

UNITED NATIONS
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

STATISTICAL INSTITUTE FOR ASIA AND THE PACIFIC (SIAP)

**R for Official Statistics
(e-Learning course)
11 June – 22 June 2018**

Guidelines for participants

I. OVERVIEW OF THE COURSE

This e-Learning course introduces participants to the basic operations of the R and its application to official statistics. R is an open source statistical analysis package which is rapidly gaining users in all fields of statistics. The focus of the course is on the use of R for common tasks within official statisticians' work, rather than on statistical theory and methods. Students will be able to install R and perform basic tasks such as importing data, deriving new variables, and calculating aggregates using survey weights by the end of the course.

II. TARGET PARTICIPANTS

Target participants are staff with no prior knowledge of R or those in need of a refresher prior to the Regional Training Course on Big Data for Sustainable Development. Neither formal education in statistical theory nor experience in a statistical office is a prerequisite for the course, though prior experience in the use of analytical software will aid understanding.

III. LEARNING OUTCOMES

By the end of the course, participants will be expected to:

- (a) Be able to navigate RStudio
- (b) Have a basic understanding of how R is being used in Official Statistics
- (c) Be able to install packages in R
- (d) Be able to import data into R
- (e) Perform basic analysis using R

IV. COURSE DESIGN AND CONTENT

Each lesson consists of a combination of reading material, self-check quizzes to verify understanding, graded assignments and discussion topics. The course is expected to take a maximum of 20 hours to complete.

Outline

Lesson	Coverage
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Lesson 1: Introduction and overview	<ul style="list-style-type: none"> • The history of R • The use of R in Official Statistics • Basic R syntax
Lesson 2: Setting up your environment	<ul style="list-style-type: none"> • Setup R environment • Installing packages • Accessing help documentation
Lesson 3: Importing data	<ul style="list-style-type: none"> • Importing data from various formats
Lesson 4: Deriving new variables	<ul style="list-style-type: none"> • Reshaping data • Specialise functions for strings • Specialise functions for dates
Lesson 5: Calculating aggregates	<ul style="list-style-type: none"> • Calculations using survey design and weights
Lesson 6: Conclusion	<ul style="list-style-type: none"> • Overview of further R functionality

V. EVALUATION

Participants must receive a 70% or higher in the course to pass the course and receive a certificate. The final grade for the course will be calculated as follows:

80% Assignments (six assignments worth 15% each)

10% Participation in course discussions

Assignments include writing code in R and doing further reading and investigation into the use of R in official statistics. Assignments will be graded on the following scale: 0 points for missed assignments, 5 points for partial completion, 13 points for full completion of all parts of the assignment, 15 points for fully and correctly completing all parts of the assignment. Participants are expected to turn in their own work. Copied assignments will result in a 0 for the assignment for all parties involved.