

Master: Astrophysics, elementary particles and computational physics in English Language

1..Study programme title: Astrophysics, elementary particles and computational physics

2. Number of available places: 30

3. Short description

This master program is dedicated to the study of both General Relativity, Quantum Field Theory and in addition the study of advanced computational methods. The courses studied at this program offer the opportunity for combining both analytical and computational skills of the students and help them to develop research careers in many areas of physics and closed related domains.

4. Main subjects

The curriculum can be found on the faculty website, at:
<https://physics.uvt.ro/astrophysics-elementary-particles-and-computational-physics/>

Some of the courses from the curriculum are listed below:

First semester:

Complements of theoretical physics
Complements of Molecular and atomic physics
Complements of solid state physics and statistical physics
Complements of the material physics

Second semester:

Astrophysics and elementary particles
Clusters and impurities in complex systems
Gravitation and cosmology
Introduction in astronomy

Third semester:

Quantum fields I
Stellar astrophysics
Computational methods in astrophysics
Computational physics
Specialization practice (projects)

Fourth semester:



Quantum fields II
Statistical methods for data analyzing in astrophysics
Energetic resources in the solar system
Specialization practice (projects)

5. Student advantages

The students that attend the program could improve their knowledge of theoretical physics and computational physics and work further in the research activity. They could continue with a PhD in various fields of physics from which we enumerate: quantum field theory, general relativity, statistical physics, solid state physics, computational physics and mathematical physics. Also the students will benefit from the expertise of various research groups that will offer them the opportunity to start research activities, scientific conferences and participate to research projects. This will help the students to make the first steps towards a career in physics. The programme also offer the opportunity to visit other universities from abroad and to study there one semester or one year. Developing both analytical and computational skills the students could also work in other fields like IT industry, or side by side with the engineers in projects that aims to develop new products and techniques needs in various industries.

6. Career impact

This master program offers the necessary theoretical knowledge for working in theoretical physics and any areas of physics. The programme offers a large flexibility in what regards the areas in which the students could find a job beginning with physics, IT industry, engineering. It offers the skills needed for working in team and to have a critical thinking.

7. Contact details

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