



A CERTIFICATE PROGRAMME
IN ECONOMIC MODELLING



TRAINING FOR A BETTER FUTURE

www.AcademyEMA.com

In association with

Gordon Institute of Business Science University of Pretoria

INTRODUCING ECONOMIC MODELLING ACADEMY



EMA provides the tools and training to demystify the field of economic modelling.

Leaders and organizations are asked to understand and analyse the economy, its myriad component parts, the dynamic influence they have on each other, and ultimately to foresee the effects of cascading events.

Without advanced analytical tools, interactions between various elements of the economic system, synthesis of the whole, and predicting likely outcomes remains perplexing because economic systems are complex.

Models replicate the inner workings of the economy through a complex system of economic theory, historical data, statistical analyses, and computer programming. These high-level tools allow users to design policies, simulate impact, generate forecasts, and gain the insight needed to manage and direct the economy more effectively.

Our primary focus at EMA is to help you attain the skill set you need to understand and use economic models in your demanding role.

With EMA training, you will acquire advanced skills to better analyse the present and predict future outcomes, two essential aspects of sound decision making.



“Our name has a very profound meaning. In the Sesotho language, EMA carries a paradoxical meaning: it means ‘stop’, and it also means ‘stand; or ‘rise’. It is not coincidental that EMA has this paradox, for in South Africa and the world, we need to stop before we think of rising - we need to EMA.”

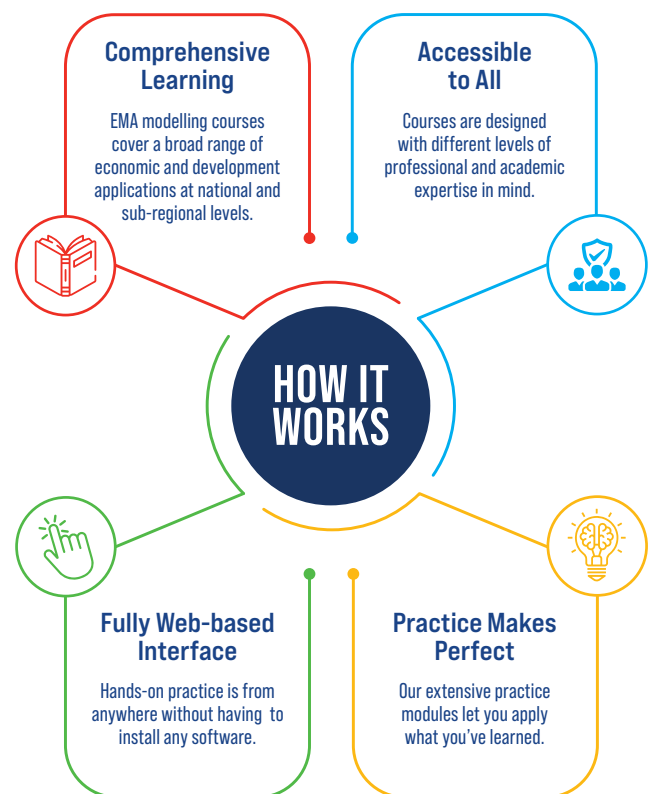
Dr. Pali Lehohla

EMA provides the tools and training that demystifies the field of economic modelling.

The Economic Modelling Academy “EMA” is a teaching organisation established to help develop high-level skills in economic modelling, one of today’s most in-demand skills.

To thrive in the global economy, leaders and organisations increasingly rely on those trained in economic modelling to better inform their challenging decision making. Our responsive and specialized training develops economic modelling skills from analysis and policy design to impact analysis, forecasting, monitoring and evaluation.

Country economic models are inherently complex. EMA provides the necessary training that enables you to understand and use these advanced analytical tools. Our certificate programme gives you the ability to more productively and skillfully use models to analyse the present, anticipate the future, identify alternative policy choices and implement them with confidence. With a suite of international models available to you, our capacity building tools help you acquire or sharpen your understanding of economics and economic modelling in an applied format.



“EMA is founded on more than 30 years of experience building economic models for countries and policy areas and delivering training workshops throughout the world. EMA is designed to build capacity for evidence-based economic policy and implementation in the public sector, private sector and civil society.”

