



UNIVERSITÀ DI PISA



Sant'Anna
Scuola Universitaria Superiore Pisa



SCHOOL
FOR ADVANCED
STUDIES
LUCCA

**MASTER DEGREE PROGRAM IN BIONICS ENGINEERING
(LAUREA MAGISTRALE IN BIONICS ENGINEERING, LM-21)**

CALL FOR APPLICATIONS – ACADEMIC YEAR. 2020 - 2021

Art. 1

**Admission to the Master Degree Program in Bionics Engineering
(Laurea Magistrale in Bionics Engineering, LM-21)**

1. Scuola Superiore Sant'Anna (hereafter “the School”), along with the University of Pisa, announces for the Academic Year 2020-2021 a public competition for admission to the Master Degree Programme in Bionics Engineering (Laurea Magistrale in Bionics Engineering, LM-21), offered jointly by the Department of Information Engineering of the University of Pisa and the BioRobotics Institute of the School. Detailed information on the Master Degree Programme is available at www.bionicsengineering.com.
2. The competition aims to select at most 30 candidates, as follows:
 - a. Up to 15 positions for non-EU applicants exclusively (citizens of countries not belonging to the European Union) and not residing in Italy (hereafter “*non-EU Applicants*”)¹;
 - b. Up to 15 positions for EU applicants and non-EU applicants residing in Italy exclusively (hereafter “*EU Applicants*”).
3. If fewer than 15 non-EU selected Applicants join the Master Degree Programme, the number of positions available for the EU Applicants will be increased by the equivalent number of positions for non-EU applicants that remain vacant.
4. At the end of the selection procedures, the Selection Committee will provide a final ranking list of eligible applicants. Admitted applicants, according to the positions available, will be appointed with a School’s Rector Decree.
5. The Master Degree in Bionics Engineering is eligible among the Master programs that can be selected by Honor students (“Allievi ordinari”) of the School, at the second level of study. Scuola Superiore Sant'Anna may award, based on criteria that will be disclosed in a future dedicated Call of the School, Honor students positions dedicated to students admitted to the Master degree in Bionics Engineering. Honor student will have a series of benefits (tuition fees exemption, free accommodation, etc.). Updated information will be available on <https://www.santannapisa.it/en/info-and-admission>.

¹ Law n. 189/2002 art. 26: "Access to university courses is allowed however - with the same conditions as Italian students - to: students with a permit of stay for dependent employment, self-employment, family reasons, political asylum, humanitarian asylum or religious reasons; all foreigners regularly living in Italy for at least one year and with a higher qualification obtained in Italy; as well as to foreigners - wherever resident - with final diplomas from Italian schools abroad or foreign or international schools - operating in Italy or abroad - and subjected to bilateral agreements or special laws for the acknowledgment of qualifications and satisfying the general conditions required for entry to study. Citizens from Norway, Iceland, Liechtenstein, Switzerland and the Republic of San Marino are admitted under the same conditions as EU citizens. For extra-EU applicants - not residing in Italy - the relevant ministry rules applies.

Art. 2 Admission Requirements

1. By the deadlines as per art. 3 and 4 applicants must fulfil one of the following conditions:
 - a. they hold a Bachelor of Science (First Cycle Degree) in Bioengineering or Biomedical Engineering;
 - b. they hold a Bachelor of Science (First Cycle Degree) or a Master of Science (Second Cycle Degree) in other disciplines and their *curriculum studiorum* includes the following CFU:
 - At least 42 CFU in one or more of the following scientific fields: MAT/02, MAT/03, MAT/05, MAT/06, MAT/07, MAT/08, MAT/09, FIS/01, FIS/02, FIS/03, FIS/07, CHIM/03, CHIM/07²;
 - At least 12 CFU in one or more of the following scientific fields: ING-INF/06, ING-IND/34³;
 - At least 12 CFU in one or more of the following scientific fields: ING-INF/01, ING-INF/05, ING-INF/04, ING-IND/13, ING-IND/14, ING-IND/15⁴;
 - At least 24 CFU in the scientific fields featuring the Degree Classes L-8 and L-9⁵.
 - c. they hold a Bachelor of Science or equivalent First Cycle Degree awarded by a foreign University after the completion of at least three-year course of study, in one of the subjects listed in the previous points or equivalent ones. The Selection Committee will decide upon degree equivalence, only for this selection purposes, and on the debts to be assigned to the admitted students. In any case, the admission of candidates holding a degree issued in a non-EU country will be conditional to the check and the legitimacy recognition of the degree, by the relevant Italian diplomatic authorities.

