

# CALL FOR APPLICATIONS AND NOMINATIONS



## MODELING WITH SYSTEM DYNAMICS

(PART 2)

DURATION : 4 WEEKS

DATE : 3<sup>rd</sup> TO 28<sup>th</sup> JUNE 2024

APPLICATION DEADLINE : 31<sup>st</sup> MAY 2024

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**CALL FOR APPLICATIONS AND NOMINATIONS**

# **MODELING WITH SYSTEM DYNAMICS (PART 2)**

**ANNOUNCEMENT IN BRIEF**

**Course Type : Online Course**

**Programme Area : Macroeconomic Development**

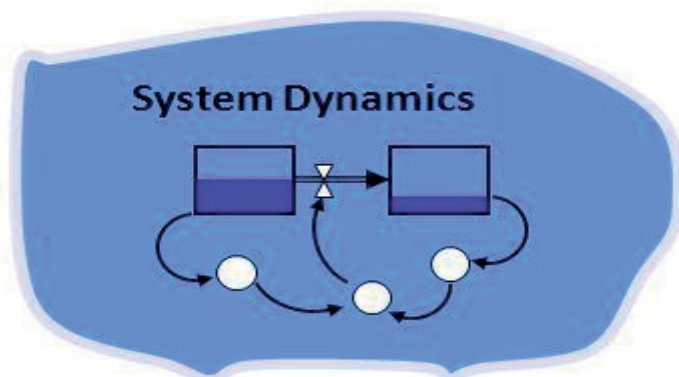
**Dates : 3<sup>rd</sup> to 28<sup>th</sup> JUNE 2024**

**Duration : 4 Weeks**

**Language : Bilingual ( French / English )**

**Application Deadline : 31<sup>st</sup> May 2024**

**Website : <https://knowledge.uneca.org/idep>**



## INTRODUCTION

The United Nations sustainable development 2030 Agenda was adopted in 2015 by member states. With 17 goals, 169 targets and 231 indicators, it provides a framework for national and global development policies. In addition, it is anchored in human rights. Prior to the adoption of Sustainable Development Goals (SDGs), Millennium Development Goals (MDGs) were prevailing from 2000 to 2015. SDGs are different from MDGs as they are more universal, transformative, comprehensive, and inclusive. However, most SDGs are off track in 2023. The SDGs Report 2023 reveals that only 15% of SDGs are on track. Under current trends by 2030, 575 million people will still be living in extreme poverty; 84 million children and youth will be out of school and 300 million students will lack basic numeracy/literacy skills among others. As far as gender equality is concerned, there is still a lot of work to be done. Conflicts and wars inflict a devastating toll on SDGs as over 108 million people worldwide have been forcibly displaced from their homes as of December 2022, 2.5 times the number a decade ago.

Recent global shocks such as COVID-19 pandemic and the conflict between Ukraine and Russia have challenged the implementation of ongoing national, regional, and global development agendas. This has led to a common reflection within the United Nations on how member states can be capacitated to navigate the complexities of ongoing multi-crises environment and shift from emergency responses to shocks, to proactive development planning. This necessitates a good understanding of potential, probable, and preferable futures to inform current actions.

In 2021, the report of the UN Secretary-General (UN SG), Our Common Agenda, called for a Summit of the Future to forge a new global consensus on readying ourselves for a future that is rife with risks but also opportunities. The Summit of the Future to be held on 22-23 September 2024 is a once-in-a-generation opportunity to enhance cooperation on critical challenges and address gaps in global governance, reaffirm existing commitments including the Sustainable Development Goals (SDGs) and the United Nations Charter, and move towards a reinvigorated multilateral system that is better positioned to positively impact peoples' lives. In this complex environment, the UN SG has released UN 2.0, a vision of a "modern United Nations system, rejuvenated by a forward-thinking culture, and empowered by cutting-edge skills fit for the twenty-first century". The UN 2.0 is a quintet of modern skills that have tremendous potential to enhance the work of United Nations entities in support of Member States: 1) data expertise, 2) innovation capacity, 3) digital expertise, 4) strategic foresight and 5) behavioural science.