Dr. Asghar Adelzadeh





WHAT IS EMA?

EMA is a capacity building organisation designed to empower individuals and organisations to skillfully use economic models in the spheres of business, research, policy, and planning. Our focus is to help you develop high level skills to adeptly contribute to all aspects of decision-making from policy design, impact analysis, and projections to monitoring and evaluation.

Our teaching modality includes:

BUILDING YOUR ANALYTICAL SKILLS

EMA courses will help students:

- Learn about the complexity of the economy and why and how economic models are replicates of economic systems.
- Learn about the building blocks of economic models and the steps to construct them.
- Identify economic challenges and design policy solutions.
- Learn to effectively use economic models to meet your strategic challenges.

DEMYSTIFYING ECONOMIC MODELLING

We use non-technical instruction and accessible language to teach the role of economic theory, data, statistical analysis and computer programming in building empirical models, and show students how to use them for policy design, impact analysis, projections, monitoring and evaluation. Practice is an integrated feature of the curriculum.

DIRECT AND APPLICABLE HANDS-ON EXPERIENCE

EMA courses provide learners access to online country models and extensive hands-on experience. Hands-on practice is key to learning how to use models to design policies, conduct impact analyses, and produce projections that are applicable in your work environment.

The Economic Modelling Academy, or “EMA”, is a capacity building organisation, established to help develop high-level skills in economic modelling, one of today’s most in-demand skills.



WHY EMA?

Empirical models are complex. Understanding them and learning how to use them need not be. EMA brings the power of economic modelling to leaders in all arenas.

MORE THAN JUST MODELLING

An essential prerequisite for the skillful use of models is a clear understanding of the economic environment that models represent. Therefore, EMA courses provide extensive reviews of analytical and policy issues related to each course topic.

EXPERT FACULTY

Our faculty are senior professionals with expertise in economic analysis, economic development policy issues and formulation, data science, economic model building and training, among other areas. They provide live, interactive instruction for learners with diverse strengths and capacities to attain the analytical and empirical skills needed to tackle economic challenges.

HANDS ON LEARNING

Extensive hands-on experience with economic modelling is integral to EMA courses. Learners gain access to state-of-the-art interactive economic models to learn and practice their modelling skills with real world scenarios. Hands-on training is essential to demystify the science and complexity of economic modelling.

M&E INTEGRATION

EMA course modules include learning how economic models, and their projections can be integrated into the planning, monitoring and evaluation processes of setting targets and milestones at industry and sector levels as well as national, provincial and local levels.

UNIQUE SMALL CLASS SIZE

Small classes are designed to allow instructors to provide attention and guidance to individual learners while promoting interactive learning between a global community of students who share experiences, insights and solutions to economic challenges.

PARTNERSHIP WITH GIBS

Students can take selected EMA courses through GIBS. Course certificates are jointly issued by EMA and GIBS. Successful EMA graduates who wish to pursue a degree at GIBS may receive credit for the EMA courses they took. Short EMA courses may be offered as electives towards the completion of a GIBS degree.





WHAT MAKES EMA UNIQUE?

Economic modelling has enormous potential to bring evidence-based intelligence to the decision-making process. EMA demystifies the science and complexity of economic modelling, making it more accessible to those in the strategy, planning, policy, and implementation spheres to enhance decision-making processes.

WE BUILD ON YOUR EXISTING SKILL

EMA's focus is singularly on sharpening your understanding and skills in economic modelling, from key concepts to specific model building processes to application to real world problems. Since our training is neither general nor generic, you will learn the analytical and empirical skills needed to utilise economic modelling in your profession.

WE GO BEYOND ORTHODOX ECONOMICS

Economic models utilize vast amounts of data, statistical techniques, and economic theories to shine light on the structure and dynamics underlying economies. Economies are not confined to the limits of orthodox economic theory. Our courses include heterodox economic theories and their application in economic modeling to enable our students to go beyond the confines of orthodox economics and models.

WE GIVE ACCESS TO A SUITE OF INTERNATIONAL MODELS

We give students access to more than 60 economic models of countries throughout the world. These web-based models are well suited to the examination of economic challenges of developed and developing economies. The South African economy, represented in special models, is well suited for students wishing to examine economic and social policy areas in granular detail.

