

General rules for the National phase of the European Statistics Competition 2022 (ESC), organized by the Statistical Service of Cyprus, the Ministry of Education, Culture, Sports and Youth, the University of Cyprus and the Cyprus Statistical Society

1. Objectives

The general objectives of the European Statistics Competition are:

- To promote curiosity and interest in statistics among students.
- To encourage teachers to use new materials for teaching statistics by promoting the use of real data and search for applications of acquired statistical knowledge.
- To show the role of statistics to students and teachers in various aspects of society, making it known as a university study.
- To promote teamwork and collaboration to achieve common goals.

2. Participation

Participation in the national phase of the competition is open to all secondary-age students who are studying at any officially recognized educational institution of Cyprus. Students will participate in teams of 2 to 3 persons. All students of a team should belong to the same school and category. Each team should have a teacher from their institution acting as the tutor, who will be responsible of supervising their work and generally performing a coordinating role and communicating with the organizers.

There can be a maximum of 3 (three) teams from the same institution. The tutors can supervise up to 2 (two) teams.

Students are not allowed to participate in more than one team.

The participation of each team will take place in one of two categories:

Category A: Upper Secondary [Students of A', B', C' Lyceum* aged up to 18 years on 31/12/2021]

Category B: Lower Secondary [Students of A', B', C' Gymnasium aged up to 16 years on 31/12/2021]

The national phase of the competition will be conducted in the Greek and English language.

* Students attending the seventh grade of an educational institution are allowed to participate in the Upper Secondary Category provided that they comply with the age restriction.

3. Registration

Tutors of teams wishing to participate in the competition must register their teams online at <http://esc2022-cyprus.cystat.gov.cy>. The registration must include all the information requested in the form. Tutors may contact the organizers for any clarifications by email at esc-cy@cystat.mof.gov.cy.

4. Assignments

Participants in the national phase of the ESC 2022 will take 2 (two) eliminatory assignments. Only those teams who pass both assignments will be among the finalists of the Competition.

The first assignment will be carried out through a web platform and will consist of three tests with closed questions. Each question will have 4 (four) possible answers of which only 1 (one) will be correct.

The second assignment will consist of a presentation of a statistical analysis and needs to be sent in the way established hereinafter.

First assignment:

a. Basic knowledge test

The goal is to answer 10 (ten) questions on understanding of basic statistical concepts, interpretation of graphs, basic probability etc.

b. Use of official statistical data sources test

The goal is to answer 10 (ten) questions on various statistical data. This will require navigation through the website of the Statistical Service of Cyprus.

c. Interpretation of statistical reports test

The goal is to answer 10 (ten) questions about the Eurostat publication “Demography in Europe”.

Second assignment:

Statistical research output

In this assignment the teams will have to prepare a presentation of statistical content as a result of the exploitation of statistical data which will be defined by the organizers. The dataset will allow exploration of different facets of information at the choice of the participants.

The results of the analysis will have to be presented in a PowerPoint presentation or in a similar format and must be printed as a pdf file that includes the following sections:

- Objectives of exploitation / analysis.
- Method of work: tools used, techniques of information analysis, etc.
- Results: tables, graphs, results of analysis, etc.
- Conclusions.

An initial slide must be included in the presentation indicating the name of the team, the name of the school, district, and the category in which the team participates. The presentation in pdf format for the second assignment must have at maximum a total number of 8 slides (including the initial slide with information on the team). The pdf file must be named with the exact name of the team and uploaded on the platform within the deadline set (see §9. Calendar).

The jury will only evaluate the printable parts of the pdf file. Elements like links to external contents, embedded videos etc. will not be considered as part of the assignment and therefore will not count in the evaluation.

The analysis must be limited only to the statistics specified. No assignment will be accepted if analysis and exploitation of different databases is carried out, nor those in which there have been an addition of complementary information. There are no restrictions on the software used for the processing of the data.

In order to support the teams that will proceed to the second assignment, a seminar will be offered covering topics from the statistical science. The date and arrangements of the seminar will be sent to the teams when finalized.

5. Evaluation Criteria

First assignment

Each of the three tests of the first assignment will be evaluated taking into account that a correct answer carries one (1) point, an incorrect answer subtracts 0.33 points and a question without answer carries no points. The maximum grade for each of the three tests will be 10 (ten) points.

The result of the first assignment will be obtained by calculating the arithmetic mean, rounded to one decimal place, of the scores obtained in each of the three tests, and multiplying the result by 10, so that the final score for this assignment will be at most 100 points. In this way, the ranking of all participating teams will be determined.

The ranking of the teams after the first assignment will be used to select the 10 (ten) teams which will qualify to take the second assignment. In addition, the score in the first assignment will be included in the calculation of the final grade with a weight of 50%.

