



Diploma Supplement

Preamble

The purpose of the Diploma Supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It is free from any value judgements, equivalence statements or suggestions about recognition. This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO.

1. Information identifying the holder of the qualification

1.1 Last name(s)

SHOAIB

1.2 Name(s)

MUHAMMAD MUNEEB BIN

1.3 Date of birth(dd/mm/yyyy)

25/01/1998

1.4 Student Identification Number

2040487

2. Information identifying the qualification

2.1 Name of the qualification and (if applicable) title conferred (in the original language)

LAUREA MAGISTRALE IN PHYSICS

Dottore magistrale

2.2 Main field(s) of study for the qualification

Physics - LM-17

ISCED CODE: 0533

2.3 Name (in original language) and status of the awarding institution

Università degli Studi di PADOVA

State University

Head Office: Via 8 Febbraio, 2 PADOVA

2.4 Name and status of institution (if different from 2.3) administering studies (in original language)

Same as in 2.3

2.5 Language(s) of instruction/examination



ENGLISH

3. Information on the level and duration of the qualification

3.1 Level of qualification

2 ° cycle QF-EHEA /7° Level EQF

3.2 Official duration of the programme in credits and/or years

120 CFU/ECTS - Two full time years

3.3 Access requirement(s)

Laurea degree or foreign comparable qualifications recognized as equivalent.

4. Information on the programme completed and results obtained

4.1 Mode of study:

Full time - Traditional teaching
Small group teaching activities, Lectures,

4.2 Programme learning outcomes

This second-level Magistrale degree course offers a variety of options in the main research fields (Matter Physics, Particle Physics, Nuclear Physics) of the Department of Physics and Astronomy. To consolidate basic competences in Physics, one laboratory examination and one Theoretical Physics examination are taken by all students. The other examinations will be in the students' chosen experimental or theoretical research field.

The course will provide students with:

- knowledge of Mathematical Methods for Physics and of numeric methods;
- further study of areas of basic Theoretical Physics: Analytical Mechanics, Quantum Mechanics, Statistical Mechanics;
- further study of the specific elements that make up individual course choices;
- direct experience of laboratory techniques and IT calculation techniques.

Knowledge and understanding. Graduates will have acquired understanding and knowledge of physical phenomena and the various levels at which they are manifest in the world around us (every-day classical Physics, Atomic Physics, Condensed State Physics, Nuclear and Sub-nuclear Physics, etc.). Their understanding is based on reproducible experimental facts and Mathematics and its tools, including numeric techniques. The main theories will be studied in terms of their logical, mathematical structure, experimental proof and modelling of the physical phenomena they describe. Particular attention will be paid to the topics of modern Physics (Quantum Theory, General Relativity, Statistical Mechanics). Graduates will be brought to the cutting edge of research. These skills will be acquired by attending lessons and will be assessed in the examinations.

Applying knowledge and understanding. Graduates will be able to clearly assess orders of magnitude in situations that are physically different but show analogies, and will thus be able to find solutions to new problems. They will be able to carry out experiments in Physics with a good degree of autonomy and they will be able to use the main measurement methods. They will be



able to identify the essential elements of a process/situation, to make a prediction model on the basis of appropriate approximations, and to understand the significance of the results. They will be able to independently make calculations (also using or developing numeric calculation codes for data elaboration), to make simulations of physical processes (also via appropriate modelling) and to control experiments. These skills will be fostered and assessed through exercises and laboratory work.

Making judgements. Graduates will be able to describe, analyse and assess experimental results. They will be able to understand the significance of the results they obtain by using models developed by themselves or by others. Graduates will also have developed the mental flexibility needed to exercise truly independent powers of judgement, essential if physicists are to be able to work in new contexts and find innovative solutions. They will be able to understand ethical aspects of research (integrity) and to understand the social issues of their profession, for example their responsibility to protect public health and the environment. Independent judgement will be stimulated via problem-solving activities (laboratory work and exercises) and will be assessed during examinations.