WE INTEGRATE MODELLING KNOW-HOW WITH M&E

EMA course modules teach students how to integrate model based projections of key economic and development indicators into planning, monitoring and evaluation processes. Students learn how to use modelling to set medium- and long-term targets and milestones at industry and sectoral levels, and at national, provincial, and local levels.



ARE EMA CERTIFICATES OFFERED INTERNATIONALLY?

Yes. EMA is dedicated to training students throughout the world. We believe that students from many different countries and distinct economies benefit from sharing experiences, insights and solutions to economic challenges.

WHO TEACHES EMA COURSES?

Our courses are taught by experienced faculty who have area specific academic, industry, governmental and/or practitioner expertise.

SERVICES EMA PROVIDES

EMA offers executive courses in economic modelling. The courses cover an array of economic areas, including macroeconomics, industry economics, provincial-municipal and local economics, skills demand and supply, the green economy, social protection, taxation, poverty and inequality.

EMA courses are offered to individual learners and group learners from public and private enterprises. EMA also offers dedicated, tailored, and new courses upon request.

EMA SCHOLARSHIPS

EMA provides a limited number of partial scholarships designed to assist individuals with financial need who otherwise have the necessary pre-requisites to take one of our courses.

To apply, please complete the [form](#) available on our website.

EMA scholarship programme is made possible with generous support from Anglo-American South Africa.



EMA brings together modelling experts, well-designed curriculum and course materials, live interactive economic models and many years of teaching experience.

All courses are online.

Enjoy the convenience of online courses from anywhere.

All course material is accessible anytime.

All course materials are provided to you via your secure EMA website account.

Course lecturers are leaders in their fields.

EMA faculty are selected for their knowledge, experience, industry reputation, and teaching abilities.

Direct access to lecturers.

You have direct access to lecturers who are available to help you. Speak directly to the lecturer or course facilitator through our dedicated chat facility.

Courses are available to individuals and groups.

EMA course registration is available to individuals and groups. Discounts are available for groups of various sizes. For more information visit EMA website.

Customised and dedicated courses are available.

Enterprises, organizations or departments may request customized or dedicated courses for their teams. For more information contact us.

Standard pre-requisites.

- A minimum of a Bachelor's degree at NQF level 7 or equivalent plus at least 3 years of work experience in research/policy/strategy/planning/Monitoring and evaluation.
- A minimum of a Bachelor's degree in economics or related fields requires no work experience.

Transparent assessment criteria and programme certificates.

Assessment criteria are designed to ensure that EMA students meet all course requirements and achieve expected proficiency in order to receive their certificates. EMA courses are assessed at NQF Level 7.

Each EMA course has specific assessment criteria which are listed on the website under the FULL DETAILS tab of the course. Generally, in order to successfully complete an EMA course, a learner must satisfy the following requirements:

- Attend and participate at lecture sessions.
- Complete all assignments and coursework.
- Achieve at least 50% on all the examinations.

Course Structure, Duration and Tuition.

Each EMA course consists of six compulsory modules, and each module consists of five three-hour lessons. Thus, each course provides 90 teaching hours, delivered on a block release and/or part-time basis. Modules are delivered consecutively. Tuition costs are paid by or on behalf of the learner.



**EMPOWER
YOURSELF!**

ENROLL THROUGH GIBS!

- Step 1: Complete your online application form
- Step 2: Submit your online application along with supporting documents
- Step 3: Application is processed and documents are verified
- Step 4: Successful applicants receive an acceptance letter
- Step 5: The invoice will be issued and payment should be made

**ENROLL DIRECTLY
THROUGH EMA**

- Step 1: Visit AcademyEMA.com
- Step 2: Create an account
- Step 3: Select a course
- Step 4: Review course details
- Step 5: Select cost calculation
- Step 6: Choose a payment option



YOUR FUTURE IN ECONOMIC MODELLING STARTS NOW!
To earn your Certificate, go to www.AcademyEMA.com and Register Now!

