



ACADEMIC TRANSCRIPT

Ms. Natalia Castellana Vila, Attestor of Faculty of Science of the Universitat Autònoma de Barcelona

HEREBY CERTIFIES: that the following information corresponds to the documents held on-file in this office,

STUDENT DETAILS
Name and surnames: Erik Recio Armengol
National ID/NIE/Passport: 78102051P
Place of birth: Barcelona
Date of birth: 8 March 1993

INFORMATION ON ACCESS TO UNIVERSITY STUDY
Access to current degree: Passing the Spanish university entrance examinations (PAAU) realised at Universitat de Lleida
University-Access Examination Result: 11,278
Session: June of 2011

INFORMATION ON DEGREE STUDIES
Centre: Faculty of Science
Studies: Bachelor's Degree in Physics
Payment Issuance Degree:
Weighted Average Grade: Scale 0-10
8,51 average grade calculated on a scale of 0-10 in accordance with RD 1125/2003, Sept. 5 (GC 19/03/2015)

SUBJECTS DETAILED IN THIS ACADEMIC TRANSCRIPT

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100092 Current Scientific Matters 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Current Scientific Matters. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 8,7 Good	
100137 Mechanics and relativity 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Mechanics and relativity. Taken at the: Universitat Autònoma de Barcelona	2011/12	F 10,0 Excellent with honours	
100138 Electricity and magnetism 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Electricity and magnetism. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 9,1 Very Good	
100139 Structure of matter and thermodynamics 6,0 credits (Basic studies,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Structure of matter and thermodynamics. Taken at the: Universitat Autònoma de Barcelona	2011/12	F 9,9 Excellent with honours	
100140 Waves and optics 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Waves and optics. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 9,0 Very Good	
100141 Calculus I 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects: - Calculus I. Taken at the: Universitat Autònoma de Barcelona	2011/12	F 9,6 Excellent with honours	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100142 Calculus II 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2011/12	J 10,0 Excellent with honours	
- Calculus II. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 10,0 Excellent with honours	
100143 Algebra I 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2011/12	F 9,8 Excellent with honours	
- Algebra I. Taken at the: Universitat Autònoma de Barcelona	2011/12	F 9,8 Excellent with honours	
100144 Algebra II 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2011/12	J 10,0 Excellent with honours	
- Algebra II. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 10,0 Excellent with honours	
100145 Introduction to experimental physics 6,0 credits (Compulsory subject,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2011/12	J 8,5 Good	
- Introduction to experimental physics. Taken at the: Universitat Autònoma de Barcelona	2011/12	J 8,5 Good	
100147 Chemistry for physicists 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 7,9 Good	
- Chemistry for physicists. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 7,9 Good	
100148 Classical mechanics 10,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 9,2 Excellent with honours	
- Classical mechanics. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 9,2 Excellent with honours	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100149 Electromagnetism 10,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 9,7 Excellent with honours	
- Electromagnetism. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 9,7 Excellent with honours	
100150 Laboratory mechanics 5,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	F 9,2 Very Good	
- Laboratory mechanics. Taken at the: Universitat Autònoma de Barcelona	2012/13	F 9,2 Very Good	
100151 Electromagnetism laboratory 5,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 9,0 Very Good	
- Electromagnetism laboratory. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 9,0 Very Good	
100152 Differential equations 8,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	F 9,0 Excellent with honours	
- Differential equations. Taken at the: Universitat Autònoma de Barcelona	2012/13	F 9,0 Excellent with honours	
100153 Calculation of Variables 8,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	F 9,7 Excellent with honours	
- Calculation of Variables. Taken at the: Universitat Autònoma de Barcelona	2012/13	F 9,7 Excellent with honours	
103950 Numerical Methods I 3,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 9,5 Excellent with honours	
