



Matriculation No. 2005896

Certificate No.  
20233765071/CTIT\_ESA

This is to certify that MIRZAD GOLNAR, born in Amol - Iran - on 04/06/1985, was awarded the Master's Degree in ASTROPHYSICS AND COSMOLOGY (LM-17 - Physics) under Ministerial Decree dated 16th March 2007, at this University on 13/12/2023 with the final grade of 96/110.

Under Ministerial Decree 270/2004, she is in possession of the academic title of Dottoressa magistrale.

The normal duration of this degree course is two years. The course is taught in English.

This is to furthermore certify that the student has taken the following exams in order to graduate:

Course title	Date	Grade	ECTS Credits	SDS	
STRUCTURE OF MATTER	13/07/2021	21/30	6	FIS/03	
STELLAR ASTROPHYSICS	15/07/2021	20/30	6	FIS/05	
ASTROPARTICLE PHYSICS	27/08/2021	18/30	6		
			2	FIS/02	
			2	FIS/01	
			2	FIS/05	
ASTROPHYSICS LABORATORY 1: INFRARED AND OPTICAL INSTRUMENTATION	15/09/2021	23/30	6	FIS/01	
ASTROPHYSICS OF GALAXIES			6	FIS/05	RA (*)
PLANETARY ASTROPHYSICS			6	FIS/05	RA (*)
RADIATIVE PROCESSES IN ASTROPHYSICS			6	FIS/05	RA (*)
ASTROPHYSICS OF THE INTERSTELLAR MEDIUM			6	FIS/05	RA (*)
OBSERVATIONAL ASTROPHYSICS	19/06/2023	26/30	6	FIS/05	
ASTROPHYSICS LABORATORY 2	20/06/2023	25/30	6	FIS/05	
GENERAL RELATIVITY FOR ASTROPHYSICS AND COSMOLOGY	10/07/2023	20/30	6	FIS/02	
MATHEMATICAL AND NUMERICAL METHODS	24/08/2023	30/30	6		
			5	FIS/02	
			1	FIS/02	
FUNDAMENTALS OF ASTROPHYSICS AND COSMOLOGY	22/09/2023	27/30	6	FIS/05	
FINAL EXAMINATION	13/12/2023	Pass	42	PROFIN_S	
		<b>Tot. ECTS Credits</b>	<b>120.00</b>		

Grade point weighted average: 24.385

Grade point average: 24.385



Matriculation No. 2005896

Certificate No.  
20233765071/CTIT\_ESA

#### LEGEND

SDS:	Academic discipline
CA	Validated Activity
RA	Acknowledged activity
RA(*)	Acknowledged activity (international mobility program)

The grades for each exam which has been successfully passed can range from 18 to 30. In case of exceptional performance the grade is 30 cum laude. In some courses, the grade may be expressed instead as 'fail', 'sufficient', 'satisfactory', 'good', 'very good' or 'excellent'. For other courses and activities the positive assessment is not expressed in terms of a grade but simply as 'Pass'. final grade can range from 66 to 110. In case of exceptional performance the grade is 110 cum laude.

(\*) Educational activities recognised and replaced by the following activities completed abroad within the following international mobility program:

international mobility "Erasmus+ SCUOLA DI SCIENZE - Area SCIENZE" at Universidad Autonoma de Madrid - Facultad de Ciencias - 0533 - Physics - RONCHESE Paolo - ciclo 1, 2 (Spain) AY 2021/2022 (01/09/2021 - 22/06/2022):

Course title	Date	Grade	ECTS Credits
Radiative processes in astrophysics	13/07/2022	29/30	6
Interstellar medium	13/07/2022	26/30	6
Galaxy Formation and Evolution	13/07/2022	30/30L	6
Stars and Planets Formation	13/07/2022	22/30	6



جمهوری اسلامی ایران

شماره ۳۳۹۴۰۶

ردیف دفتر ثبت

قوه قضائیه - اداره مترجمین رسمی



*Official translation from Persian*

# SAHAND UNIVERSITY OF TECHNOLOGY

Department General of Graduates Affairs

Transcript of Grades

Date Published : 11.08.2014

Full Name : **Ms. Golnar Mirzad** , daughter of Mohammadesmaeil, ID Card Number 794-Amol, national number 2143009968, born on 04.06.1985.