1 Certificate in **Multi-Sector Macro Economic Modelling**

The stepwise approach to learning how to use economic models starts with students reviewing key concepts in macroeconomics, orthodox and heterodox contributions to macroeconomic theory, and debates in macroeconomic policy. Prior to hands-on practice, students are introduced to the fundamentals of economic modelling, including technical and practical issues related to the design and construction of macroeconomic models. Existing multi-sector macroeconomic models are used to explain and demonstrate how they are built and used to design policies and simulate their impacts.

During hands-on practical exercise modules, students learn how to use macroeconomic models for planning and policy analysis. The course combines scenario planning and economic modelling to highlight the relationship between policy choices and economic outlooks. Learners access and practice on web-based macro economic models for more than 60 countries. Through practical exercises, students acquire skills to design simple to complex, multi-layered macroeconomic and industry-specific policy scenarios, simulate their likely future impacts, and analyse the model results.

Lastly, students build on their ability to use macroeconomic models to also monitor and evaluate medium- to long-term performance of the economy.

2 Certificate in Modelling Social Protection

This course first provides an overview of the history of social protection, range of interventions, boundaries of social protection, national variations, causes and consequences of social protection, and roles of the economy, the state and civil society. We review theories of the causes of social protection and alternative interpretations of the consequences of social protection programs for modern developed and underdeveloped economies.

The course then introduces learners to economic modelling techniques that are used to design social security and public employment policies and quantify their economic and social impact. Students learn about linked microsimulation and macro-micro modelling techniques that are internationally used for these purposes. With direct access to both types of these models, the course goes into detail on how microsimulation models and linked micro-macro models built, their architecture, role of data, statistical analysis and computer programming.

Through hands-on practice sessions, our web-based models allow you to design a Basic Income Grant and other social security policy scenarios and public employment scenarios. The social protection scenarios designed by students are then used to forecast their impact on the economy, demand and cost of social protection, poverty measures, including multi-dimensional poverty, and inequality measures.

Course modules teach students how to integrate model projections into national and provincial planning, M&E systems.



3 Certificate in Modelling Provincial-District-Municipal Economies*

This course reviews topics in national, regional and local economics. You will learn about dynamic two-way industry and macroeconomic interactions between a country's national, provincial, and local economies. The course goes into detail on why we build linked national-provincial models, their architecture, role of data, statistical analysis and computer programming. The course uses existing linked national-subregional models to explain and demonstrate how they are built and used to design policies and simulate their impacts.

Topics include:

- (a) the purpose and the structure of typical national-subregional models;
- (b) the extent and role of data in the construction and updating of national-subregional macroeconomic models;
- (c) role of economic and statistical analyses in the specification and estimation of a model;
- (d) building blocks of national-subregional models;
- (e) design of macroeconomic and industry policy scenarios; and
- (f) simulation and interpretation of results.

The course provides students access to and training on how to use web-based linked national-subregional models. During hands-on practice sessions, students will use the models to forecast the impact of national policies on provincial economies, and the impact of provincial interventions locally, on other provinces and at the national level. Course modules also show students how to integrate linked national-provincial model projections into provincial and national monitoring and evaluation.

* This course is offered through GIBS.



SPECIALISED TRAINING OPENS DOORS!
To earn your Certificate, go to www.AcademyEMA.com and Register Now!

4 Certificate in **Poverty and Inequality Modelling***

This course provides a substantive review of analytical and policy issues related to the nexus between market economies, poverty and inequality. It presents various topics, debates, and measures related to poverty and inequality, including multi-dimensional poverty. The course modules provide detail presentations of microsimulation, and linked micro and macro economic modelling techniques used for poverty and inequality analyses, the role of data, statistical analysis and computer programming.

Our poverty-inequality models are used to explain and demonstrate the link between household poverty and inequality and macroeconomics, industrial transformation, taxation and social protection. Students have direct access to these models. Through hands-on practice students learn how to design policies and generate projections of the impact of policies, such as the Basic Income Grant (BIG), public employment and macroeconomic policy, on various measures of inequality, income poverty and multi-dimensional poverty by race, gender, province, family type, quintile and locality.