Communication skills. Graduates will be able to communicate their knowledge and results clearly, in writing and orally, both to peers and laymen. These skills will be fostered on the course via practice in analysis and summary. They will have developed the ability to work in groups, in some cases in an interdisciplinary environment. Graduates will have a good knowledge of written and oral English. One of the aims of the dissertation is the development of communication skills. These will be assessed not only in the written paper itself but also in its oral presentation.

Learning skills. Graduates will be able to study independently and so deal with new areas and new themes. They will be able to consult the scientific literature of Physics and other information sources which are relevant for their work and project developments. They will have a good knowledge of technical/scientific English. Learning skills are fostered and assessed via individual assignments and mentoring schemes.



4.3 Programme details, individual credits gained and grades/marks obtained

Educational activities	CFU/ECTS Credits	Grade	Date	Language of learning	Recognition
TEACHING AND LEARNING PHYSICS	6	27	18/01/2022	English	
PHYSICS LABORATORY	6	30	27/01/2022	English	
NUCLEAR PHYSICS	6	27	22/02/2022	English	
SUBNUCLEAR PHYSICS	6	28	17/06/2022	English	
MULTIMESSENGER ASTROPHYSICS	6	28	15/07/2022	English	
ASTROPARTICLE PHYSICS	6	22	05/09/2022	English	
ADVANCED STATISTICS FOR PHYSICS ANALYSIS	6	27.67	21/03/2023	English	M
FUNDAMENTALS OF ASTROPHYSICS AND COSMOLOGY	6	27.67	21/03/2023	English	M
STATISTICAL MECHANICS	6	18	21/03/2023	English	M
NUCLEAR ASTROPHYSICS	6	30	21/06/2023	English	
INTRODUCTION TO RESEARCH	6	Pass	04/07/2023	English	
THEORETICAL PHYSICS OF THE FUNDAMENTAL INTERACTIONS	12	22	15/07/2024	English	
PREPARATORY ACTIVITIES FOR THE THESIS	1	Pass	20/08/2024	English	
FINAL EXAMINATION	41	Pass	16/09/2024	English	
Total CFU/ECTS credits:	120				

FINAL EXAMINATION

FINAL EXAMINATION

Credits: 41 Date: 16/09/2024

THESIS

Title: Detection prospects for Axion-Like Particles (ALP) Searches with the Southern Wide-Field Gamma-ray Observatory (SWG0)

Supervisor: MICHELE DORO
Subject/discipline: PREPARATORY ACTIVITIES FOR THE THESIS

Legend

CFU

Credits



Legend	
M	CFU/ECTS recognised for international mobility programmes

Educational activities carried out abroad:

RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG GERMANIA from 01/10/2022 to 21/03/2023

Didactic activity	Credits	Grade	Date
THEORETICAL STATISTICAL PHYSICS	8 ECTS	18/30	21/03/2023
<i>Activities Recognized: STATISTICAL MECHANICS - Rec:</i>			
COSMOLOGY	8 ECTS	27/30	21/03/2023
<i>Activities Recognized: ADVANCED STATISTICS FOR PHYSICS ANALYSIS - Rec:</i>			
<i>Activities Recognized: FUNDAMENTALS OF ASTROPHYSICS AND COSMOLOGY - Rec:</i>			
STATISTICAL METHODS IN PARTICLE PHYSICS	4 ECTS	29/30	21/03/2023
<i>Activities Recognized: ADVANCED STATISTICS FOR PHYSICS ANALYSIS - Rec:</i>			
<i>Activities Recognized: FUNDAMENTALS OF ASTROPHYSICS AND COSMOLOGY - Rec:</i>			

4.4 Grading system and, if available, grade distribution table

For I, II and III cycle programmes the Italian grading system is based on a maximum of 30 points with 18/30 as the lowest passing grade. In case of excellence 30 cum laude may be awarded. Failed exams are not indicated in the student's transcript.