2. For non-EU Applicants, admission is extended also to applicants that have not graduated yet. In this case, a successful application will be conditional upon the subsequent awarding of a degree and the submission of adequate documentation no later than July 31, 2020.

² MAT/02 = Algebra; MAT/03 = Geometry; MAT/05 = Mathematical analysis; MAT/06 = Probability and statistics; MAT/07 = Mathematical physics; MAT/08 = Numerical analysis; MAT/09 = Operational research; FIS/01= Experimental Physics; FIS/02 = Theoretical physics, mathematical models and methods; FIS/03 = Physics of matter; FIS/07 = Applied physics; CHIM/03 = General and inorganic chemistry; CHIM/07 = Chemical foundations of technologies

³ ING-INF/06 = Electronic and computer science bioengineering; ING-IND/34 = Industrial bioengineering

⁴ ING-IND/3 = Flight mechanics; ING-INF/01 = Electronics; ING-INF/05 = Information processing systems; ING-INF/04 = Systems and control engineering; ING-IND/13 = Applied mechanics; ING-IND/14 = Mechanical design and machine construction; ING-IND/15 = Design methods for industrial engineering

⁵ http://www.unipd.it/sites/unipd.it/files/DMCdL_triennale.pdf

3. For EU Applicants, admission is extended also to applicants that have not graduated yet. In this case, a successful application will be conditional upon the subsequent awarding of a degree and the submission of adequate documentation no later than December 18, 2020.
4. In addition to the academic degree, applicants must also demonstrate a good knowledge of the English language, corresponding to at least an intermediate level (B2 Level, according to the Common European Framework of Reference for Languages). The Selection Committee will verify the candidates' level of knowledge of the English language during the interviews.

Art. 3

Applications by non-EU Candidates

1. Applicants are requested to apply online at: <https://www.santannapisa.it/en/education/msc-bionics-engineering> by **March 2, 2020 at 11 am (CEST)**. In case of any problem with the online application, please contact the Master Degree Secretary's Office (+39.050883420, +39.050883136, e-mail: istitutobiorobotica@santannapisa.it).
2. In the application form candidates will provide (through a self-declaration):
 - a) family name, first name, place and date of birth, nationality, gender, marital status;
 - b) a declaration that the candidate has never been convicted for a criminal offence or that she/he has no pending criminal proceedings;
 - c) a declaration that the candidate holds an academic degree, as per Article 2. Applicants must specify the degree title, the University or educational institute that awarded the degree, the degree course duration, the mark achieved (if applicable), the academic year in which the candidate started his/her undergraduate studies and the graduation date. Candidates who have not graduated yet shall declare the expected graduation date (that cannot be beyond July 31, 2020);
 - d) the Cumulative Grade Point Average;
 - e) a declaration of knowledge of English language (and other foreign languages, if any) specifying the duration of language studies and the certification(s) obtained;
 - f) the permanent address and the mailing address (if different), where applicants wish to receive paper communications concerning their application. Applicants shall immediately contact the School if these addresses will change as for the e-mail address, that is compulsory for the application purposes;
 - g) a valid e-mail address to receive all communications related to the application, as well as a telephone number and a skype id.
3. Non-EU applicants shall also specify in which Italian Embassy or Consulate they intend to submit their pre-enrolment application in case of admission to the Course.
4. Applicants shall include in the application the following documents (all in pdf format and named as follows):
 - a) **Surname_Name_CV.pdf**: a copy of their complete *Curriculum Vitae et Studiorum* (in English) describing their education pathway, their cultural and professional experiences, prizes, publications, achievements and all other information that might help in the evaluation of the candidate;
 - b) **Surname_Name_Certificate.pdf**: a copy of the Degree Certificate (if applicable) and its translation if written in language other than English or Italian;
 - c) **Surname_Name_Transcripts.pdf**: the academic transcripts with the full list of courses and grades (in English or Italian). This list shall contain information regarding credits, units (or equivalent) received, the grades received for each class taken, and the date in which the

final examination was taken (if applicable). A certified copy of the mentioned information should be provided by the University and attached by the applicant;

d) **Surname_Name_Thesis**: a short summary (5 pages max) of the Bachelor Thesis, or a short summary (5 pages max) of the ongoing Thesis activity, if this has been not completed, yet. In case the Bachelor does not include a real Thesis, in this document the candidate must report a summary of projects or other relevant didactic activities carried out and useful to complete his/her Bachelor pathway;

e) **Surname_Name_Passport.pdf**: a copy of a valid passport or any other international ID;

f) **Surname_Name_English.pdf** (not mandatory): if available, a copy of an English Language knowledge certification (at least intermediate B1 level);

g) **Surname_Name_Other.pdf** (not mandatory): a copy of any other document or information that the applicant deem suitable/useful for his/her evaluation (documents written in languages other than Italian and English must be accompanied by a summary in one of the above languages).