** This course is offered through GIBS.*

5 Certificate in **Green Economy Modelling***

Global warming has put greening of the economy on almost every country's growth and development agenda. This course begins with an overview of concepts, topics and debates in the transition towards a green economy. It then introduces students to economic modelling techniques that are used to design green economy policy scenarios and quantify their economic and environmental impact. Students learn about the intersections between macroeconomics, industrial structure, energy demand and carbon emissions.

The course will then present an example of a linked economy, energy and emissions model. We go into detail on how the model is built, its architecture, role of data, statistical analysis and computer programming. Through hands-on practice sessions, our web-based green economy model allows students to practice green policymaking and forecast the impact of their scenarios on the economy, industry, the demand for energy and carbon emissions. Course modules also focus on how to integrate model projections into national and provincial M&E systems.

** This course is offered through GIBS.*



Certificate in Skills Demand & Supply Modelling*

There is a resurgence of international interest in skills planning and forecasting. This course begins with an overview of the historical interest in skills forecasting that is traceable to three sources: the interest in linking educational expansion to human resource requirements of a growing economy; the translation of targets for economic growth to targets for the demand for skills; and the need for skills forecasting in order to better plan vocational counseling and placement services. Students also receive an overview of the debate on skills requirements, the problems of unemployment, changing technologies, knowledge obsolescence, and the 4th Industrial Revolution (4IR).

The course progresses to quantitative and qualitative approaches to skills planning and forecasting. Students are introduced to economic modelling techniques that are internationally used for skills planning and forecasting.

The course modules focus on how skills forecasting tools combine economic, demographic, and education data with state-of-the-art statistical and modelling techniques to capture key interactions and interdependencies within the economy, including the behavior of households, the private sector, and government, and the links between the labour market and the education sector.

Through hands-on practice sessions, our web-based linked macro-education model allow students to design alternative education and economic policy scenarios, conduct real time simulation of their scenarios, and receive medium- and long-term projections of the labour force, employment, job openings, job seekers, labour market (im)balances, and the demand and supply of skills and occupations. Students will also be able to view occupations in high demand and low demand, under alternative scenarios over the next 10 years. Moreover, students learn how to use the model's 4IR module to design and simulate the impact of alternative scenarios on demand for occupations and skills.

Finally, specific course modules focus on how to integrate model generated projections of skills demand and supply into national and provincial M&E systems. All public and private organisations, including SETAs, that conduct research and/ or are responsible for skills planning and HR strategy can use this course to learn how to design 'what if' scenarios about the economy, labour force, and the education sector and to obtain corresponding effects on future trends in demand and supply of skills and occupations for the economy, SETAs, provinces and economic sectors.

* This course is offered through GIBS.

STRATEGIC PARTNERSHIPS

We are proud to be associated with like-minded organisations who share our outlook on the importance of economic modelling and its importance in the future.



Chair of Anglo American's Management Board in South Africa, Ms. Nolitha Fakude:

"Partnering with EMA provides an opportunity for Anglo American in South Africa to support a worthy cause aimed at building the capacity of the state, private sector, and civil society in evidence-based economic modelling."

Pic: Ms. Nolitha Fakude speaking at the launch of the Economic Modelling Academy in Johannesburg, June 2022