The evaluation of the three tests and the calculation of the final score for the first assignment will be automatically carried out by the platform software.

All the participating teams of the first assignment will receive a participation diploma. The qualified teams to the second assignment will receive, additionally, a distinction diploma.

Second assignment

The following aspects will be taken into account when evaluating the pdf file of the second assignment:

- Output presentation (20%)
 - The presentation is well-structured into different parts
 - The presentation is clear and can be easily read
 - There are references to sources / bibliography
- Objectives (20%)
 - The project has a clear objective

- There are well-defined secondary objectives
- The interest in studying the proposed objectives is justified with relevant arguments
- Analysed data are appropriate to study the selected objectives
- Information analysis (40%)
 - There is good balance between tables, graphs and central tendency indicators used
 - Tables and graphs have comments so that the most relevant information is highlighted
 - Graphs are appropriate and support the conclusions
 - Reasons of using each statistical indicator are explained
 - The methodology followed and processing of the data must be at an appropriate level taking into account the educational level of the team
- Conclusions (20%)
 - There is one conclusion per objective and a general conclusion as well
 - There are warnings about the limitation of the conclusions of the analysis (should such limitations exist)

The jury will select the 5 (five) best assignments in each category and will evaluate them with a score up to 100 points. The score of the second assignment will be included in the calculation of the final grade with a weight of 50%.

Final Score

The final score for the 5 (five) teams of each category, whose assignment was selected for the final evaluation, will be calculated as a weighted average, with a maximum of three decimal places, of the scores obtained in the first and second assignments, using the following formula:

Final score = $0.5 * 1^{\text{st}}$ assignment score + $0.5 * 2^{\text{nd}}$ assignment score.

The jury will rank them based on the final score.

6. Awards

The winning teams of the national phase, one from Category A and one from Category B will receive the following prizes:

- For the tutor: A tablet.
- For each student of the winning team: The amount of €200.

The teams in the second place of the national phase, one from Category A and one from Category B will receive the following prizes:

- For the tutor: An external hard disc.
- For each student of the team: The amount of €50.

In addition, the jury may grant an honorary mention to any team.

In case of having two winning teams with the same tutor, the tutor will only receive one prize.

7. Jury

The jury for the national phase will consist of 5 (five) members, 2 (two) from the Statistical Service of Cyprus, 1 (one) from the Administration of Secondary Education of the Ministry of Education, Culture, Sports and Youth, 1 (one) from the University of Cyprus and 1 (one) from the Cyprus Statistical Society.

The jury's decision is final.

The jury may decide not to award any prize.

8. Communication of the jury's decision and awards ceremony

The decision of the jury will be announced to the winner and finalists of each category by e-mail and it will be published on the national competition website and the websites of the organizers, on the date indicated by the organizers. The organizers will inform the teams for the date and arrangements of the award ceremony, in due time.

9. Calendar

Registration period:

20 October – 26 November, 2021.

First assignment test:

11 January, 2022.

Publication and communication of the results of the first assignment:

14 January, 2022.

Submission of the second assignment:

21 January – 7 March, 2022.

Announcement of winning teams:

21 March, 2022.

Award ceremony:

Date and arrangements are still to be determined.

It is recommended that the teams start their preparation as soon as they register to the competition.

10. Publication of outputs

The awarded outputs in the second assignment or those who received mentions could be announced on the national competition website and the websites of the organizers, indicating the names of the teams and its members, the school they come from and their category.

With their registration, participants accept these rules and allow the publication of their work, as well as the publication of photos or videos where students will be presented. All the material presented at the national phase of the competition will be retained by the Statistical Service of Cyprus.

11. European phase of the European Statistics Competition 2022

For participation in the European phase of the competition, the jury will use the list with the final scores achieved by category, in the national phase (see §5, Final score).

The winning team and finalist team with the highest scores of each category will be eligible to participate in the European phase of the competition. The maximum number is 2 (two) teams per category. The organizers of the national phase will contact the teams in due time to inform them about the European phase.

In the event that the proposed teams cannot attend or refuse to participate in the European phase, the jury will contact the next runner-up team of the aforementioned list.

The European phase of the competition will be conducted in English.

12. Reservation of rights

The organizers reserve the right to change the terms and conditions of the national phase of the competition, especially the dates that are announced in the calendar, or even cancel the competition, whenever there is justified cause. Any amendments will be published on the national competition website or/and the websites of the organizers.

13. Acceptance of the rules of the national phase of the European Statistics Competition

Participation in the national phase of the European Statistics Competition (ESC) assumes the acceptance of all these rules.

Any issue that does not fall under these rules will be finally resolved by the organizing committee.

* Translation clause

* This document has been drafted in the Greek language and translated to the English language for informative purposes. In the event of any translation conflicts or content discrepancy, the Greek version shall prevail.