According to art. 46 and 47 of D.P.R. n. 445/2000⁶, Italian citizens and EU citizens are allowed to submit self-declarations. Non-EU citizens legally residing in Italy are allowed as well, only with reference to information and facts that can be certified or attested by Italian public bodies.

5. **Applications with missing information will not be considered valid.** Integrations to the application after the call deadline will not be accepted in whatsoever circumstance.

6. The School and the University of Pisa are entitled to check the truthfulness of the declarations and the documentation submitted by the candidates, and may require the submission of original documents. In case of false statements the School can decide at any time, by justified Rector Decree, the exclusion of the candidate from the selection procedure without prejudice to the resulting criminal law liability.

Art. 4

Applications by EU Candidates

1. Applicants are requested to apply online at: <https://www.santannapisa.it/en/education/msc-bionics-engineering> by **July 27, 2020 at 11 am (CEST)**. In case of any problem with the online application, please contact the Master Degree Secretary's Office (+39.050883420; 39.050883136, e-mail: istitutobiorobotica@sssup.it).
2. In the application form candidates will provide (through a self-declaration):
 - a) family name, first name, place and date of birth, nationality, gender, marital status;
 - b) a declaration that the candidate has never been convicted for a criminal offence or that she/he has no pending criminal proceedings;
 - c) a declaration that the candidate holds an academic degree, as per Article 2. Applicants must specify the degree title, the University or educational institute that awarded the degree, the degree course duration, the mark achieved (if applicable), the academic year in which the candidate started his/her undergraduate studies and the graduation date. Candidates who have not graduated yet shall declare the expected graduation date (that cannot be beyond December 18, 2020);
 - d) the Cumulative Grade Point Average;
 - e) a declaration of knowledge of English language (and other foreign languages, if any) specifying the duration of language studies and the certification(s) obtained;
 - f) the permanent address and the mailing address (if different), where applicants wish to receive paper communications concerning their application. Applicants shall immediately

⁶ <http://www.camera.it/parlam/leggi/deleghe/00443dla.htm>

contact the School if these addresses will change as for the e-mail address, that is compulsory for the application purposes;

g) a valid e-mail address to receive all communications related to the application, as well as a telephone number and a skype id.

3. Applicants shall include in the application the following documents (all in pdf format and named as follows):
 - a) **Surname_Name_CV.pdf**: a copy of their complete *Curriculum Vitae et Studiorum* (in English) describing their education pathway, their cultural and professional experiences, prizes, publications, achievements and all other information that might help in the evaluation of the candidate;
 - b) **Surname_Name_Certificate.pdf**: a copy of the Degree Certificate (if applicable) and its translation if written in language other than English or Italian;
 - c) **Surname_Name_Transcripts.pdf**: the academic transcripts with the full list of courses and grades (in English or Italian). This list shall contain information regarding credits, units (or equivalent) received, the grades received for each class taken, and the date in which the final examination was taken (if applicable). A certified copy of the mentioned information should be provided by the University and attached by the applicant;
 - d) **Surname_Name_Thesis**: a short summary (5 pages max) of the Bachelor Thesis, or a short summary (5 pages max) of the ongoing Thesis activity, if this has been not completed, yet. In case the Bachelor does not include a real Thesis, in this document the candidate must report a summary of projects or other relevant didactic activities carried out and useful to complete his/her Bachelor pathway;
 - e) **Surname_Name_Passport.pdf**: a copy of a valid passport or any other international ID;
 - f) **Surname_Name_English.pdf** (not mandatory): if available, a copy of an English Language knowledge certification (at least intermediate B1 level);
 - g) **Surname_Name_Other.pdf** (not mandatory): a copy of any other document or information that the applicant deem suitable/useful for his/her evaluation (documents written in languages other than Italian and English must be accompanied by a summary in one of the above languages).