- Computer methods for physicists. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 9,5 Excellent with honours	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
103951 Numerical Methods II 5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2012/13	J 9,5 Excellent with honours	
- Computer methods for physicists. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 9,5 Excellent with honours	
100154 Quantum physics I 6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	F 8,2 Good	
- Quantum physics I. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 8,2 Good	
100155 Quantum physics II 6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	J 6,6 Pass	
- Quantum physics II. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 6,6 Pass	
100156 Optics 9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	J 8,4 Good	
- Optics. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 8,4 Good	
100157 Thermodynamics and statistical mechanics 9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	F 8,0 Good	
- Thermodynamics and statistical mechanics. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 8,0 Good	
100158 Thermodynamics laboratory 5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	F 8,5 Good	
- Thermodynamics laboratory. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 8,5 Good	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100159 Optics laboratory 5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	J 9,0 Very Good	
- Optics laboratory. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 9,0 Very Good	
100160 Complementary Mathematics 5,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	F 5,5 Pass	
- Complementary Mathematics. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 5,5 Pass	
100162 Introduction to cosmology 5,0 credits (Optional subject,Third Year) Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	J 5,0 Pass	
- Introduction to cosmology. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 5,0 Pass	
100167 Advanced mathematical methods 5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	F 9,3 Very Good	
- Advanced mathematical methods. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 9,3 Very Good	
103948 Introduction to Materials Science 5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2013/14	J 8,0 Good	
- Introduction to materials physics. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 8,0 Good	
100171 Quantum Mechanics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2014/15	F 7,5 Good	
- Quantum Mechanics. Taken at the: Universitat Autònoma de Barcelona	2014/15	F 7,5 Good	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100174 Statistical physics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2014/15 2015/16	F 2,9 Fail F 7,6 Good	
- Statistical physics. Taken at the: Universitat Autònoma de Barcelona	2015/16	F 7,6 Good	
100182 Quantum information 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2014/15 2015/16	J Absent J 6,3 Pass	
- Quantum information. Taken at the: Universitat Autònoma de Barcelona	2015/16	J 6,3 Pass	
100170 History of physics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16	J 7,1 Good	
- History of physics. Taken at the: Universitat Autònoma de Barcelona	2015/16	J 7,1 Good	
100173 Electrodynamics and synchrotron radiation 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16	F 7,5 Good	
- Electrodynamics and synchrotron radiation. Taken at the: Universitat Autònoma de Barcelona	2015/16	F 7,5 Good	
100178 Advanced quantum mechanics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16	J 5,6 Pass	
- Advanced quantum mechanics. Taken at the: Universitat Autònoma de Barcelona	2015/16	J 5,6 Pass	
100180 Quantum optics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16	F 8,4 Good	
- Quantum optics. Taken at the: Universitat Autònoma de Barcelona	2015/16	F 8,4 Good	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
103947 High Energy Physics 6,0 credits (Optional subject, Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16	J 9,1 Very Good	
- High Energy Physics. Taken at the: Universitat Autònoma de Barcelona	2015/16	J 9,1 Very Good	
104051 Degree Project: Micromagnetic simulations of magnetic nanostructures in confined geometries 12,0 credits (Final project, Fourth Year) Branch of knowledge: Sciences Becomes effective on 27/10/2016. Adapted on the basis of the following subjects:	2015/16 2016/17	J Not assessable F 8,7 Good	
- Degree project. Taken at the: Universitat Autònoma de Barcelona	2015/16	J Not assessable	

SUMMARY OF ACADEMIC RECORD

Total Subjects Passed: 38

Total Credits Attained: 240

Examination sessions are abbreviated as follows: **F**: February, **J**: June.

