

General rules for the National phase of the European Statistics Competition 2021 (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 pupils. All students of the team should belong to the same school and category. Each team should have a teacher from their institution acting as the tutor, who will supervise their work and generally perform a coordinating role and communicate 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 31/12/2020]

Category B: Lower Secondary [Students of A',B',C' Gymnasium aged up to 16 years on 31/12/2020]

The national phase of the competition will be conducted in 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://esc2021-cyprus.cystat.gov.cy>. The registration must include all the information requested in the form. Tutors can send their questions by email to esc-cy@cystat.mof.gov.cy.

4. Assignments

Participants in the national phase of the ESC 2021 will take 2 (two) eliminatory assignments. Only those who pass both assignments will be among the finalists of the Competition.

The first assignment will be carried out online through a web form 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 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 and the website of Eurostat.

c. Interpretation of statistical reports test

The goal is to answer 10 (ten) questions about the Eurostat publication “Key figures on Europe”.

Second assignment:

Statistical research output

In this assignment the teams will have to prepare an output from the exploitation of a dataset in Excel which will be facilitated by the organization. The dataset will be comprehensive and will allow exploration of different facets of information at the choice of the participants.

The results of the assignment will be presented in a PowerPoint presentation or in a similar format and should be printed as a pdf 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 will 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 will have a total number of 8 slides maximum (including the initial slide with information on the team). Such pdf will

be named with the exact name of the team, and will be 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 for the evaluation.

The analysis will be limited to the specific dataset; no assignment will be accepted if analysis and exploitation of different databases is carried out nor those in which there have been addition of complementary information. There are no restrictions on the software used for the exploitation of the dataset.

5. Evaluation Criteria

First assignment

Each of the three tests of the first assignment will be evaluated in terms of success and failure, taking into account that a correct answer carries a 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 of 100 points maximum. The ranking of all participating teams will be determined in this way.

The ranking of the teams after the first assignment will be used to select the 10 (ten) teams which will qualify to 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 25%.

The evaluation of the three tests and the calculation of the final score for the first assignment will be automatically performed by the online system.

The participating teams of the first assignment will receive a participation diploma. The qualified teams to the second assignment will receive 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%)
 - Output is structured in well differentiated parts
 - Presentation is clear and can be easily read
 - There are references to sources / bibliography
- Objectives (20%)
 - The output has a clear objective
 - There are well defined secondary objectives

- The interest in studying the proposed objectives is argued
- Analysed data are appropriate to study the settled objectives

- Information analysis (40%)
 - There is good balance among tables, graphs and central tendency indicators
 - Tables and graphs have comments so that the most relevant information is highlighted
 - Graphs are appropriate and help to reach, and support, the conclusion
 - Reasons to use each statistical indicator are explained
 - Performed analysis is in concordance with 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 these limitations exist)

The jury will select the 5 (five) best assignments in each category and will evaluate them with up to 100 points. The score of the second assignment will be included in the calculation of the final grade with a weight of 75%.

Final Score

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

Final score = $0.25 * 1^{\text{st}}$ assignment score + $0.75 * 2^{\text{nd}}$ assignment score.

The winning team of each category will be the one that obtains the highest final score. The other 4 (four) teams from each category will be considered finalists of their respective categories.

6. Awards

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

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

In addition, the jury may grant a 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.

9. Calendar

Registration period:

20 October – 20 November, 2020.

First assignment test:

22 December, 2020.

Publication and communication of the results of the first assignment:

11 January, 2021.

Submission of the second assignment:

25 January – 8 March, 2021.

Announcement of winning teams:

29 March, 2021.

Award ceremony:

It will be decided and then announced at a later stage. The decision will depend on the development of the health situation and the recommendations of the competent health authorities in relation to the coronavirus pandemic (COVID-19).

10. Publication of outputs

The awarded outputs in the second assignment or those received mentions will be announced on the on the national competition website and the websites of the organizers, indicating the names of the teams, the school they come from and their category. The participants will accept these rules and allow the publication of their works, as well as the publication of photos or videos that 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 2021

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

For participation in the European phase of the competition, the jury will use the list to be drawn up by category with the final scores achieved 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 communicate with the next runner-up team of the aforementioned list.

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 its possible cancellation, whenever there is justified cause. Any amendments will be published on the national competition website 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.

* 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.