ECTS table of course grades			
ISCED CODE 0533 - LM-17 - Physics - 2° Cycle QF-EHEA /7° LEVEL EQF			
Grade	N° Grade	% Grade	% Cumulative
18	74	1.00	100
20	72	1.00	99.00
21	42	1.00	98.00
22	86	1.00	97.00
23	106	1.00	96.00
24	184	3.00	95.00
25	273	4.00	92.00
26	366	5.00	88.00
27	722	10.00	83.00
28	999	14.00	73.00
29	897	12.00	59.00
30	1936	26.00	47.00
30 cum laude	1545	21.00	21.00

Academic years considered: from 01/11/ 2020 to 31/10/ 2023

Total marks: 7333

4.5 Overall classification of the qualification

Final mark: 101/110.



Date: 16/09/2024

For I and II cycle programmes the final grade is based on a maximum of 110 points, with 66/110 as the lowest passing grade. In case of excellence, 110 cum laude may be awarded. The final grade is based on the curriculum as well as on the final exam.

For III cycle courses, please refer to the university regulations specific to the course of study.

ECTS table of course grades			
ISCED CODE 0533 - LM-17 - Physics - 2° Cycle QF-EHEA /7° LEVEL EQF			
Mark	N° Grade	% Grade	% Cumulative
90	4	1 %	100
102	6	1 %	99.00
104	9	2 %	98.00
105	11	2 %	96.00
106	4	1 %	94.00
107	13	3 %	93.00
108	11	2 %	90.00
109	8	2 %	88.00
110	132	27 %	86.00
110 cum laude	265	59 %	59.00

Academic years considered: from 01/11/ 2020 to 31/10/ 2023

Total marks: 484

5. Information On The Function Of The Qualification

5.1 Access to further study

Laurea Specialistica degree courses (2nd cycle degree courses, master level in the Bologna Process) give the graduate access to the Dottorato di Ricerca, to the Specializzazione degree courses and to the 2nd level Italian Master Universitario degree courses (3rd cycle degree courses: Research Doctorate Programmes - P.h.D. and Specialization Courses in the Bologna Process) in accordance with the requirements established by the respective norms.

5.2 Access to a regulated profession (if applicable)

Physicist

Role in a working environment

Second-level Magistrale graduates in Physics will find employment in many sectors of pure and applied research where the ability to find innovative solutions to problems is required.

They are particularly suited to working actively in teams, thanks to the experience they have matured in the preparation of their dissertations, which is usually spent in research groups operating in highly competitive international contexts.

Competencies associated with the role

Solid preparation in Physics and Mathematics.

The ability to deal with complex problems and propose innovative solutions.

The ability to summarise and analyse data and information found in scientific literature.



Familiarity with advanced IT tools.

Management and use of highly technological tools.

Accustomed to team work and working in international contexts.

Employment opportunities

A significant number of graduates continue their studies by undertaking a research doctorate, both in Italy and abroad.

Second-level Magistrale graduates in Physics find employment in public or private research and development centres, in innovative industries, in the health and risk prevention field, and in those service sectors where it is necessary to interpret great quantities of complex data.

6. Additional information

6.1 Additional information

Mobility programs participation

Program

- PROGRAMMA ERASMUS - RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG - HEIDELBERG - Germany
from 01/10/2022 to 21/03/2023

6.2 Further information sources

More information can be found at www.unipd.it where the sites of the various schools, departments, degree courses and other University services can be found. Web site of the Ministry of University and Research: www.miur.it



7. Certification of the supplement

7.1 Date (dd/mm/yyyy)

26/09/2024

7.2 Name and signature

Dott. Alberto Scuttari

Dott.ssa Roberta Rasa

7.3 Capacity

Ceo

Head of Academic Affairs Division

7.4 Official stamp or seal



8. Information on the national higher education system

The Italian University System

The Italian university system is organised in three cycles, according to the Bologna structure: the main academic degrees are the Laurea(1st cycle), the Laurea Magistrale (2nd cycle) and the Dottorato di Ricerca(3rd cycle).The system also offers other study programmes and related qualifications.