Student No.: 2143009968

Field of study: Atomic and Molecular Physics

Faculty: Basic Sciences

Program: Master's Degree

Subject	Credit	Grade	Semester
Advanced quantum Mechanics 1	3	15.50	1 <sup>st</sup> 2010-2011
Advanced statistical mechanics 1	3	14	
Mathematics physics 3-complementary	3	14	
Computing physics	2	17	
Sem.taken and passed credits : 11 & 7			
Sem.points: 122.5 Sem.average : 15.31			
Seminar on Master's Degree	2	20	2 <sup>nd</sup> 2010-2011
Advanced quantum mechanics 2	3	14.50	
Electrodynamics 1	4	14.50	
Plasma physics	3	12	
Sem.taken and passed credits : 12 & 12			
Sem.points: 177.5 Sem.average : 14.79			
Master's Degree thesis	6	-	1 <sup>st</sup> 2011-2012
Waves and non-stabilities in plasma	3	17.50	
Special subjects-plasma	3	14	
Sem.taken and passed credits : 12 & 6			
Sem.points: 94.5 Sem.average : 15.75			
Master's Degree thesis -1 <sup>st</sup> extension	6	-	2 <sup>nd</sup> 2011-2012
Master's Degree thesis -1 <sup>st</sup> extension	6	19.50	1 <sup>st</sup> 2012-2013
Sem.taken and passed credits : 6 & 6			
Sem.points: 117 Sem.average : 19.5			

Sem.taken and effective passed credits : 47 & 32

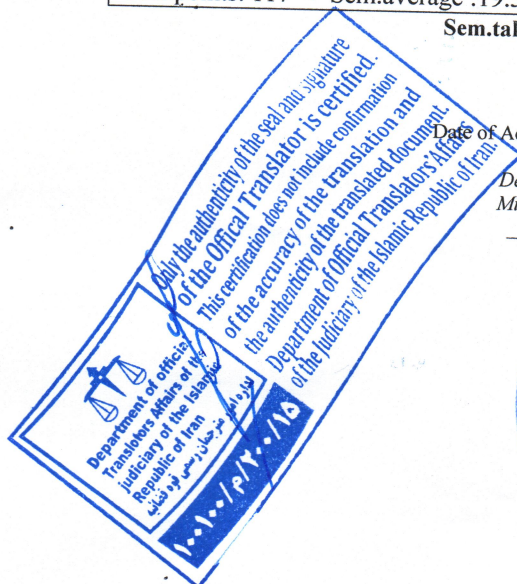
Total effective credits : 32

Total points : 511.5

Overall G.P.A.: 15.98

Date of Admission and graduation: 23.09.2010- 01.11.2012

Department General of Educational Affairs  
Ministry of Science, Research & technology



True translation certified  
23.08.2014 Tehran  
*T. Alghaleb*



سری

شماره ۲۳۹۴۲۳

ردیف دفتر ثبت



جمهوری اسلامی ایران

قوة قضائية - اداره مترجمين رسمی

طالب آل غالب  
مترجم رسمی زبان انگلیسی قوه قضائیه جمهوری اسلامی ایران  
(شماره پروانه ۲۷۳)  
تهران - میدان انقلاب - ابتدای کارگر شمالی پلاک ۱۳۵۹ - تلفن ۴۴۴۰۴۱۹۵ - تلفکس ۴۴۴۸۷۹۰۳  
**Taleb Al Ghalib**  
Official Translator to the Judiciary of IR Iran  
License No.: 273  
No. 1359, Beginning of North Kargar, Enghelab Sq., Tehran, Iran  
Tel.: 00908 21 66404195 Fax : 0098 21 66487903

*Official translation from Persian*  
**PAYAM NOOR UNIVERSITY**  
Transcript of Grades

Date Published : 20.07.2014

Full Name : **Ms. Golnar Mirzad** , daughter of Mohammadesmaeil, ID Card Number 794-Amol, national number 2143009968, born on 04.06.1985.

Student No.: 2143009968

Field of study: Applied Physics

Faculty: Basic Sciences

Department : Physics

Program: Bachelor's Degree

Subject	Credit	Grade	Semester
Pre university mathematics	2	13.25	1 <sup>st</sup> 2003-04
Pre university physics	2	13.5	
Pre university chemistry	2	15.5	
Basic computer and programming	3	10	
Pre university English language	2	18.5	
Persian language	3	11	
Islamic revolution and its roots	2	18	
Sem.taken and passed credits :16 & 8			
Sem.average :12.38			
General mathematics 1	4	8	2 <sup>nd</sup> 2003-04
Basic physics 1	4	14.5	
Basic physics lab. 1	1	15	
General chemistry 1	3	15	
General chemistry lab. 1	1	17	
English language	3	18	
Islamic education 1	2	20	
Ethics and Islamic education	2	18	
Sem.taken and passed credits :20 & 16			
Sem.average :14.85			
General mathematics 1	4	12.25	1 <sup>st</sup> 2004-05
Basic physics 2	4	7.5	
Basic physic slab.2	1	17	
Analytical mechanics 1	3	9.25	
Specialized english language	2	14.5	
Islamic education 2	2	12	
Sem.taken and passed credits :16 & 9			
Sem.average :11.05			
General mathematics 2	3	13.75	2 <sup>nd</sup> 2004-05
Differential equations	3	9	
Basic physics 2	4	12	
Physical education 1	1	15.5	
Sem.taken and passed credits :12 & 9			
Sem.average :12.13			
Differential equations	3	14.5	1 <sup>st</sup> 2005-06
Basic physics 3	4	10	
Analytical mechanics 1	3	7	
Analytical mechanics 2	3	12.5	
Electronics 1	3	13.2	
Sem.taken and passed credits :16 & 13			
Sem.average :11.35			
Basic physics lab. 3	1	15.75	2 <sup>nd</sup> 2005-06