Considering the above, and in line with its mandate, the African Institute for Economic Development and Planning (IDEP) has developed a training programme on "Strategic Foresight and System Dynamics Modeling". Strategic foresight analysis provides useful tools to reflect on long term development strategies in an uncertain and complex environment whereby future challenges can emerge. It uses a holistic approach that embeds all actors, analyzes the possible scenarios that may occur based on the present and past events and informs decision makers accordingly. The system dynamics technique is complementary to the foresight approach as it can be used to understand the dynamic behavior of complex systems. It allows developing and illustrating various scenarios for a better comprehension of the implications of future actions towards an effective development. The first part of the course was devoted to strategic foresight. Afterwards, an introductory course on modeling with system dynamics was delivered. The present training programme is an intermediate-level course designed to provide a detailed content on system dynamics.

## OBJECTIVE

This course aims to strengthen learners' skills by providing them with a review of the content of the introductory course as well as complementary tools to better understand modeling with system dynamics.

## CONTENT

The course will cover the following modules:

- Module 1: Steps of Modeling: Problem Description
- Module 2: Model Building: Stocks and Flows
- Module 3: Simulating Nonlinear Relationships
- Module 4: Simulating the Flow of Information
- Module 5: Modeling with Delays
- Module 6: Using Arrays
- Module 7: Using Data
- Module 8: Recognizing and Avoiding Common Pitfalls
- Module 9: Validation Testing:
- Module 10: Interface / Flight simulator construction; Web enabled simulations; Multiple software tools.

## SKILL TO BE IMPARTED

At the end of the course, participants will be able to:

- Implement stock and flow.
- Deal with known and unknown relationships.
- Deal with dimensionless multipliers and non-linear functions.
- Understanding delays: different types and purposes.

- Add complexity through duplication of dynamics.
- Use external data sets.
- Practice good model construction technique.
- Understand the reasons and methods of verification.
- Become aware of the diversity of interfaces and tools available.

## PEDAGOGICAL APPROACH AND MODE OF DELIVERY

This self-paced course will be delivered from 3rd to 28th June 2024.

Virtual sessions are also planned for more interaction between the pedagogical team and the learners. These latter can self-assess their understanding of learning materials through built-in quizzes and assignments.

Additional resources, including suggested readings, bibliographies, internet links and optional readings are provided for participants who wish to deepen their knowledge on the course topic. The course will be delivered in two parallel sessions (English and French). The pedagogical team is made up of experienced instructors who will provide daily on-line assistance to participants at scheduled times. An Internet connection is required for interaction between learners and trainers.

The course will run over a period of four (04) Weeks.

## CERTIFICATE OF COMPLETION

A Certificate of Completion will be issued by IDEP to all participants who successfully complete the course-related self-assessments for each module.

## TARGET AUDIENCE

### The course targets:

- National officials involved in national economic policy management and development planning-related activities.
- United Nations Development Coordination Officers /Economists.
- Members of the ECA-Young Economic Network (YEN) are also encouraged to participate.

## ACCEPTANCE TO THE COURSE

Until the registration deadline, participants are accepted to the course on a rolling basis and subject to availability of slots. Please refer to the paragraph above to see priority target group. Applications must be completed exclusively on IDEP online application platform

at: <https://forms.gle/G476WBS65XoaqiNY9>

## TECHNICAL REQUIREMENTS

Access to Internet is an essential condition for participation. The following specifications, as a minimum in terms of hardware and software, are required to take this e-Learning course, please consult your Network Administrator or Systems person to ensure that you have the following:

- Platform: Windows 95, 98, 2000, NT, ME, XP or superior; Mac OS 9 or Mac OS X; Linux
- Hardware: 64 MB of RAM, 1 GB of free disk space
- Software:
  - o Adobe Acrobat Reader
  - o Adobe Flash Player
  - o Microsoft Office (Windows or Mac) or Open Office
  - o Browser: Internet Explorer 7 or higher or Firefox 36 or higher
  - o Stella Architect  
<https://www.iseesystems.com/store/products/stella-architect.aspx>
- Modem: 56 K
- Note that JavaScript, Cookies and Pop-ups must be enabled.

## IMPORTANT DATES

- Deadline for Applications and Nominations: **31th May 2024.**
- Course Period: **3rd to 28th June 2024.**

# CONTACT INFORMATION

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## Road to the Summit of the Future





***N.B : IDEP strongly encourages and supports the participation of suitably qualified female officials in its capacity development and training programme.***