First cycle. This cycle consists exclusively of Corsi di Laurea. These degree programmes provide students with an adequate command of general scientific methods and contents as well as with specific professional skills. The general access requirement is the Italian school leaving qualification awarded after completion of 13 years of schooling and passing the relevant State examination; comparable foreign qualifications may also be accepted. Admission to some degree courses may be based on specific course requirements. The studies last 3 years. The Laurea is awarded to students who have gained 180 ECTS credits (called Crediti Formativi Universitari - CFU) and satisfied all curricular requirements, including the production of a final written paper or equivalent final project. The Laurea gives access to the Corsi di Laurea Magistrale as well as to other 2nd cycle study programmes.

Second cycle. The main degree programmes in this cycle are the Corsi di Laurea Magistrale. They provide education at an advanced level for the exercise of highly qualified activities in specific areas. Access is by a Laurea degree or a comparable foreign degree; admission is based on specific course requirements determined by single universities. The studies last 2 years. The Laurea Magistrale degree is awarded to students who have gained 120 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation. Some programmes (namely, those in dentistry, medicine, veterinary medicine, pharmacy, architecture, construction engineering/architecture, law, primary education) are defined "single cycle programmes" (Corsi a ciclo unico); for these programmes access is by the Italian school leaving qualification (or a comparable foreign qualification); admission is based on entrance exams. The studies last 5 years (6 years and 360 ECTS/CFU credits in the cases of medicine and dentistry). A Laurea Magistrale degree is awarded to students who have gained 300 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation. A Laurea Magistrale degree gives access to Corsi di Dottorato di Ricerca as well as to other 3rd cycle study programmes.

Third cycle. The main degree programmes in this cycle are Corsi di Dottorato di Ricerca (research doctorate programmes); the students/young researchers enrolled in these programmes will acquire methodologies for advanced scientific research, will be trained in new technologies and will work in research laboratories, wherever appropriate. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission is based on a competitive exam; studies last at least three years and include the completion and public defence of an original research project.

Other programmes.

- Corsi di Specializzazione. These are 3rd cycle programmes intended to provide students with the knowledge and skills required for the practice of highly qualified professions, mainly in medical, clinical and surgical specialities. Admission is by a Laurea Magistrale degree (or by a comparable foreign degree) and is based on a competitive exam; studies may last from 2 (120 ECTS/CFU credits) to 6 years(360 ECTS/CFU credits) depending on the discipline. The final degree awarded is a Diploma di Specializzazione.

- Corsi di Master Universitario di primo livello These are 2nd cycle programmes intended to provide students with further specialization or higher continuing education after completion of the first cycle. Access is by a Laurea degree (or a comparable foreign degree); admission may be subject



to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di primo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programme since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.

- Corsi di Master Universitario di secondo livello These are 3rd cycle programmes intended to provide students with further specialization or higher continuing education studies after completion of the second cycle. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission may be subject to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di secondo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programmes, since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.

Credits: degree courses are structured in credits (Crediti Formativi Universitari -CFU). University credits are based on the workload students need in order to achieve the expected learning outcomes. Each credit corresponds to 25 hours of student workload, including independent study. The average workload of a full time student is conventionally fixed at 60 credits per year. Thus, the CFU fully coincide with ECTS credits.

Classes of Degree Courses: all degree programmes of Laurea and Laurea Magistrale sharing general educational objectives are grouped into "classes". In developing the specific learning outcomes of single programmes, Universities have to comply with some national requirements for each class concerning the types (and corresponding amount of credits) of teaching learning activities to be included. Degrees belonging to the same class have the same legal value.

Academic Titles: Those who receive the Laurea are entitled to be called "Dottore", the holders of a Laurea Magistrale have a right to the title of "Dottore Magistrale", the Dottorato di ricerca confers the title of "Dottore di Ricerca" or "PhD".

Joint Degrees: Italian universities are allowed to establish degree programmes in cooperation with Italian and foreign partner universities, on completion of which joint or double/multiple degrees can be awarded.