Gordon Institute of Business Science
University of Pretoria



EMA STUDENTS ACCESS REAL COUNTRY MODELS

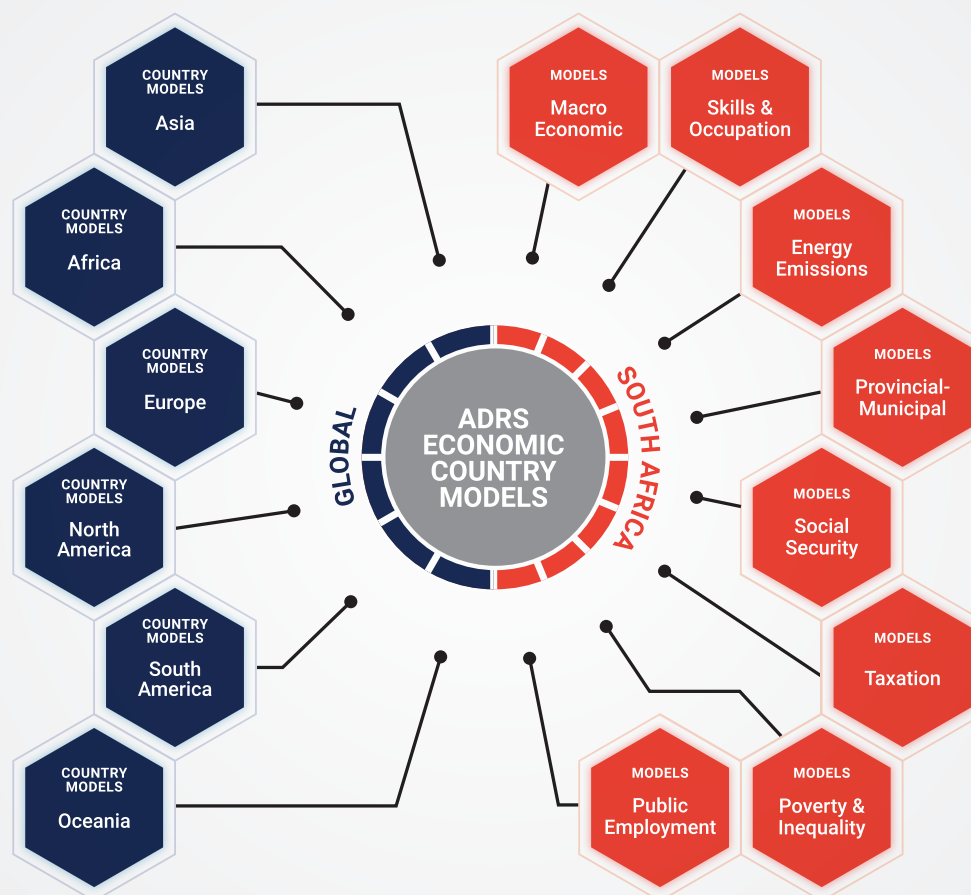
EMA courses utilise economic models of more than 60 countries that Applied Development Research Solutions (ADRS) has built over the past 2 decades. These country models are made available to EMA students for their training and hands-on practice.

The models are used to teach students about modelling techniques economic and the use of theory, data, statistics and computer programming in model building.

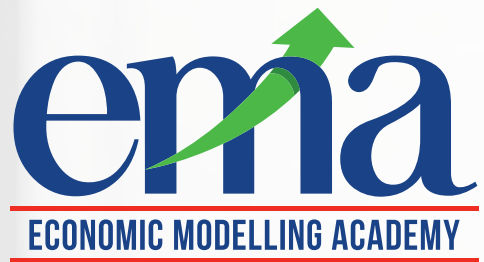
During extensive hands-on practice modules, students use these models to design policies, conduct impact analyses, and produce projections.

As an EMA student, you will have access to the wealth of resource, experience, expertise and more than 60 country models developed by ADRS.

EMA is your gateway to the world of economic modelling.



AFRICA	• MOROCCO • TUNISIA • SOUTH AFRICA (SUITE OF MACRO AND MICRO ECONOMIC MODELS)
ASIA	• BRUNEI • CAMBODIA • CHINA • HONG KONG (SPECIAL ADMINISTRATIVE REGION OF CHINA) • INDIA • INDONESIA • ISRAEL • JAPAN • KAZAKHSTAN • REPUBLIC OF KOREA • MALAYSIA • PHILIPPINES • SAUDI ARABIA • SINGAPORE • TAIWAN PROVINCE OF CHINA • THAILAND • YEMEN
EUROPE	• AUSTRIA • BELGIUM • BULGARIA • CROATIA • CYPRUS • CZECH REPUBLIC • DENMARK • ESTONIA • FINLAND • FRANCE • GERMANY • GREECE • HUNGARY • ICELAND • IRELAND • ITALY • LATVIA • LITHUANIA • LUXEMBOURG • MACEDONIA • MALTA • NETHERLANDS • NORWAY • POLAND • PORTUGAL • ROMANIA • RUSSIAN FEDERATION • SLOVAKIA • SLOVENIA • SPAIN • SWEDEN • SWITZERLAND • TURKEY • UNITED KINGDOM
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