



Bachelor in ASTROPHYSICS, METEOROLOGY and GEOPHYSICS at University of Sofia "St. Kl. Ohridski", Sofia, Bulgaria

Overview

In this four-year degree, students obtain the basics in mathematics, physics as well as fundamental knowledge of the astrophysics, geophysics and meteorology. Skills acquired include the ability to observe nature and develop scientific thinking. Excursions, practical training and fieldwork complement the classroom learning. Students can choose on of three specialisations: 1) astrophysics, 2) geophysics and 3) meteorology. A short overview of the specialisations is given below.

ASTROPHYSICS

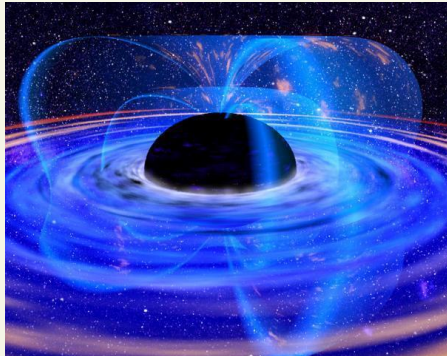


Figure 1

Astronomy is important because it ushers us into a realm beyond the everyday life on our small planet. There is a great beauty in exploring the Universe and in trying to understand how the Earth, the Solar system and the Universe have evolved over billions of years. The Sun affects the Earth's climate while we do not know many things about our daily star. Only through a study of other stars we can grasp and predict the changes the Sun undergoes. By studying the motions of celestial objects, we can also keep track of those of them that may impact the Earth. Our students have a direct access to observations with the largest astronomical device in South-Eastern Europe, the 2m telescope of the NAO Rozhen.

GEOPHYSICS

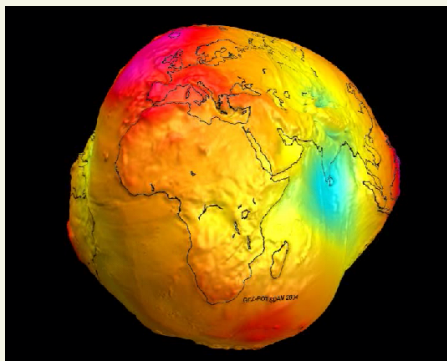


Figure 2: The geoid as derived from Grace.

Geophysics is the science of physical properties and structure of the Earth, the physical and physico-chemical processes in its solid, liquid and gaseous envelope and the space next to it. Modern geophysics is a complex science and is part of the earth sciences, which also include Geology; Geography; Surveying; Geochemistry, etc.

Grace satellite is a joint project between NASA and the Deutsches Zentrum fur Luft-und Raumfahrt (DLR). The initial goal of GRACE mission is to provide an accurate assessment of models of Earth's geoid for a period greater than 5 years. The geoid is defined by mean ocean surface of the Earth, provided the oceans and atmosphere were in equilibrium.

METEOROLOGY



Figure 3

"In the recent years, weather and climate have become front page news from such environmental issues as greenhouse warming and ozone depletion in the stratosphere to the global weather influences of El Nino. The dynamic nature of the atmosphere demands our attention and understanding more than ever before.

Weather influences our daily lives in so many ways. From drought and famine to devastating floods, some of the greatest challenges we face come in the form of natural disasters created by weather. Yet dealing with weather and climate is an inevitable part of our lives. The atmosphere will always provide challenges for us but, as research and technology advance, our ability to understand our atmosphere improves as well." from Meteorology today by Ahrens, 2009.

Contacts and further information

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http://www.phys.uni-sofia.bg/mg/amg_en.html, http://www.phys.uni-sofia.bg/astro/EN/education1_EN.html