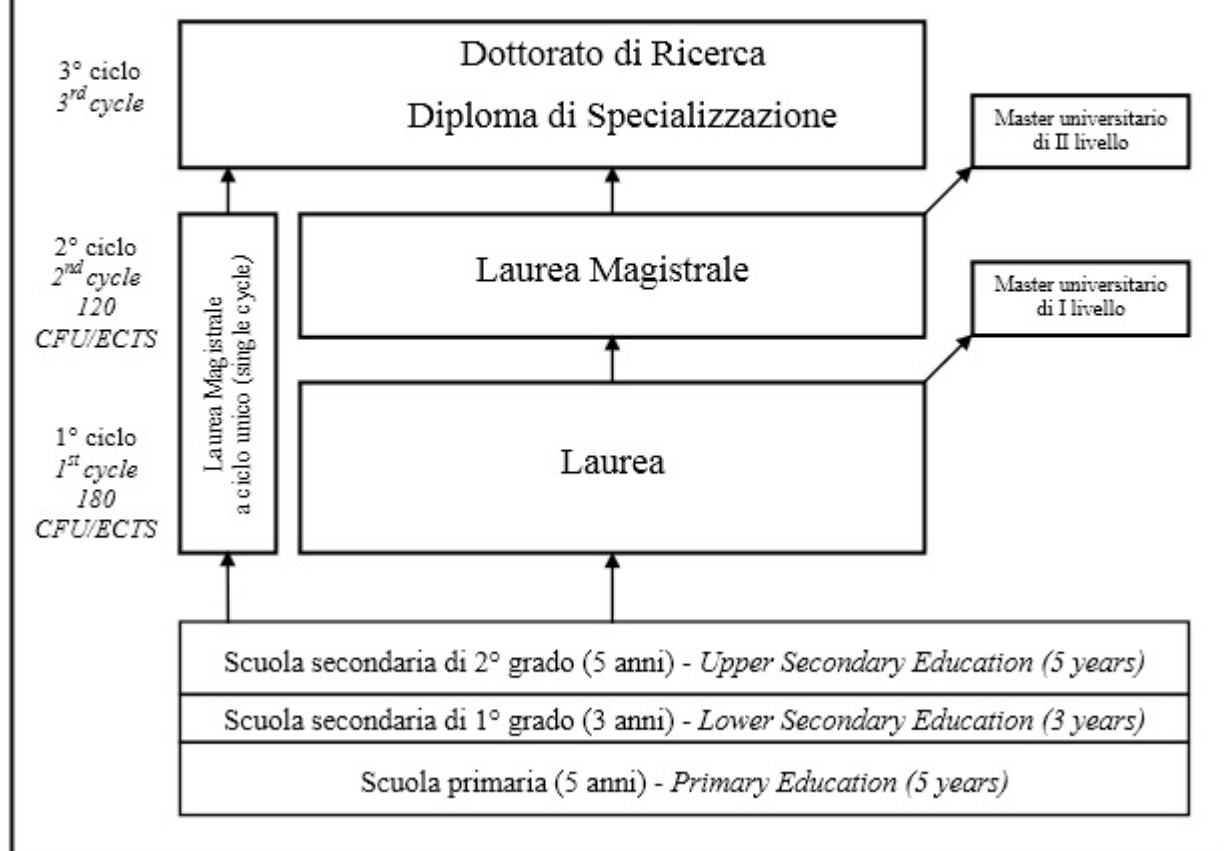
Further information: Italian Qualifications Framework