The total number of subjects detailed on this transcript is 38, from a total of 240 credits, as detailed below:

Credits Passed by Type	Passed	Remaining	Required
Optional subject	63,0	0	63,0
Compulsory subject	105,0	0	105,0
Basic studies	60,0	0	60,0
Final project	12,0	0	12,0
Academic Objective	Successfully Completed		
- Graduate in Physics		✓	
- Specialisation in Fundamental Physics		✓	

ADDITIONAL INFORMATION: UNIVERSITAT AUTÒNOMA DE BARCELONA

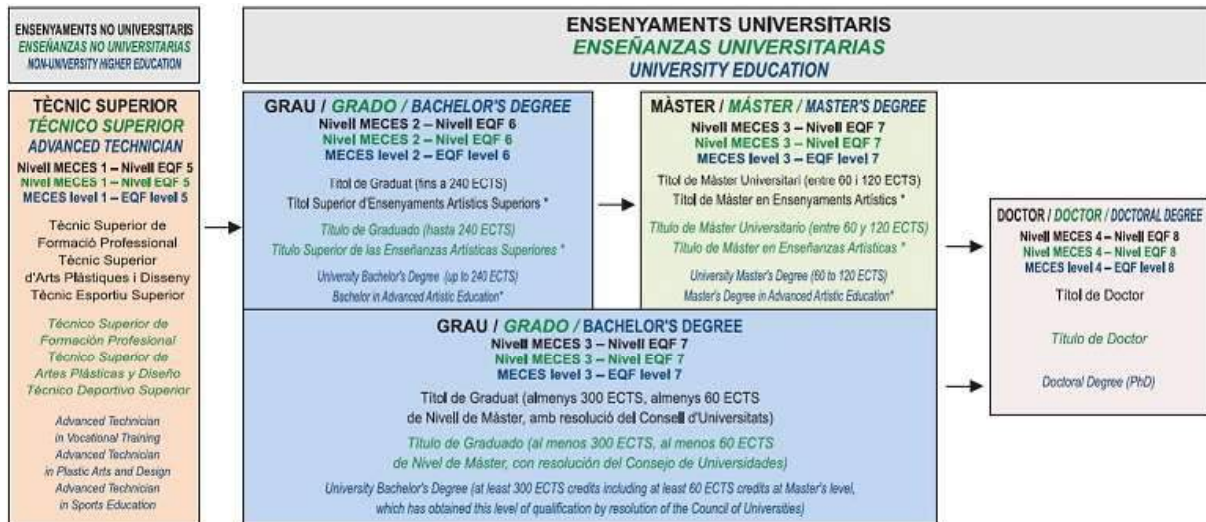
The Universitat Autònoma de Barcelona is a Catalan public university with three campus sites in the metropolitan region of Barcelona.

The university is regulated by the Spanish Universities Act; the Catalan Universities Act and the developmental regulations of these laws as established by Spain and the Government of Catalonia, through their respective powers. It is additionally regulated by its own Decree (Law 5/1968 of 6 June 1968) and its Statutes approved by Decree 237/2003 of 8 October 2003 (Article 1). The University is registered with code 22 in the Spanish Registry of Universities, Centres and Degrees (RUCT).

ADDITIONAL INFORMATION: GRADING SYSTEM

Students academic performance is evaluated on a numerical scale from 0 to 10, in which 5 is the minimum grade for a pass. Correspondence with the qualitative grades approved by the UAB is the following:

SRD 1125/2003 Scale 0-10	SRD 1044/2003 Scale 0-4	ECTS Scale
Absent/Not assessable	Absent/Not assessable	-
Fail: 0.0 - 4.9	Fail: 0	F
C: 5.0 - 6.9	C: 1	C
B: 7.0 - 8.9	B: 2	B
A: 9.0 - 10	A: 3	A
A with Honours: 9.0-10	A with Honours: 4	A+



* Els Ensenyaments Artístics Superiors són Ensenyaments no Universitaris dins del Sistema Educatiu espanyol d'Ensenyament Superior

* Las Enseñanzas Artísticas Superiores son Enseñanzas no Universitarias dentro del Sistema Educativo español de Enseñanza Superior

* Advanced Artistic Education is non-university education within the Spanish Higher Education System

And thereby, I sign this certificate at the request of the interested party.

Bellaterra, 24 July 2018



Document signed electronically.

This certificate, which contains 10 pages is valid for 3 years from date of issuance.