Bernat Ferrer Mundó \$\pi\ +4915770251085\$ \simes bernatferrer@gmail.com

5 de septiembre de 2019

Senacor

Sehr geehrte Damen und Herren,

Ich bin ein 25 jähriger Physiker mit Interesse an verschiedenen Fachgebieten. Zur Zeit arbeite ich für M-net als Data Analyst und studiere Astrophysik an der LMU. In meiner freien Zeit versuche ich einerseits, mein Deutschniveau zu steigern und anderseits, ein Computerspiel zu erzeugen. Aufgrund meiner Leidenschaft für die Wissenschaft und Software Entwicklung, denke ich, dass ich für diese Stelle geeignet bin. Was die Arbeit betrifft, bin ich ein offener Mensch und bin immer bereit mit anderen Mitarbeitern zu kooperieren. Außerdem, versuche ich immer die Aufgaben bis zum Ende zur bringen.

Ich warte auf eine Antwort und würde mich darauf freuen, das Team kennen zu lernen. Meine Schulzeugnis werde ich ihnen schnellstmöglich schicken

Mit herzlichen Grüßen,

Bernat.



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	2012/13	J 9,0 Very Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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	2012/13	F 6,2 Pass	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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	2012/13	J 6,4 Pass	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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	2012/13	F 8,0 Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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	2012/13	J 8,0 Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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	2012/13	F 7,3 Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- 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)	2012/13	J 7,3 Good	
Branch of knowledge: Sciences			
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Calculus II. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 7,3 Good	
00143 Algebra I	2012/13	F 6,5 Pass	
5,0 credits (Basic studies,First Year) Branch of knowledge: Sciences			
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Algebra I. Taken at the: Universitat Autònoma de Barcelona	2012/13	F 6,5 Pass	
00144 Algebra II	2012/13	J 4,2 Fail	
6,0 credits (Basic studies,First Year) Branch of knowledge: Sciences	2013/14	J 6,6 Pass	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Algebra II. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 6,6 Pass	
100145 Introduction to experimental physics	2012/13	J 7,0 Good	
5,0 credits (Compulsory subject,First Year) Branch of knowledge: Sciences			
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Introduction to experimental physics. Taken at the: Universitat Autònoma de Barcelona	2012/13	J 7,0 Good	
100147 Chemistry for physicists	2013/14	J 7,0 Good	
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:			
- Chemistry for physicists. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 7,0 Good	
00148 Classical mechanics	2013/14	J 5,0 Pass	
0,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences			
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Classical mechanics. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 5,0 Pass	

Subject (credits / type)	Academic year	Conv. 1	Conv. 2
100149 Electromagnetism 10,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences	2013/14	J 6,4 Pass	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Electromagnetism. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 6,4 Pass	
100150 Laboratory mechanics	2013/14	F 8,4 Good	
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:			
 - 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	2013/14	J 8,7 Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Electromagnetism laboratory. Taken at the: Universitat Autònoma de Barcelona	2013/14	J 8,7 Good	
100152 Differential equations	2013/14	F 5,5 Pass	
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:			
- 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	2013/14	F 7,3 Good	
Becomes effective on 23/07/2014. Adapted on the basis of the following subjects:			
- Calculation of variables. Taken at the: Universitat Autònoma de Barcelona	2013/14	F 7,3 Good	
103950 Numerical Methods I	2013/14	J 8,1 Good	
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:			
 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	2013/14	J 8,1 Good	
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	2014/15	F 4,8 Fail	
6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences	2015/16	F 6,6 Pass	
100155 Quantum physics II	2014/15	J 5,5 Pass	
6,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences			
100156 Optics	2014/15	J 5,0 Pass	
9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences			
100157 Thermodynamics and statistical mechanics	2014/15	J 6,1 Pass	
9,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences			
100158 Thermodynamics laboratory	2014/15	F 8,1 Good	
5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences			
100159 Optics laboratory	2014/15	J 7,6 Good	
5,0 credits (Compulsory subject,Third Year) Branch of knowledge: Sciences			
100160 Mathematics accessories	2014/15	J 5,8 Pass	
5,0 credits (Compulsory subject,Second Year) Branch of knowledge: Sciences			
100167 Advanced mathematical methods	2014/15	F 5,2 Pass	
5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences			
103948 Introduction to Materials Science	2014/15	J 7,4 Good	
5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences			
Taught in English			
103949 Introduction to Nuclear and Particle Physics	2014/15	J 5,3 Pass	
5,0 credits (Optional subject,Third Year) Branch of knowledge: Sciences			

