

UNITED NATIONS
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC (ESCAP)
STATISTICAL INSTITUTE FOR ASIA AND THE PACIFIC (SIAP)

e-Learning Course

R for Official Statistics: A Crash Course

3-5 June 2025

I. About the Course

The three-day crash course aims to equip participants with essential skills in R and RStudio, focusing on practical applications for data analysis for Official Statistics and SDG indicators. It is designed on an interactive platform to enhance a quick start in R, providing participants with practical skills to use a programming language for managing and analyzing data. Through guided exercises, interactive handouts with R and real-world-like applications, participants will gain confidence in using R for managing survey analysis data, for exploring and filtering data sets and for computing simple SDG indicators.

This e-course is not a replication of the many online R tutorials that already exist, nor a substitute to these courses that should be used to complement the skills learned in this crash course. It aims at building capacity in national statistical systems for the use of the open source software R for Official Statistic, following the UN's commitment to leveraging open source solutions¹.

II. Target Audience

The main target audience for the course is technical staff working in statistical offices or within a national statistical system that serve in roles of data processors or data analysts. Since R can be used for various data-based analyses, programmers and other professionals are also welcome to enroll in the course.

Instructions, conversations, pedagogical resources and webinars are in English.

¹ See <https://unite.un.org/news/open-source-initiative-first-endorse-united-nations-open-source-principles>

III. Learning Objectives

At the end of the course participants should be able to:

- Install and set up R and RStudio.
- Manage R packages effectively.
- Import, manipulate, and explore datasets.
- Review and write code using *tidyverse* syntax
- Write basic R code to manage survey data and compute SDG indicators
- Work with matrices

IV. Course Design and Content

The course will include 2+1 modules:

Module 0 (Install R!): Setting up the stage for R and RStudio.

- Installation of R
- Installation of RStudio.
- Understanding R packages: installation, loading, and management.

Module 1 (Basic R!): Develop essential skills for data handling using R

- Importing datasets
- Exploring data structures.
- Essential data manipulations
- Using *tidyverse* and pipe operator

Module 2 (Use R!): Work with survey data and Compute SDG indicators

- Computing simple selected SDG indicators.
- Compute weighted average from survey data
- Compute SDG indicators
- Work with matrices for Input-Output analysis

A live webinar will be organized on **Wednesday 4 June** to facilitate learners in their journey with R and RStudio. The total workload of this course is around **6 hours seating time**, including the 1-hour live webinar and the final test.

V. Evaluation

The evaluation will be based on the learner's ability to use R based on training materials provided during the course. The final grade will be based on the result of a test on R knowledge and data-based computations to be done with R.

Participation in the chats/discussion forums will earn **bonus points**.

To succeed in the course participants must have **at least a total score of 70/100, and** comply with **ALL** following conditions:

- Participate in **the live webinar**
- Complete **all modules** prior to the relevant deadlines
- Complete the end-of-course feedback questionnaire

The 3 conditions are mandatory to receive a certificate.