NIEs, and U.S.), energy and environmental I-O tables, and so on.

Development Planning: Multisector Models

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Professor Takahiro Akita (akita@iuj.ac.jp; 025-779-1414; office room 313)

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Course Work

Students are responsible for the lecture materials and the required readings. It is important to read the required readings prior to each class session. There will be a set of homework assignments and midterm examination and final examination (take home examination). Homework exercises provide opportunities to practice the skills of modeling and analysis that are introduced in the class. The instructor's philosophy with regard to this course is that learning by doing is the best way to learn the concepts and techniques of development planning and policy analysis. There will be some computer workshops, in which Excel and Gauss will be introduced.

Policy on Homework

Bi-weekly homework sets will be assigned. The homework exercises should be done by a group of two to three students and are due to be submitted on assigned due-dates. No late homework will be counted.

Course Evaluation

In determining your final course grade, your work will be evaluated approximately in accordance with the following weights:

Midterm Examination (in class)	50%
Final Examination (take home)	30%
Homework Assignments	10%
Class Participation (constructive)	10%

Midterm examination will be open notes exam and conducted at the PC room.

Office Hours

My regular office hours will be as follows:

Tuesday	16:30-17:30
Wednesday	14:30-15:30 (if there is no faculty meeting)

You may come to my office anytime other than these time periods, but it should be done by appointment.

Attendance

The general policies of the Graduate School of International Relations apply. This means that all students are expected to attend class regularly. Personal illness or family emergency is considered grounds for excused absences. Penalties for unexcused absences will be reflected in the class participation component of the course grade.

Recommended Texts

1. (MB1985) Miller, R. E., and P. Blair, 1985, *Input-Output Analysis: Foundations and Extensions*, Prentice Hall, Inc.
2. (MB2009) Miller, R. E., and P. Blair, 2009, *Input-Output Analysis: Foundations and Extensions*, 2nd edition, Cambridge University Press.
3. Bulmer-Thomas, V., 1982, *Input-Output Analysis in Developing Countries: Sources, Methods and Applications*, John Wiley & Sons Ltd
4. Leontief, W., 1986, *Input-Output Economics*, 2nd. edition, Oxford University Press.
5. Hewings, G.J.D., 1985, *Regional Input-Output Analysis*, SAGE Publications, Inc.
6. Armstrong, H., and J. Taylor, 1985, *Regional Economics and Policy*, Philip Allan.

Course Schedule and Suggested Readings

Copies of my lecture notes will be distributed in each class.

Week 1 and 2 (October 4 and 11)

1. Course Introduction
2. Introduction to I-O Models and Analyses: (1) Basic Assumptions and Formulation; (2) Open Models and Closed Models; and (3) Accounting for Imports and Exports (Leontief) Ch.1 and 2, pp.1-40.
(MB1985) Ch.1 and 2, pp.1-44; Ch.5, pp.149-159.
(MB2009) Ch.1, 2 and 4
(Bulmer-Thomas) Ch.17, pp.265-278; Ch.4, pp.54-71.
3. Introduction to Matrix Algebra
(MB1985) Appendix A, pp.366-383.
(MB2009) Appendix A

Week 3 and 4 (October 18 and 25)

1. Multiplier Analyses
(MB1985) Ch.4, pp.100-116.
(MB2009) Ch.6
(Bulmer-Thomas) Ch.12, pp.183-190.
2. Inter-industrial Linkage Analysis: Backward Linkage and Forward Linkage (based on Supply-Side I-O Models)
(MB1985) Ch.9, pp.317-325.
(MB2009) Ch.12
(Bulmer-Thomas) Ch.12, pp.190-197.

Week 5 and 6 (November 1 and 8)

1. Projecting I-O Coefficients: RAS Method (Non-Survey Method)
(MB1985) Ch.8, pp.266-294.
(MB2009) Ch.7
2. Identifying Sources of Economic Growth by I-O Tables
(MB2009) Ch.13
Chenery, H.B., 1980, "Interactions between Industrialization and Exports," *American Economic Review*, Vol.70, No.2, pp.281-287.
Akita, T., and Agus Hermawan, 2000, "The Sources of Industrial Growth in Indonesia, 1985-95: An Input-Output Analysis," *ASEAN Economic Bulletin*, Vol.17, No.3, pp.270-284.

Week 7 and 8 (November 15 and 22)

1. Interregional and International I-O Models
(MB1985) Ch.3, pp.45-99.
(MB2009) Ch.3.
(Hewings) Ch.1, 2, and 3, pp.9-46.

Midterm Examination

Week 9 and 10 (November 29 and December 6)

1. Energy and Environmental I-O Models
(MB1985) Ch.6, pp.200-235; Ch.7, pp.236-265.
(MB2009) Ch.9; Ch.10
Akita, T. and M. Ogawa, 2000, "Trade, Energy, and the Environment: An International Environmental Input-Output Analysis of CO₂ Emissions between China and Japan," *Journal of Econometric Study of Northeast Asia*, Vol.2, No.1, pp.41-84.
2. Social Accounting Matrix and Environmental Accounting (e.g., A System of Integrated Environmental and Economic Accounting and Green GNP)
(MB2009) Ch.11.
Akita, T., and Y. Nakamura, edited, 2000, *Green GDP Estimates in China, Indonesia, and Japan: An Application of the UN Environmental and Economic Accounting System*, The United Nations University/Institute of Advanced Studies.