



WORKSHOP ON
Physics for peace and social development
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1. Physics in the educational system of Cyprus.

1.1 Primary Education

The primary focus is on providing a foundational understanding of science concepts.

Students are exposed to fundamental ideas, such as:

- Basic Forces,
- Simple Machines, and
- Properties of Matter

The goal for this level is students:

- Make and record observations.
- Become familiar with the concept and measurement of various physical quantities.
- Develop scientific method skills and implement valid experiments.

1.2 Gymnasium - Lower Secondary School

The curriculum covers introductory physics topics.

In the Second year, the corresponding 8th grade, Physics is taught two forty-five-minute periods per week and includes:

- Scientific method – Measurements,
- Mechanics, and
- Pressure.

In the Third year, the corresponding 9th grade, Physics is taught two forty-five-minute periods per week and include:

- Energy,
- Electricity Static and Dynamic,
- Molecular Structure - Heat – Temperature, Heat-Transfer Mechanisms and Conductivity and
- Changes in the State of Matter.

Students learn about fundamental physical principles and engage in hands-on experiments to develop their understanding of these concepts.



1.3 Lyceum - Upper Secondary School

Physics is offered as a separate subject, allowing students to delve deeper into advanced topics.

In First year, the corresponding 10th grade, Physics is taught four periods of 45 minute per week. The curriculum includes:

- One-Dimensional Motion,
- Forces and Newton's laws and
- Work and Energy.

In Second year, the corresponding 11th grade, Physics is taught 5 periods of 45 minute per week and includes:

- Motion in two Dimensions, Projectile Motion, Circular Motion,
- Newton's Law of Gravitation,
- Mechanics of Systems - Momentum – Impact,
- Static electricity, and Electric current.

In Third year, the corresponding 12th grade, Physics is taught 5 periods of 45 minute per week and includes:

- Solid Body Mechanics,
- Oscillations,
- Waves, and
- Electromagnetism.

Practical experiments and demonstrations are an integral part of the physics education at this level.

Educational Resources

Physics education in Cyprus is supported by textbooks, teaching materials, and educational resources approved by the Ministry of Education. These resources aim to meet the educational standards set by the government.

Examinations and Assessments

Students are usually assessed through examinations, assignments, and practical assessments.

National examinations, such as the Pancyprian Examinations, are conducted to evaluate students' understanding of physics concepts at the end of the Lyceum. These examinations determine their eligibility for higher education.

University Entrance

Successful completion of physics courses at the Lyceum level may be a prerequisite for admission to certain university programs, especially those related to science, engineering, or technology.



1.4 Physics Department of Cyprus University

Bachelor's in Physics

Undergraduate programs typically cover foundational physics topics, including:

- Classical Mechanics,
- Electromagnetism,
- Thermodynamics,
- Quantum Mechanics, and
- Optics.

The curriculum may include laboratory work, computational physics, and mathematical methods.

Master's in physics

Master's programs may offer more specialized coursework and research opportunities. Specializations could include areas such as:

- Condensed Matter Physics,
- Particle Physics,
- Astrophysics, and
- Computational Physics.

Students may be required to complete a research thesis.

Ph.D. in Physics

Doctoral programs focus on advanced research in specific areas of physics. Specializations may include:

- Theoretical Physics,
- Experimental Physics,
- Materials Science, or
- other Specialized Fields within Physics.

Ph.D. candidates typically conduct original research and contribute to the advancement of knowledge in their chosen area. Research areas include:

- Nanotechnology,
- Optics and Photonics,
- High-Energy Physics,
- or interdisciplinary studies.

Language of Instruction

While the primary language of instruction is Greek, some programs and courses at the University of Cyprus may be offered in English, especially at the postgraduate level.



2. Promotional activities for attracting the younger generation to study Physics.

Promoting physics education and attracting the younger generation to study physics requires creative and engaging activities. Here are some promotion activities that educational institutions, organizations, or individuals organize to spark interest in physics among young students:

Science Fairs and Exhibitions

Organize science fairs or exhibitions that showcase interesting physics experiments and demonstrations. Include hands-on activities where students can engage with simple physics concepts.

Physics Workshops and Camps

Conduct workshops or summer camps focusing on various physics topics. Introduce participants to exciting experiments, projects, and demonstrations.

Guest Lectures and Talks

Invite physicists, researchers, or professionals to give engaging talks and presentations. Highlight the real-world applications of physics and its impact on various industries.

Career Awareness Events

Organize events that provide insights into potential careers in physics. Feature guest speakers from different sectors, including academia, industry, and research.

Physics Competitions

Host physics competitions to encourage friendly competition among students. Include both theoretical and experimental challenges to test their problem-solving skills. The Cyprus Physicists Society organize Physics Olympiad for student from 3rd grade until 12th grade. We also organize Foto competition, video -animation competition and writing article competition.

Science and Technology Events

Participate in or organize events related to science and technology. Showcase the role of physics in cutting-edge technologies and innovations.

Physics Clubs and Societies

Establish physics clubs within schools or communities. Offer regular meetings, activities, and projects to foster a sense of community among physics enthusiasts.

STEM Education Initiatives

Cyprus, like many other countries, recognizes the importance of Science, Technology, Engineering, and Mathematics (STEM) education. Initiatives may be in place to promote STEM subjects, including physics, and encourage students to pursue careers in these fields.

By combining these activities, educators, institutions, and organizations can create a vibrant and inspiring environment that encourages the younger generation to explore and pursue studies in physics.

CYPRUS PHYSICISTS SOCIETY

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Dr Demetrios Philippou