According to art. 46 and 47 of D.P.R. n. 445/2000, Italian citizens and EU citizens are allowed to submit self-declarations. Non-EU citizens legally residing in Italy are allowed as well, only with reference to information and facts which can be certified or attested by Italian public bodies.

3. **Applications with missing information will not be considered valid.** Integrations to the application after the call deadline will not be accepted in whatsoever circumstance.
4. The School and the University of Pisa are entitled to check the truthfulness of the declarations and the documentation submitted by the candidates, and may require the submission of original documents. In case of false statements the School can decide at any time, by justified Rector Decree, the exclusion of the candidate from the selection procedure without prejudice to the resulting criminal law liability.

Art. 5 Selection of Applicants

1. Applicant selection will involve, in both sessions, the evaluation of all submitted documents and an interview. The selection process aims to evaluate each applicant's background and abilities, assessing the potential and the attitude that are required when attending an

interdisciplinary and innovative educational programme, such as the M.Sc. in Bionics Engineering.

2. The Selection Committee is jointly nominated by the Director of the Department of Information Engineering of the University of Pisa and the Director of the BioRobotics Institute, and appointed with a School's Rector decree.
3. The final assessment will be on a 100 point scale, of which:
 - a. up to 70 points for the evaluation of candidate CV and other titles;
 - b. up to 30 points for the interview evaluation.
4. The evaluation of titles will be focused on the *curriculum vitae et studiorum* of the candidates and on the other documents submitted by the candidate. The evaluation will take into account the credits actually earned by the student at the application time and the intensity of the candidate's university activity. Admission to the interview is granted with a score of at least 49/70 points.
5. For non-EU applicants, the interviews will be held via videoconference (using Skype or similar tools at the Selection Committee's discretion) at Italian Embassies, Consulates or other locations identified by the Selection Committee in order to assure the fulfilment of the applicants' identification procedures. If the interview is not attended at Embassies or Consulates, the candidate must exhibit to the Committee members, before starting the interview, the ID submitted in the online application.
6. For EU applicants, the interviews will be held in Pisa at the School premises. Candidates may ask the Selection Committee to hold the interview through videoconference (using Skype software or similar tools at the Selection Committee's discretion), in case of proper and justified reasons. In this case, the candidate must exhibit to the Committee members, before starting the interview, the ID submitted in the online application.
7. A candidate not attending the interview within the scheduled slot assigned will be excluded from the final ranking list.
If the interview is held through videoconference, the candidate is in charge of ensuring the availability of the required hardware (PC, webcam) and software, and a reliable internet connection.
8. During the interview, the Selection Committee will examine the candidates' profiles on the basis of the submitted titles, and will verify the existence of a solid background knowledge as per Annex 1, as well as the candidate English knowledge level.
Applicants shall obtain at least 21/30 points in order to be included in the final ranking.
9. An overall final minimum score of 70/100 is therefore necessary to successfully pass the examination and be eligible for admission to the Master Degree Programme.

Art. 6

Selection schedule and results

1. Selections will be held according to the following schedule,

- a) **Non-EU Candidates**

Assessment of submitted documentation:

within March 9, 2020

Interviews:

March 16, 17 and 18, 2020

Publication of the final list of candidates admitted to the Master Degree:
within March 23, 2020

b) EU Candidates

Assessment of submitted documentation: within August 3, 2020

Interviews: August 31, September 1 and 2, 2020

Publication of the final list of candidates admitted to the Master Degree:
within September 7, 2020

2. The results of the assessment of submitted documentation will be published on <https://www.santannapisa.it/en/education/msc-bionics-engineering> , with the list of the applicants admitted to the interviews and all information regarding the place, time and date of the interviews. The final eligible applicants list will be published on the same website.

Art. 7

Ranking Lists and Admitted Applicants

1. Admitted applicants are nominated with a School's Rector Decree according to the selection ranking, covering all available positions for each session of the competition.
2. If a candidate renounces to the position offered, the next eligible candidate in the ranking list will be selected.
3. Non-EU admitted candidates will be requested to send their written consent to the Master Secretary's Office and they must contact the relevant Italian Embassy or Consulate in order to pre-enroll in the "Laurea Magistrale in Bionics Engineering (LM-21)" programme offered by the University of Pisa. Pre-enrolment terms and conditions are reported on the website: <http://www.studiare-in-italia.it/studentistranieri/>.
4. Applicants that have not graduated yet, as referred on art. 2, points 2 and 3, are admitted under condition. Their matriculation is in fact conditional upon the awarding of the Bachelor degree and the submission of the corresponding documentation no later than the given deadlines.

