

# ***PRACTICAL GE MODELLING COURSE BEIJING 6-11 APRIL 2009***

***Jointly organized by  
Centre of Policy Studies, Monash University  
and  
Institute of Energy, Environment and Economy, Tsinghua University***

## ***COURSE INFORMATION***

For inquires, contact: Yinhua Mai ([Yinhua.Mai@BusEco.monash.edu.au](mailto:Yinhua.Mai@BusEco.monash.edu.au))  
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## **Summary**

The Centre of Policy Studies and Impact Project at Monash University, Melbourne, Australia will offer an intensive six-day course introducing participants to computable general equilibrium modelling and to the GEMPACK software used to solve equilibrium models. The course will be hosted by the Institute of Energy, Environment and Economy of Tsinghua University during 6-11 April 2009. The course will be lectured in English with tutoring available in Mandarin during computer sessions.

The course focuses on a typical single-region applied general equilibrium model of China: the ORANIG-China model with 2002 input-output database. The model is a variant of the ORANI-G model of the Australian economy (<http://www.monash.edu.au/policy/oranig.htm>). Variants of the ORANI model of the Australian economy have been used extensively for policy analysis in Australia for more than two decades. ORANI-G (a generic version of ORANI) has been used as the basis of many single-country models including models of Thailand, China, Brazil, South Africa, Pakistan, the Philippines and Denmark. GEMPACK software is used by research workers in over 300 different locations in 50 or so countries around the world.

## **Rationale for the Practical GE Modelling Course**

The course should appeal to

- those needing background in order to work with, or understand results from, a typical CGE model like ORANIG-China;
- those wishing to use the theory of ORANI-G with GEMPACK as the basis for a model of a country other than China;
- those wishing to get sufficient background in order to learn about multi-regional, multi-country, dynamic and/or forecasting models. Examples of such models are the Monash-Multi-Country model, the MC-HUGE and SICGE model of China, MONASH or MMRF models of Australia or the USAGE model of USA. This course also provides the background assumed for the Dynamic Model courses run by CoPS each year.

## **Course Outline**

The course aims to introduce participants to the ideas and techniques of CGE modelling, and to equip them to start using, adapting or constructing CGE models for their own simulations. By the end of the course, participants will have acquired thorough knowledge of:

- the theory underlying CGE models;

- the basic structure of a typical CGE model;
- the representation of applied GE models in the notation used in GEMPACK;
- the data requirements of a typical single-country CGE model;
- checking that the equations and data of a model are implemented correctly on the computer;
- formulating exogenous scenarios;
- computing simulations for policy analysis;
- interpreting and reporting results.

## April 2009 Course Program at Tsinghua University

The course program will consist of lectures integrated with extensive hands-on experience with modelling in GEMPACK. Much of the course will be conducted in a computer laboratory. Participants in this course will need to bring their own notebook computer (for notebook requirements, see <http://www.monash.edu.au/policy/laptops.htm>). The course is designed as an intensive live-in program, with fairly long work hours. The course material and program are as follows.

**Monday 6 April 2009:** commence 8.30am

The basic structure of a CGE model

Introduction to the ORANIG-China model

Overview of GEMPACK software

Computing: First simulation – an overall picture; Looking at the data for ORANIG-China

Finish 5.30pm

**Tuesday 7 April 2009:** commence 8.30am

The theoretical structure of ORANIG-China: producer, export/local mix; capital creation

Computing: interrogating the data; closure and homogeneity

Finish 5.30pm

**Wednesday 8 April 2009:** commence 8.30am

Theoretical structure of ORANIG-China: household demand, other final demands, market clearing

Computing: wage simulation with ORANIG-China

Finish 5.30pm

**Thursday 9 April 2009:** commence 8.30am

Analysing the wage simulation

Theoretical structure of ORANIG-China: purchasers prices and macros; investment and labour market; explaining results, closure

Computing: tariff cut with ORANIG-China; Analysing how equations and data affect simulation results;

Finish 5.30pm

**Friday 10 April 2009:** commence 8.30am

Top-down regional CGE modelling

Computing: adding new data, variables, and equations;

Group simulations with ORANIG-China: simulation, analysis of results, report preparation.

Finish 5.30pm

**Friday 11 April 2009:** commence 8.30am

Group simulations with ORANI-G: continued.

Group presentation of reports on ORANIG-China

Finish 5.30pm

## Documentation and Software

Course participants receive a folder, containing

- course notes and printed lecture slide shows;
- exercises to be completed in classes and labs;
- documentation of the ORANIG-China model and data;
- instructions for installing and using GEMPACK.

At the end of the course participants receive one or more CDs, containing

- an Executable-Image version of the latest GEMPACK software which will allow them to run ORANI-G simulations on any modern Windows PC, and to construct and run their own models of comparable size;
- PDF files containing the complete GEMPACK documentation;
- an individual GEMPACK licence for the above software;
- all computer files needed to run a standard 35-sector version of the ORANIG-China model ;
- a CD image of the entire CoPS website, containing many example models, working papers, and utility programs.

## Assumed Background

Previous hands-on experience in solving GE models is not required. We expect that course participants have:

- a bachelor or master degree in Economics, or equivalent work experience;
- experience of using a PC or notebook running Windows;
- a desire to learn about CGE modelling.

## Preparing for the course

You should study some material prior to the course. Download and work through the MINIMAL course material (<http://www.monash.edu.au/policy/minimal.htm>). The MINIMAL model and course are simplified versions of the ORANI-G model and course -- and use similar notation and software. To go further, you could:

- download and read the ORANI-G document, which you can find at the top of ORANI-G page (<http://www.monash.edu.au/policy/oranig.htm>);
- download and experiment with the free Demonstration Version of GEMPACK (<http://www.monash.edu.au/policy/gpdemo.htm>).

## Course Fees Beijing 2009

AU\$3000 (We offer up to 50% discount to developing-country participants)

The fee covers course materials (including software), morning and afternoon teas. It does not cover accommodation, or meals.

## **Accommodation**

Hotels recommended:

- 1、 Qinghua Campus Hotel (three stars)  
Telephone: 86-10-62573355
- 2、 Tsinghua Unisplendour International Center (four Stars)  
Telephone: 86-10-62791888
- 3、 Beijing Wenjin Hotel (five stars)  
Telephone: 86-10-62525566

For assistance in accommodation booking, contact:

Prof Lu Chuanyi  
Institute of Energy Environment and Economy, Tsinghua University  
Email: lu-cy@mail.tsinghua.edu.cn  
Tel: 86-10-62795059

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and  
Institute of Energy, Environment and Economy, Tsinghua University*

**COURSE REGISTRATION**

Att: Louise Pinchen (Louise.Pinchen@BusEco.monash.edu.au)  
Centre of Policy Studies, Monash University, Clayton, Victoria 3800, Australia  
Fax: (from overseas) +61 3 9905 2426 (within Australia) 03 9905 2426

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