



INSTITUTO
SUPERIOR
TÉCNICO

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	Page 1 of 2
Total	70.24 Eur	

OSCILLATIONS 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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[Signature]

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