Quadro dei Titoli Italiani - QTI

<http://www.quadrodeititoli.it>

Sistema universitario italiano

The Italian University System





THE PRESIDENT AND THE BOARD OF GOVERNORS OF

HABIB UNIVERSITY

ACTING UPON THE RECOMMENDATION OF THE FACULTY

HEREBY CONFER UPON

MUHAMMAD MUNEEB BIN SHOAIB

THE DEGREE OF

BACHELOR OF SCIENCE

IN

ELECTRICAL ENGINEERING

WITH ALL ITS RIGHTS AND PRIVILEGES IN THE WITNESS WHEREOF

THE SEAL OF THE UNIVERSITY IS HEREUNTO AFFIXED

IN KARACHI, ON EIGHTEENTH DAY OF JULY, TWO THOUSAND AND TWENTY





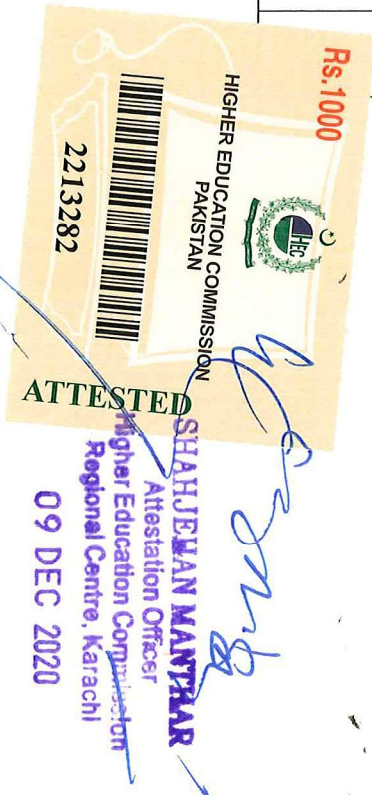

CHANCELLOR


PRESIDENT


DEAN

Serial No. 000311

	Name	Signature	Date
Checked by Controller of Examinations	Aamir Siddiqui		17-8-2020
Verified by Registrar	M. Shahid Shaiikh		17/8/2020
Student ID	02935		



SECURITY FEATURES

1. RED FLUORESCENT NUMBERING
2. 120 GSM PSPC WATER MARK SECURITY PAPER
3. TINT BACKGROUND
4. INVISIBLE LOGO
5. GOLD FOIL
6. MICRO TEXT LINE



HABIB UNIVERSITY

Official Transcript

Dhanani School of Science and Engineering

Enrollment No: 2016/EE/02935

Exam Seat No: 02935

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Student Number: 02935
Student's Name: Muhammad Muneeb Bin Shoaib
Father's Name: Malik Shoaib Khalid

Program: Bachelor of Science
Major: Electrical Engineering
Minor(s): Physics

Date of Birth: January 25, 1998
Date of Admission: August 22, 2016
Date of Completion: July 18, 2020

First Year

Fall Semester 2016

Course Code	Course Title	Credit(s)	G P	Grade
CORE 101	Rhetoric and Communication	3	0.00	
CORE 111	Logical Problem Solving	3	0.00	
CORE 111L	Logical Problem Solving (Lab)	1	0.00	
EE 111	Electric Circuit Analysis	3	0.00	
EE 111L	Electric Circuit Analysis (Lab)	1	0.00	
ENER 101	Energy I	3	0.00	
ENER 103L	Energy I (Lab)	1	0.00	
MATH 101	Calculus I	3	0.00	

Spring Semester 2017

Course Code	Course Title	Credit(s)	G P	Grade
CR CORE 102	What is Modernity?	3	3.33	B+
CR CS 110	Computational Thinking I	3	3.33	B+
CR CS 110L	Computational Thinking I (Lab)	1	3.33	B+
CR EE/CS	Digital Logic and Design	3	3.33	B+
CR 172/130				
CR EE/CS	Digital Logic and Design (Lab)	1	3.67	A-
CR 172L/130L				
CR ENGR 291L	Engineering Workshop	1	4.00	A
MATH 102	Calculus II	3	3.67	A-
PHY 101	Physics I: Mechanics and Thermodynamics	3	4.00	A+

Second Year

Fall Semester 2017

Course Code	Course Title	Credit(s)	G P	Grade
CORE 201	Pakistan and Modern South Asia	3	3.33	B+
CS 224	Object Oriented Programming and Design Methodologies	3	0.00	W
CS 224L	Object Oriented Programming and Design Methodologies (Lab)	1	0.00	W
EE 211	Basic Electronics	3	3.33	B+
EE 211L	Basic Electronics (Lab)	1	3.67	A-
MATH 202	Engineering Mathematics	3	4.00	A+
PHY 101L	Mechanics and Thermodynamics (Lab)	1	3.33	B+
PHY 102	Physics II: Electricity and Magnetism	3	3.33	B+
PHY 201	Modern Physics	3	3.67	A-