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 synchroton 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 - Numersiches Praktikum 9,0 credits (Optional subject,Fourth Year)	2016/17	F 7,5 Good	
Taught in Programa Internacional leading to an academic degree of LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN.			

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	l
- 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	С
B: 7.0 - 8.9	B: 2	В
A: 9.0 - 10	A: 3	Α
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.



LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ASTROPHYSICS



Munich, 25 July 2019

Ferrer, Bernat

born 03 February 1994 in Terrassa

Student ID: 11609987

Program: Astrophysics

Degree: Master of Science (M.Sc.)

Transcript of Records in accordance with the examination regulations for the Master program in Astrophysics at Ludwig-Maximilians-Universität München of 30 September 2009, as amended

List of Cre	dit Courses	Term	Grade	ECTS
10100	Introduction to advanced Astrophysics		1.30	9
10101	Essentials of Advanced Astrophysics (Weller)	WS 16/17	1.30	9
10200	Working techniques of advanced Astrophysics		2.52	15
10201	Astrophysical Lab (Seitz)	WS 17/18	2.4	9
10202	Atomic- and Molecular Physics for Astrophysicists (Butler)	WS 16/17	2.7	6
20100	Advanced studies in Physics		1.30	6
20101	Seminar: Physics of the Emergence of Live (Braun)	WS 18/19	1.3	3
20102	Seminar: Foundations of Quantum Theory (Helling)	WS 16/17	1.3	3
20200	Advanced Astrophysics I		2.43	18
20201	Final Stages of Stellar Evolution (Becker)	WS 17/18	3.0	6
20202	The Formation and Evolution of Planets in protoplanetary Discs (Birnstiel)	WS 17/18	2.6	6
20203	Formation and Evolution of cosmic Structures (Sanchez)	SS 2017	1.7	6
20300	Experimental Astrophysics		2.45	12
20301	Numerical Lab with Exercises (Puls/Pauldrach)	SS 2017	2.6	9
20301	Astrophysical Advanced Seminars: Planetary Factories: Observational Constraints on protoplanetary Discs (Pauldrach)	WS 17/18	2.0	3
20400	Advanced studies		1.30	12
20401	Preparative Colloquium and Tutorial belonging to the field of "theoretical Methods" (Birnstiel)	SS 2019	1.3	12
30300	Final Module		1.30	42
30301	Colloquium and Tutorial "Special Methods and Tools" (Birnstiel)	SS 2019	1.3	9
30301	Research Seminar: "Stars and Planets" (Birnstiel)	SS 2019	1.3	3
30301	Master Thesis: Constraints on gap opening timescales in the HD 163296 protoplanetrary disk (Birnstiel)	SS 2019	1.3	30
	Sum of ECTS Credits			114

End of Transcript

(P)=compulsory module, (WP)=compulsory optional module, BE=passed

Grading scheme

Grades on each piece of work are indicated as: 1 = very good; 2 = good; 3 = satisfactory; 4 = sufficient; 5 = not sufficient. To guarantee a higher degree of differentiation, grades may be decreased or increased by 0.3. Grades of 0.7, 4.3, 4.7 and 5.3 are not possible. The final grade is indicated as: up to and including 1.50 = "very good"; from 1.51 up to and including 2.50 = "good"; from 2.51 up to and including 3.50 = "satisfactory" and from 3.51 up to and including 4.00 = "sufficient".

