



ACADEMIC TRANSCRIPT

Mr. Lluís Casas Duocastella, 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: Bernat Ferrer Mundó

National ID/NIE/Passport: 46151680H

Place of birth: Terrassa

Date of birth: 3 February 1994

INFORMATION ON ACCESS TO UNIVERSITY STUDY

Access to current degree: Passing the Spanish university entrance examinations (PAAU) realised at Universitat Autònoma de Barcelona

University-Access Examination Result: 9,354

Session: June of 2012

INFORMATION ON DEGREE STUDIES

Centre: Faculty of Science

Studies: Bachelor's Degree in Physics

Payment Issuance Degree: 21 September 2017

Weighted Average Grade: Scale 0-10

6,80 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 Science topics today 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | J 9,0 Very Good | |
| - Science topics today. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | J 9,0 Very Good | |
| 100137 Mechanics and relativity 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | F 6,2 Pass | |
| - Mechanics and relativity. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | F 6,2 Pass | |
| 100138 Electricity and magnetism 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | J 6,4 Pass | |
| - Electricity and magnetism. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | J 6,4 Pass | |
| 100139 Structure of matter and thermodynamics 6,0 credits (Basic studies,Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | F 8,0 Good | |
| - Structure of matter and thermodynamics. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | F 8,0 Good | |
| 100140 Waves and optics 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | J 8,0 Good | |
| - Waves and optics. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | J 8,0 Good | |
| 100141 Calculus I 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | F 7,3 Good | |
| - Calculus I. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | F 7,3 Good | |

| 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 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | J 7,3 Good | |
| - Calculus II. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | J 7,3 Good | |
| 100143 Algebra I 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | F 6,5 Pass | |
| - Algebra I. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | F 6,5 Pass | |
| 100144 Algebra II 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 2013/14 | J 4,2 Fail J 6,6 Pass | |
| - Algebra II. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 6,6 Pass | |
| 100145 Introduction to experimental physics 6,0 credits (Compulsory subject,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2012/13 | J 7,0 Good | |
| - Introduction to experimental physics. Taken at the: Universitat Autònoma de Barcelona | 2012/13 | J 7,0 Good | |
| 100147 Chemistry for physicists 6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | J 7,0 Good | |
| - Chemistry for physicists. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 7,0 Good | |
| 100148 Classical mechanics 10,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | J 5,0 Pass | |
| - Classical mechanics. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 5,0 Pass | |

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| 100149 Electromagnetism 10,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | J 6,4 Pass | |
| - Electromagnetism. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 6,4 Pass | |
| 100150 Laboratory mechanics 5,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | F 8,4 Good | |
| - Laboratory mechanics. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | F 8,4 Good | |
| 100151 Electromagnetism laboratory 5,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | J 8,7 Good | |
| - Electromagnetism laboratory. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 8,7 Good | |
| 100152 Differential equations 8,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | F 5,5 Pass | |
| - Differential equations. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | F 5,5 Pass | |
| 100153 Calculation of variables 8,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | F 7,3 Good | |
| - Calculation of variables. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | F 7,3 Good | |
| 103950 Numerical Methods I 3,0 credits (Compulsory subject, Second Year) Branch of knowledge: Sciences Becomes effective on 23/07/2014. Adapted on the basis of the following subjects: | 2013/14 | J 8,1 Good | |
| - Computer methods for physicists. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 8,1 Good | |

| 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 23/07/2014. Adapted on the basis of the following subjects: - Computer methods for physicists. Taken at the: Universitat Autònoma de Barcelona | 2013/14 | J 8,1 Good | |
| 100154 Quantum physics I 6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 2015/16 | F 4,8 Fail F 6,6 Pass | |
| 100155 Quantum physics II 6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 | J 5,5 Pass | |
| 100156 Optics 9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 | J 5,0 Pass | |
| 100157 Thermodynamics and statistical mechanics 9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 | J 6,1 Pass | |
| 100158 Thermodynamics laboratory 5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 | F 8,1 Good | |
| 100159 Optics laboratory 5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences | 2014/15 | J 7,6 Good | |
| 100160 Mathematics accessories 5,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences | 2014/15 | J 5,8 Pass | |
| 100167 Advanced mathematical methods 5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences | 2014/15 | F 5,2 Pass | |
| 103948 Introduction to Materials Science 5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences Taught in English | 2014/15 | J 7,4 Good | |
| 103949 Introduction to Nuclear and Particle Physics 5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences | 2014/15 | J 5,3 Pass | |

| Subject (credits / type) | Academic year | Conv. 1 | Conv. 2 |
|---|---------------|------------------|---------|
| 100171 Quantum Mechanics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Taught in English | 2015/16 | F 5,0 Pass | |
| 100172 Mechanics theory and non-linear systems 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Taught in English | 2015/16 | F 7,1 Good | |
| 100173 Electrodynamics and synchrotron radiation 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Dropped. | 2015/16 | F Not assessable | |
| 100178 Advanced quantum mechanics 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Taught in English | 2015/16 | J 6,3 Pass | |
| 100182 Quantum information 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences | 2015/16 | J 5,1 Pass | |
| 103946 General Relativity and Cosmology 6,0 credits (Optional subject,Fourth Year) Branch of knowledge: Sciences Taught in English | 2015/16 | J 5,0 Pass | |
| 104051 Degree Project 12,0 credits (Final project,Fourth Year) Branch of knowledge: Sciences Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN. | 2016/17 | J 7,8 Good | |
| 150301 Mathematical and foundational aspects of Quantum mechanics 3,0 credits (Optional subject,Fourth Year) Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN. | 2016/17 | F 9,3 Very Good | |
| 150602 Essentials of Advanced astrophysics 6,0 credits (Optional subject,Fourth Year) Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN. | 2016/17 | F 9,3 Very Good | |
| 150603 Atomic and molecular physics for astrophysicists 6,0 credits (Optional subject,Fourth Year) Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN. | 2016/17 | F 7,3 Good | |

| Subject (credits / type) | Academic year | Conv. 1 | Conv. 2 |
|--|---------------|------------|---------|
| 150901 Computational Methods in Astrophysics - Numerisches Praktikum 9,0 credits (Optional subject, Fourth Year) Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN. | 2016/17 | F 7,5 Good | |

SUMMARY OF ACADEMIC RECORD

Total Subjects Passed: 39

Total Credits Attained: 246

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

The total number of subjects detailed on this transcript is 39, from a total of 246 credits, as detailed below:

| Credits Passed by Type | Passed | Remaining | Required |
|------------------------|------------------------|-----------|----------|
| Optional subject | 69,0 | 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 | ✓ | | |

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+ |

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

Bellaterra, 29 September 2017




Document signed electronically.

This certificate, which contains 8 pages is valid for 3 years from date of issuance.