



Sapienza PhD in ICT

First Year Doctoral Program Form

Doctoral program in Information and Communications Technologies at Sapienza Università di Roma, Rome, Italy

LAST NAME	Hamidullah
NAME	Muhammad
CURRICULUM	Electronic
DOCTORAL CYCLE	XXXI

The Doctoral Program Form contains, year by year, the description of the PhD program of each Doctoral student. This form must be submitted to the PhD coordinator with roughly the following timing:

- by the end of February of the first year for first year students
- before the admission to the second year by perspective second year students
- before the admission to the third year by perspective third year students

The Doctoral Program Proposal is approved by the PhD board shortly after submission. The Doctoral Program requirements place formalized emphasis on methodology and mastery of fundamental and applied engineering systems concepts. A Doctoral Program Proposal should be constructed in agreement with the Faculty mentor, that is the supervisor or tutor, by complying to the requirements, described in the Tables below.

ADVANCED COURSES: 12 CREDIT FORMATION UNITS (CFU)¹				
Only courses/schools providing a final verification test with pass/fail outcome certified by instructor can be included here.				
Title	Type	Duration / period	CFU ²	Motivation for selection
MEMS	Master in Electronics Course	Fall 2016	6	This course is selected because it covers the fabrication of MEMS devices which will be useful for my PhD research in microfabrication process of SAW sensor
SOLID STATE ELECTRONICS	Master in Electronics Course	Spring 2017	6	This course is selected because it semiconductor physic and CMOS which will be related to the final application of the SAW sensor
Total CFU			12	

SEMINARS AND LABORATORY ACTIVITIES: 6 CFU³				
Activity	Type	Duration / period	CFU ⁴	Motivation for selection
Seminar of Eat@DIET series	Seminar	During the year of 2016	3	Participation in seminar series for obtaining new ideas, network and possible collaboration
SAWTrain EU project training and meeting	Training	60 hours	3	Surface acoustic wave meeting and training in Twente University Netherland focusing on surface acoustic devices, which is part of my research project
Total CFU			6	

ADDITIONAL INDEPENDENT FORMATION AND RESEARCH ACTIVITIES: 6 CFU⁵				
Indicate activities that extend and complement the mandatory activities listed above				

¹ Please insert lines as required/appropriate, and for each line complete each column of the Table.

² Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; for Master Degree courses, assume 1 CFU = 8 teaching hours + 12 homework/study hours, for a total of 20 hours. This rule can be slightly adjusted for other types of courses/activities (e.g., PhD courses may require slightly less hours per CFU)

³ Please insert lines as required/appropriate, and for each line complete each column of the Table.

⁴ Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.

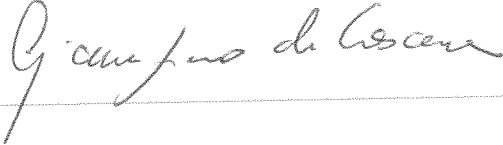
⁵ Please insert lines as required/appropriate, and for each line complete each column of the Table.

Activity	Type	Duration / period	CFU ⁶	Motivation for selection
Physic for Liquids	Master Degree Course in Physics	Spring 2016	6	Final application of the sensor is for liquid application. This course will help to understand the physics of liquids
Total CFU				

RESEARCH ACTIVITY: 36 CFU

Research area	Surface Acoustic Wave Integrated Sensor for liquid application
Research topic	Exploring different modes of acoustic wave which will be suitable for liquid sensing application due to polarization of wave propagation. The wave modes include but not limited to Lamb wave, Love wave and Pseudo-SAW
Framework of the proposed research topic	The first year will be focused on theoretical analysis, mathematical calculation and simulation to predict the behavior of various surface acoustic waves and its response in the present of liquid
Research environment	Main research activities will be carried out in CNR, Rome

FACULTY MENTOR (TUTOR OR SUPERVISOR)

Prof. Dr.	Giampiero de Cesare
Supervisor signature for approval	

Signature of Doctoral student


Muhammad Hamidullah

Date

22/03/2016

⁶ Indicate here the CFUs that can be accounted for as a result of the successful completion of the activity; as a rule of thumb, assume 1 CFU = 20 working hours.