Marion Fulgieri Examination Office of Physics

PRUFUNGSAMT PHYSIK LUDWIG-MAXIMILIANS-UNIVERSITA* SCHELLINGSTRASSE 4 -80799 MUNCHEN



Befristeter Arbeitsvertrag für Werkstudenten

zwischen der

M-net Telekommunikations GmbH Emmy-Noether-Str. 2, 80992 München nachfolgend M-net genannt

und

Herrn Bernat Ferrer Mundó nachfolgend Arbeitnehmer genannt geboren am 03.02.1994 in Barcelona wohnhaft: Guerickestr. 19, 80805, München

(die Formulierung Arbeitnehmer bzw. Werkstudent gilt gleichermaßen für die männliche als auch die weibliche Form)

§ 1 Beginn, Befristung und Ende des Arbeitsverhältnisses, Probezeit

(1) Das Arbeitsverhältnis beginnt am 03.09.2018. Der Arbeitnehmer tritt als Werkstudent im Bereich Finanz- & Rechnungswesen, in der Abteilung Debitorenbuchhaltung, derzeit am Standort München, ein.

Voraussetzung hierfür ist die Vorlage einer gültigen Immatrikulationsbescheinigung vor Beginn des Arbeitsverhältnisses.

Das Arbeitsverhältnis ist befristet und endet zum 28.02.2019, ohne dass es einer Kündigung bedarf. Liegt das Datum der Exmatrikulation vor dem 28.02.2019, endet das Arbeitsverhältnis automatisch zum Exmatrikulationszeitpunkt, ohne dass es einer Kündigung bedarf.

(2) Der Arbeitnehmer ist verpflichtet, sich spätestens drei Monate vor der Beendigung des Arbeitsverhältnisses persönlich bei der Agentur für Arbeit arbeitsuchend zu melden. Liegen zwischen Vertragsabschluss und dem Ende des Arbeitsverhältnisses weniger als drei Monate, hat die Meldung innerhalb von drei Tagen nach dem Vertragsabschluss zu erfolgen. Er wird darauf hingewiesen, dass sein Anspruch auf Arbeitslosengeld gemindert werden kann, wenn er dieser Verpflichtung nicht nachkommt. Außerdem wird der Arbeitnehmer darauf hingewiesen, dass er bei der Suche nach einem neuen Arbeitsplatz selbst aktiv zu werden hat.

Befr. Werkstudent_Bernat Ferrer Mundó Seite 1 von 10



M-net Telekommunikations GmbH | Frankfurter Ring 158 | 80807 München

Herrn Bernat Ferrer Mundó

im Hause Interne Revision Standort München Datum: 05.02.2019 Personalbetreuung

Ansprechpartner: Cordelia

Zimmermann

E-Mail: cordelia.zimmermann@m-

net.de

Telefon: 089 45200-8474 Telefax: 089 45200-78474

P-Nr. 50872

Verlängerung Ihres befristeten Arbeitsvertrages für Werkstudenten bis 30.09.2019

Sehr geehrter Herr Ferrer Mundó,

wir freuen uns, Ihnen mitteilen zu können, dass wir Ihren befristeten Arbeitsvertrag vom 27.08.2018 bis einschließlich 30.09.2019 verlängern können. Damit endet Ihr Arbeitsvertrag mit Ablauf des 30.09.2019, ohne dass es einer Kündigung bedarf.

Auf Ihren Wunsch hin ruht in der Zeit vom 01.03.2019 bis 31.03.2019 aufgrund des Vorrangs Ihres Studiums der Werkstudentenvertrag mit allen gegenseitigen Rechten und Pflichten.

Alle übrigen Vertragsbestandteile des Arbeitsvertrages vom 27.08.2018 – inkl. aller evtl. Ergänzungen – gelten unverändert fort.

Zum Zeichen Ihres Einverständnisses geben Sie bitte schnellstmöglich die von Ihnen unterschriebene Zweitschrift dieses Schreibens an Frau C. Zimmermann, Bereich Personal & Organisation, Team Personalbetreuung, zurück.

Bei dieser Gelegenheit bedanken wir uns für Ihre bisherigen guten Leistungen und freuen uns auf eine weiterhin gute und erfolgreiche Zusammenarbeit.

Mit freundlichen Grüßen

M-net Telekommunikations GmbH

Nelson Killius

Sprecher der Geschäftsführung

V. Cordelia Zimmermann

Senior Personalreferentin

Einverstanden:

Mitarbeiter

Barat Fairer

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