سری خ

شماره ۲۳۹۴۱۲

ردیف دفتر ثبت



جمهوری اسلامی ایران

قوه قضائیه - اداره مترجمین رسمی

Modern physics 1	4	9	
Analytical mechanics 1	3	12	
Mathematics physics 1	3	10.5	
Electronics lab.1	2	19	
Sem.taken and passed credits :13 & 9			
Sem.average :12.1			
Waves	3	11	Summer 06
Modern physics 2	3	Withdrawal	
Sem.taken and passed credits : 6 & 3			
Sem.average :11			
Modern physics 1	3	10.33	1 <sup>st</sup> 2006-07
Modern physics lab . 1	2	19	
Electromagnetics 1	4	8	
Quantum mechanics 1	4	Withdrawal	
Population & family planning	1	11.33	
Analytical history of Pre Islam	2	12.14	
Sem.taken and passed credits :17 & 9			
Sem.average :11.3			
Optics	3	13	2 <sup>nd</sup> 2006-07
Optics lab.	2	18.5	
Electromagnetics 1	4	10.5	
Quantum mechanics 1	4	10	
Electromagnetics 2	4	12.5	
Sem.taken and passed credits :17 & 17			
Sem.average :12.24			
Relativity	3	12	Summer 2007
Modern physics 2	3	9	
Sem.taken and passed credits :6 & 3			
Sem.average :10.5			
Mathematics physics 2	3	13.57	1 <sup>st</sup> 2007-08
Thermodynamics and statistical mechanics	4	11.43	
Electronics 2	3	12	
Solid state physics 1	3	12	
Quantum mechanics 1	4	10	
Sem.taken and passed credits :17 & 13			
Sem.average :12.19			
Solid state physics 2	3	11.43	2 <sup>nd</sup> 2007-08
Project	3	18.5	
Quantum mechanics 2	4	12.4	
General workshop	1	20	
Physical education 2	1	18.17	
Sem.taken and passed credits :12 & 12			
Sem.average :14.8			
History of science	2	11.36	1 <sup>st</sup> 2008-09
Statistical mechanics	3	17.05	
Modern physics 2	3	11.9	
Semi-conductors parts physics 1	3	10.79	
High school books study and criticism	2	10	
Koran interpretation	2	12.67	
Sem.taken and passed credits :15 & 15			
Sem.average :12.49			
Basic astronomy physics	3	9	2 <sup>nd</sup> 2008-09
Sem.taken and passed credits :3 & -			
Sem.average :9			

T. Al Ghaleb



سری خ

شماره ۳۳۹۴۱۳

ردیف دفتر ثبت



جمهوری اسلامی ایران

قوة قضائية - اداره مترجمين رسمی

لالب آل غالب  
ترجم رسمی زبان انگلیسی قوه قضائیه جمهوری اسلامی ایران  
شماره پروانه (TVT)  
پهران-میدان انقلاب-ابتدای کارگر شمالی پلاک ۱۳۵۹ تلفن ۶۶۴۰۴۱۹۵-تلفکس ۶۶۴۸۷۹۰۳  
Taleb Al Ghalet  
Official Translator to the Judiciary of IR Iran  
License No.:273  
No.1359, Beginning of North Kargar, Enghelab Sq., Tehran, Iran  
Tel.: 00908 21 66404195 Fax : 0098 21 66487903

Details of passed credits

Type	Passed credits	Average
General	21	15.12
Basic	33	13.13
Optional	16	12.46
Optional specialized	17	14.69
Obligatory specialized	6	11.72
Common specialized	43	12.29

Total taken and passed credits: 136

Overall G.P.A.: 13.22

Final Graduation Date: 21.07.2009

Average in university: 12.56 Average in Faculty : 12.16 Average in field :12.34

Full Name :**Ms. Golnar Mirzad** , daughter of Mohammadesmaeil, ID Card Number 794-Amol, national number 2143009968, born on 04.06.1985.

Signed & Sealed  
In-charge of Educational Affairs  
Chancellor of University  
Ministry of Science, Research & Technology

True translation certified

23.08.2014 Tehran



*T. Alghalet*

