



INSTITUTO
SUPERIOR
TÉCNICO

58618

UMLH

Núcleo de
Graduação

Maria Cristina de Oliveira Santos Matos David Ezra,
Coordinator of NÚCLEO DE GRADUAÇÃO of INSTITUTO SUPERIOR TÉCNICO,
UNIVERSIDADE DE LISBOA

CERTIFIES that,

JORGE MIGUEL DUARTE SABINO -----

with Identity Card Num. 13440429 -----

birth originally from Portimão -----

and PORTUGUESE nationality -----

concluded the 1st Cycle, of the degree in INTEGRATED MASTER DEGREE (MSC) in PHYSICS ENGINEERING, on the 16 July 2013, with the final grade of 13 (thirteen) values having received a total of 180.0 ECTS, has the right to the degree of Graduate in Engineering Sciences - Physics Engineering, having been issued the registry diploma number 21392/ISTCL/13 with approval on the following curricular units:

LINEAR ALGEBRA -----	6.0 ECTS, with 10 (ten)	values
INITIATION TO PHYSICS -----	4.5 ECTS, with 14 (fourteen)	values
BASIC EXPERIMENTAL PHYSICS -	7.5 ECTS, with 15 (fifteen)	values
PROGRAMMING -----	6.0 ECTS, with 18 (eighteen)	values
DIFFERENTIAL AND INTEGRAL CALCULUS I -----		
-----	6.0 ECTS, with 11 (eleven)	values
TECHNOLOGICAL WORKSHOP -----	4.5 ECTS, with 16 (sixteen)	values
CHEMISTRY -----	6.0 ECTS, with 13 (thirteen)	values
DIGITAL SYSTEMS -----	6.0 ECTS, with 11 (eleven)	values
DIFFERENTIAL AND INTEGRAL CALCULUS II -----		
-----	7.5 ECTS, with 11 (eleven)	values
COMPUTATIONAL PHYSICS -----	6.0 ECTS, with 18 (eighteen)	values

Student No. 58618

Register No. 22289/2013

Conferred by: _____

Stationery..	0.24 Eur
Cert. Amount	70.00 Eur
Urgency.....	0.00 Eur
Total	70.24 Eur

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OSCILATIONS AND WAVES LABORATORY -----
----- 6.0 ECTS, with 14 (fourteen) values
THERMODYNAMICS AND THE STRUCTURE OF MATTER -----
----- 6.0 ECTS, with 15 (fifteen) values
COMPLEX ANALYSIS AND DIFFERENTIAL EQUATIONS -----
----- 7.5 ECTS, with 10 (ten) values
ELECTROMAGNETISM AND THERMODYNAMICS LABORATORY -----
----- 7.5 ECTS, with 14 (fourteen) values
MECHANICS AND WAVES ----- 6.0 ECTS, with 10 (ten) values
ATOMIC PHYSICS, OPTICS AND RADIATION LABORATORY -----
----- 6.0 ECTS, with 14 (fourteen) values
COMPUTATIONAL MATHEMATICS -- 4.5 ECTS, with 11 (eleven) values
MANAGEMENT ----- 4.5 ECTS, with 14 (fourteen) values
ADVANCED EXPERIMENTAL PHYSICS LABORATORY -----
----- 6.0 ECTS, with 12 (twelve) values
CLASSICAL ELECTRODYNAMICS -- 6.0 ECTS, with 10 (ten) values
TECHNIQUES OF MATHEMATICAL PHYSICS -----
----- 6.0 ECTS, with 15 (fifteen) values
ELECTROMAGNETISM AND OPTICS -----
----- 6.0 ECTS, with 11 (eleven) values
ELECTRONICS ----- 6.0 ECTS, with 14 (fourteen) values
STATISTICAL PHYSICS ----- 6.0 ECTS, with 13 (thirteen) values
PROBABILISTIC AND STATISTICS -----
----- 6.0 ECTS, with 17 (seventeen) values
CIRCUITS THEORY AND ELECTRONIC FUNDAMENTALS -----
----- 6.0 ECTS, with 14 (fourteen) values
MICROPROCESSORS ----- 6.0 ECTS, with 13 (thirteen) values
ELECTRONIC INSTRUMENTATION - 6.0 ECTS, with 11 (eleven) values
QUANTUM MECHANICS I ----- 6.0 ECTS, with 12 (twelve) values
SOLID STATE PHYSICS ----- 6.0 ECTS, with 10 (ten) values

Maria Cristina de Oliveira Santos Matos David Ezra

Maria Cristina de Oliveira Santos Matos David Ezra
Coordinator of Núcleo de Graduação

Instituto Superior Técnico, Lisboa, on the 28 of October, 2013

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