SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Erasmus courses in the Faculty of Physics

Sofia University "St. Kliment Ohridski"

Sofia Bulgaria

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Faculty of Physics

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

https://www.directflights.com/SOF-BRI

Faculty of Physics
SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Campus info and virtual tour: https://www.phys.uni-sofia.bg/?page_id=58

Faculty of Physics

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

I. Winter semester

Length	Session (regular)	Holidays
Full-time studies **01.10.2024 - 17.01.2025** 15 weeks	20.01.2025 - 14.02.2025	01.11.2024 - Official Holiday 25.11.2024 - Sofia University Patron's Day 08.12.2024 - Bulgarian Student's Day 24.12.2024 - 02.01.2025 Christmas and New Year Holidays
Part-time studies Face-to-face sessions **02.09.2024 - 27.09.2024**	04.11.2023 - 29.11.2024 02.01.2025 - 17.01.2025	

II. Summer semester

Length	Session (regular)	Holidays
Full-time studies **17.02.2025 - 06.06.2025** 15 weeks	09.06.2025 - 04.07.2025	03.03.2025, 01.05.2025, 06.05.2025 - Officials Holidays 17.04. - 22.04.2025 - Easter holidays 24.05.2025 - Official Holiday
Part-time studies Face-to-face sessions **20.01.2025 - 14.02.2025**	17.03.2025 - 04.04.2025 16.06.2025 - 04.07.2025	
	Session (supplementary)	
	25.08.2025 - 07.09.2025	

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The detailed info for all the courses is here:

https://erasmus.uni-sofia.bg/site/income/courses/course-list-2024-2025/

https://erasmus.uni-sofia.bg/site/income/wp-content/uploads/sites/3/2024/10/13.Faculty_of_Physics__List_of_courses_Erasmus_2024_2025-Updated-14.102024.pdf

Course code	Course title (in English, in Italian)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester (winter/ summer)	ECTS	Workload (hours)			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
PH A008	Object-Oriented Programming	English	BS	summer	5	45		30	Assoc. prof. Borislav Pavlov, PhD	Borislav.Pavlov@cern.ch

Short description of the course (in the language of instruction):

In the last decade the Object-Oriented Programming paradigm and C++ programming language dominated in the scientific software in the field of Particle and Nuclear Physics and especially for analyzing data from LHC accelerator at CERN. C++ is widely used programming language also for wide range of applications in numerous other fields. In this course, the students learn a language that has many practical uses in the real world. The fundamental concepts of the object oriented paradigm are introduced and object oriented programming is stressed in place of traditional structured programming. The course is practically oriented and lectures are well covered with practical exercises.

Requirements for enrollment: NO

If any, please describe the specific requirements:

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Erasmus
BSc courses
taught in english

BSc programs

Astrophysics, Meteorology and Geophysics

Quantum, Nuclear and Particle Physics

BSc program in English

Medical Physics

Communications and Physical Electronics

Physics

Engineering Physics

Nuclear Engineering

Quantum, Nuclear and Particle Physics

- Ordinary Differential Equations
- Partial differential equations
- Introduction to Quantum Field Theory
- Theoretical Mechanics
- Electrodynamics
- Basic Quantum Mechanics
- Calculus of Complex Functions
- Object-Oriented Programming
- Electricity and Magnetism
- Atomic Physics and Interaction of Radiation with Matter
- Laboratory exercises in atomic physics and interaction of ionizing radiation with matter.

- Nuclear electronics
- Nuclear Physics
- Laboratory Exercises in nuclear physics
- Particle Physics
- Experimental Nuclear Physics
- Programming in Unix environment
- Nuclear symmetries
- Introduction to the theory of elementary particles
- Nuclear structure
- Basics of Electronics
- Laboratory exercises in Basics of Electronics
- Thermodynamics and Statistical Physics

- Physics of the atmosphere 1
- Synoptic Meteorology
- Physics of Climate
- Seismology
- Seismological Practice
- Geophysical Practice

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Communications and Physical Electronics

- Antenna systems and technology
- Gas discharges and their technological applications

Engineering Physics

- Classical Mechanics

Nuclear Engineering

- Nuclear Astrophysics

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Erasmus
MSc courses
taught in english

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Nuclear and Particle Physics

- Environmental Radioactivity and Radioecology
- Standard model of electroweak and strong interactions

Medical Physics

- Pathology of Biomembranes

Meteorology

- Boundary layer and interaction processes (atmosphere-ocean-land)

SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Geophysics

- Earth's Thermal field
- Geodynamics and tectonics
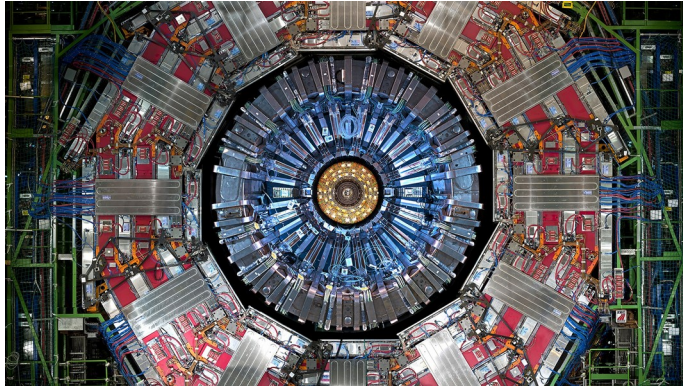- Inversion methods in geophysics

Physics of the Earth, the Atmosphere and the Ocean,

- Natural Disasters II
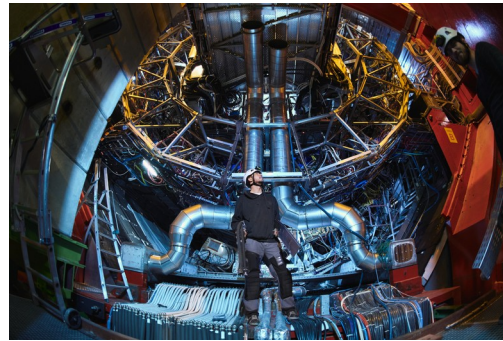- Weather prediction and presentation
- Seismic hazard and risk

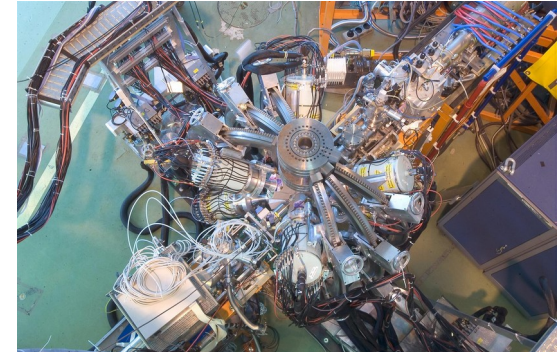SOFIA UNIVERSITY ST. KLIMENT OHRIDSKI

Erasmus PhD

Scientific collaborations with CERN

CMS

ALICE

ISOLDE

NA61/SHINE

SND