Spring Semester 2018

Course Code	Course Title	Credit(s)	G P	Grade
CORE 202	Hikma I: History of Islamic Thought	3	3.00	B
EE 212	Electric Network Analysis	3	3.67	A-
EE 212L	Electric Network Analysis (Lab)	1	4.00	A
EE 241	Electromagnetic Theory	3	3.33	B+
EE 252	Signals and Systems	3	3.33	B+
EE 252L	Signals and Systems (Lab)	1	3.33	B+
EE 375	Microcontrollers and Interfacing	3	2.67	B-
EE 375L	Microcontrollers and Interfacing (Lab)	1	3.33	B+
PHY 301	Classical Mechanics	3	3.33	B+

Summer Semester 2018

Course Code	Course Title	Credit(s)	G P	Grade
CS 224	Object Oriented Programming and Design Methodologies	3	2.67	B-
CS 224L	Object Oriented Programming and Design Methodologies (Lab)	1	2.67	B-

Hassit
Program Director

Waqar
Assistant Dean

M. Shahid Shaikh
Registrar

GRADING SCALE*Effective Fall 2017*

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	F	AU	W	I	TR	R	R*	CR	NCR	S
Grade Points	4.00	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	0.00									

Academic Year 2015-17

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	F	AU	W	WP	WF	I	TR	R	R*	CR	NCR	S
Grade Points	4.00	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	0.00											

Academic Year 2014-15

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F	AU	W	WP	WF	I	TR	CR	NCR
Grade Points	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.00								

AU: Audit. CR: Credit (Pass). I: Incomplete. NCR: Non-Credit (Fail). P: Pass. R: Repeat. R*: Repeat (Substitute). S: Suspended. TR: Transfer. W: Withdrawal.

WF: Withdrawal Failing. WP: Withdrawal Passing.

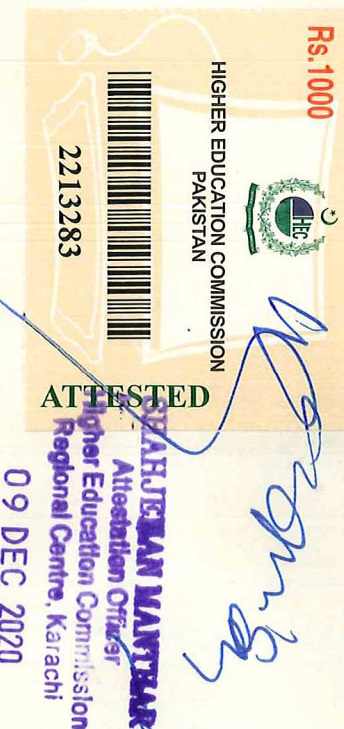
P: Due to the prolonged disruptive impact of the COVID-19 global pandemic in spring 2020, students were allowed to convert any passing grades of C- or above to a "P" (Pass) grade for spring 2020 courses. Courses with the grade of "P" meet all the major and minor course requirements. The "P" grade has no numerical equivalent and is not included in the calculation of grade point averages.

Formula:

$$\text{Cumulative GPA} = \frac{\text{Sum of (Credits Earned x Grade Points for each course)}}{\text{Graded Credits}}$$

	Name	Signature	Date
Checked by: Assistant Controller of Examinations	M. Zubair		01-09-2020
Verified by: Controller of Examinations	Aamir Siddiqui		01.09.2020
Student Number:	02935		

Note: The University reserves the right to correct any error made inadvertently on this transcript.





HABIB UNIVERSITY

Official Transcript

Dhanani School of Science and Engineering

Enrollment No: 2016/EE/02935

Exam Seat No: 02935

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Third Year

Fall Semester 2018

Course Code	Course Title	Credit(s)	G.P	Grade
CORE 301	Hikma II	3	2.67	B-
EE 331	Electrical Machines	3	3.67	A-
EE 331L	Electrical Machines (Lab)	1	3.33	B+
EE 354	Introduction to Probability and Statistics	3	1.67	C-
EE 361	Principles of Feedback Control	3	3.00	B
EE 361L	Principles of Feedback Control (Lab)	1	3.67	A-
MATH 205	Linear Algebra	3	3.67	A-
PHY 302	Mathematical Methods for Physics	3	4.00	A

