



DSS Summer Maths 2016

Uzt. 04 - Uzt. 15 2016

Kod. 360-16

Mod.:

Aurrez aurrekoa

Edizioa

2016

Jarduera mota

Uda Ikastaroa

Data

Uzt. 04 - Uzt. 15 2016

Kokalekua

Carlos Santamaría Zentroa

Hizkuntzak

Ingelesa

Antolakuntza Batzordea



Azalpena

This course organised by *Matematika-txokoa* is for students aged 15-18 with the aim to promote science via the mathematics in them.

It is aimed at students interested in science in general; not only in mathematics but also in physics, biology, chemistry, engineering... You will all be able to enjoy discovering new concepts. If you weren't aware that mathematics is hiding in every science, this is a great opportunity to discover these connections and to learn about plenty of interesting applications: encryption, molecular biology, electrical engineering, nanotechnology...

It will last 10 days, 4 hours per day in a seminar/workshop format as well as exploring with some experiments.

Ikastaroaren laguntzaile espezifikoak



ENERGIA-OLATUAK / OLAS DE ENERGÍA
DONOSTIA / SAN SEBASTIÁN 2016
DSS2016.EU



Programa

2016-07-04

09:00 - 13:45 Mathematical writing and reasoning.

2016-07-05

09:00 - 13:45 Complex numbers in electrical engineering, electromagnetism and fluid dynamics.

2016-07-06

09:00 - 13:45 Group theory: concept of a group, properties and examples. Permutations and computations. Dihedral and symmetric groups.

2016-07-07

09:00 - 13:45 Group theory: permutations in Rubik's cube and molecular symmetries to foresee properties of molecules.

2016-07-08

09:00 - 13:45 Number theory: modular arithmetic, cyclic groups and diophantine equations.

2016-07-11

09:00 - 13:45 Number theory: Fermat's little theorem, Euler's theorem and Euler's last theorem-Andrew Wiles. RSA encryption method. Is purchasing online safe?

2016-07-12

09:00 - 13:45 Topology: metric spaces, examples with different metrics, topological spaces and properties.

2016-07-13

09:00 - 13:45

Topology: homeomorphisms-can you differentiate between a doughnut and a coffee cup? Topology is useful to understand the DNA structure!

2016-07-14

09:00 - 13:45

Mathematical universe-from the atoms to the galaxies: physics basics (forces, work, energy....) We're made of atoms! The Atomic Molecular Theory.

2016-07-15

09:00 - 13:45

Mathematical universe-from the atoms to the galaxies: searching for quantum computers, what is a quantum? Into the nano-universe: physics basics at nano-scale. The universe in a nutshell: relativity nowadays, Einstein and GPS.

Zuzendaritza



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