

GENERAL PHYSICS COMPETITION FOR ENGINEERING STUDENTS "ION I. "AGĂRBICEANU"

Organizers:

Department of Physics,
Faculty of Applied Sciences, "Politehnica" University of Bucharest

Romanian Society of Physics



Remember Professor Ion I. Agarbiceanu

XI edition, May 13, 2023

**The organizing and evaluation commission of the general physics competition
for engineering students "Ion I. Agarbiceanu"
from May 13, 2023**

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General considerations

The general physics competition for engineering students, Ion I. Agârbiceanu, is addressed to all students from technical faculties. Its purpose is to promote the discipline of Physics among students and to raise awareness of the importance of this subject in the thorough training of an engineer in the context of the current technological evolution.

1. Conduct of the contest

- Contest date: **May 13, 2023**
- Venue of the contest: Department of Physics, Faculty of Applied Sciences, POLITEHNICA University of Bucharest

2. Enrollment in the contest

- Any student enrolled at a technical university in Romania (undergraduate cycle) can participate in the competition. Participation is individual and based on registration.
- Registrations can be made by e-mail at the following addresses:

sorin.ciobanu@physics.pub.ro

irina.paun@upb.ro

until May 5, 2023 at the latest , 4:00 p.m

- When registering, the following information is requested:

Name :

First name:

University:

Faculty:

Year of study:

Phone:

E-mail:

3. Competition tests:

Stage I: theoretical test, May 13, 9:00 a.m. - 11:00 a.m

- The theoretical test consists of a written paper with 6 subjects.
- Each contestant participates in the contest with 3 of the 6 subjects, of their choice.

- On the first competition sheet, the candidate will specify under his signature the numbers of the subjects he opted for.
- The subjects will be in accordance with the attached syllabus, for the two sections of the competition. The subjects can be theoretical, problems, questions, but also practical applications in which the construction of graphs can be requested.
- Use of non-programmable pocket calculators is permitted.
- The time allotted for this test is 120 minutes.

[General physics competition program for engineering students, PHYSICS I.pdf](#)

[General physics competition program for engineering students, PHYSICS II.pdf](#)

Stage II: experimental test, May 13, 2:00 p.m. - 3:00 p.m.

- The first five competitors from each section qualify for the experimental test .
- The experimental test will take place in the laboratories of the Department of Physics, Faculty of Applied Sciences, POLITEHNICA University of Bucharest
- The experimental test consists in carrying out an experience chosen by drawing lots from those proposed by the organizing committee.
- The organizers provide the competitors with the necessary means to achieve it.
- The participants must theoretically model the studied process (theory of the work), carry out the experimental setup, perform the experimental measurements, process and interpret the obtained results (including the sources of errors).
- Use of non-programmable pocket calculators is permitted.
- The time allotted for this test is 60 minutes.

4. Evaluation of works:

The evaluation of the works will be done by a jury made up of 6 academic staff of the University "Politehnica " Bucharest .

For the theoretical test , each subject will be scored with a maximum of 10 points.

The evaluation criteria are:

- a. the correctness of the information or the result,
- b. consistency in exposure,
- c. mode of presentation,
- d. the originality of the solution.

The total score will be the sum of the partial scores obtained. Each work will be corrected by at least 2 members of the jury. If the score difference between the 2 corrections is at least 2 points, an overcorrection will be made by another member of the jury.

The experimental test with the imposed theme will be judged by 2 members of the jury each, the maximum number of points that can be awarded being 20.

The evaluation criteria for the experimental test with the imposed theme are:

- a. Theoretically correct presentation of the process (physical phenomenon) studied.
- b. How to choose the necessary tools and make the experimental setup
- c. The manner of presentation and execution of the stages of the work.
- d. How to process the experimental data and specify the sources of errors.

The final score of each competitor is made up of the sum of the scores obtained in the 2 tests.

The competitor with the highest number of points is designated **as the winner** . Three prizes will be handed out in a festive setting. The photographs of the winners , together with a brief presentation of them, will be displayed, with their consent, on the contest website.

5. Competition sections

The competition will be held in two sections .

Section I : It is addressed to students from the **first, second and** third years of study who have only one *general Physics* course in their program or have completed only the first semester of the Physics course which also contains elements of *advanced Physics (Physics I)*.

Section II , It is addressed to students who have advanced knowledge in the discipline of Physics .

The theme for the Contest is presented in the attached files.

6. Additional information

Contact persons for registration and additional information:

Lecturer university Dr. Savu-Sorin CIOBANU (sorin.ciobanu@upb.ro)

Univ. Assoc. Dr. Irina Alexandra PĂUN (irina.paun@upb.ro)

Web address:

<http://www.physics.pub.ro/Agarbiceanu/Concurs.htm>

Editions 2010 - 2019

[Statements and solutions 2010](#)
[Statements and solutions 2011](#)
[Statements and solutions 2012](#)
[Statements and solutions 2013](#)
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[contest results
\(2010 - 2019\)](#)



Laureates of the 2019 Edition