Spring Semester 2019

Course Code	Course Title	Credit(s)	G.P	Grade
CORE 302	Science, Technology and Society	3	3.33	B+
EE 322	Analog and Digital Communication	3	3.67	A-
EE 322L	Analog and Digital Communication (Lab)	1	3.67	A-
EE 391	Engineering, Design, and Innovation	1	3.33	B+
EE 391L	Engineering, Design and Innovation (Lab)	2	3.33	B+
EE 432	Power Electronics	3	4.00	A
EE 432L	Power Electronics (Lab)	1	4.00	A
IS/PHY 102L	Independent Study: Electricity, Magnetism, Optics and Modern Physics (Lab)	1	2.33	C+
IS/PHY 351	Independent Study: Introduction to Statistical Mechanics	3	4.00	A
ME 302	Engineering Thermodynamics	3	4.00	A

Fourth Year

Fall Semester 2019

Course Code	Course Title	Credit(s)	G.P	Grade
EE 335	Power Generation, Transmission and Distribution	3	4.00	A
EE 335L	Power Generation, Transmission, and Distribution Lab	1	4.00	A
EE 433	Power Electronics System Design	3	4.00	A
EE 468	Mobile Robotics	3	4.00	A
EE 491	Capstone Design Project I	3	4.00	A
ME 432	Introduction to Nanotechnology	3	4.00	A
PHY 202	Quantum Mechanics	3	3.67	A-

Spring Semester 2020

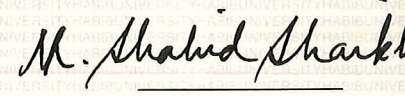
Course Code	Course Title	Credit(s)	G.P	Grade
CORE 121	Jehan-e-Urdu (The World of Urdu)	3	0.00	P
ECON 302	Engineering Economics	3	0.00	P
EE 365	Industrial Instrumentation and Measurements	3	0.00	P
EE 422	Wireless and Mobile Communication	3	3.67	A-
EE 492	Capstone Design Project II	3	4.00	A
MGMT 321	Engineering Project Management	3	0.00	P

Appeared on Dean's List during Fall 2019.

Total Credits Earned: 156.00 Cumulative GPA: 3.50


Program Director


Assistant Dean


Registrar

Serial No. P2/000 292

GRADING SCALE

Effective Fall 2017

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	F	AU	W	I	TR	R	R*	CR	NCR	S
Grade Points	4.00	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	0.00									

Academic Year 2015-17

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	F	AU	W	WP	WF	I	TR	R	R*	CR	NCR	S
Grade Points	4.00	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	0.00											

Academic Year 2014-15

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F	AU	W	WP	WF	I	TR	CR	NCR
Grade Points	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.00								

AU: Audit. CR: Credit (Pass). I: Incomplete. NCR: Non-Credit (Fail). P: Pass. R: Repeat. R*: Repeat (Substitute). S: Suspended. TR: Transfer. W: Withdrawal.

WF: Withdrawal Failing. WP: Withdrawal Passing.

P: Due to the prolonged disruptive impact of the COVID-19 global pandemic in spring 2020, students were allowed to convert any passing grades of C- or above to a "P" (Pass) grade for spring 2020 courses. Courses with the grade of "P" meet all the major and minor course requirements. The "P" grade has no numerical equivalent and is not included in the calculation of grade point averages.

Formula:

$$\text{Cumulative GPA} = \frac{\text{Sum of (Credits Earned x Grade Points for each course)}}{\text{Graded Credits}}$$

	Name	Signature	Date
Checked by: Assistant Controller of Examinations	M. Zubair		01-09-2020
Verified by: Controller of Examinations	Aamir Siddiqui		01.09.2020
Student Number:	02935		

Note: The University reserves the right to correct any error made inadvertently on this transcript.



09 DEC 2020
Attestation Officer
Higher Education Commission
Regional Centre, Karachi
HAJJEAN MANTHAR