Art. 8

Matriculation

1. Admitted applicants shall matriculate at the University of Pisa according to the terms and conditions which will be communicated after the publication of the ranking list on the above-mentioned website. Admitted applicants holding a non-Italian degree shall enclose, with the matriculation application, their original academic title, the official translation of the degree in Italian, the relevant consular legalisation of the foreign title, along with the "*Dichiarazione di Valore*" (Declaration of Value) issued by the Italian diplomatic representative in the country to which the educational system of the university issuing the diploma belongs.
As an alternative, if the degree was issued along with a "Diploma Supplement", it will be possible to submit this document, legalised by the relevant authorities, instead of the "*Dichiarazione di Valore*".

Art. 9
Tuition fees and Contributions

1. Tuition fees depend on the student's family income and country of provenience, according to the rules of the University of Pisa (please see the webpage: www.unipi.it/tuition-fees).
2. Students may apply for the contributions provided by the “*Azienda della Regione Toscana per il Diritto allo Studio Universitario*” (DSU - Student's Support Office). The annual call for contributions is published in July at <http://www.dsu.toscana.it>.
3. The University of Pisa, founded in 1343, is among the top institutions in the majority of international rankings. According to the latest Academic Ranking of World Universities (ARWU) 2019 the University of Pisa is ranked between 151st and 200th in the world and between 1st and 3rd in Italy. According to the QS World University Ranking 2019, the University of Pisa ranks 389th worldwide. It is amongst the top 10 in Italy in 24 subjects out of the 48 surveyed by QS Rankings by subject. The University of Pisa offers 18 scholarships to the top eighteen international students, who will enrol for the academic year 2020/2021 in the degree programs taught in English. Scholarships will be awarded evaluating the following factors: CV, Interview, CGPA (Cumulative Grade Point Average) and Country of origin of the applicant, giving priority to the less economically advantaged countries. Each scholarship will consist of:
 - a) First year of course: 6 thousand euros net and exemption from University fees
 - b) Second year of course for Master Degree: 8 thousand euros net and a reduction of 50% of the University fees if the student has obtained at least 36 ECTS with an average grade of at least 25/30More info at <https://www.unipi.it/contribution>
4. This master's degree is part of the "Invest your Talent in Italy" scholarship programme which is aimed at supporting students coming from the following countries: Azerbaijan, Brazil, Colombia, Egypt, Ethiopia, India, Indonesia, Iran, Ghana, Kazakhstan, Mexico, People's Republic of China, Tunisia, Turkey, Vietnam. Scholarships are awarded to students accepted by the Master's degree programme and are funded by the Ministry of Foreign Affairs and International Cooperation (MAECI). More info at www.unipi.it/iyt-maeci.
5. For other subsidies on the basis of international agreements of the University of Pisa please log onto <https://www.unipi.it/index.php/internazionalizzazione>.

Person in charge of the Procedure:

Dr. Silvia Marcacci, Responsible of the U.O. Ph.D-Lauree Magistrali of Scuola Superiore Sant'Anna – Palazzo Toscanelli, Via Santa Cecilia, 3 – 56127 Pisa – tel. 050/883528 - fax 050/883519 - e-mail: silvia.marcacci@santannapisa.it.

Treatment of Personal Data

The personal data supplied by the applicants will be mainly processed automatically by the Scuola Superiore Sant'Anna and in accordance with Art. 11 of the Legislative Decree No. 196/2003 (“Code Concerning the Protection of Personal Data”) for the management of the competition procedure. The data may also be used in anonymous form for statistical purposes. Personal data supply is essential for the participation to the selection. Anyone interested can, at any time, exercise the rights provided by Art. 7 of the above-mentioned Legislative Decree, by writing to the Scuola Superiore Sant'Anna, U.O. Ph.D-Lauree Magistrali, Via Santa Cecilia, 3, 56127 Pisa (Italy).

Measures of Prevention of Corruption

The Scuola Superiore Sant'Anna operates in compliance with Law No. 190/2012 concerning the prevention of corruption by implementing measures identified in the “Three-year anti-corruption plan” published in the section “Transparency in Administration” of the School website at: <http://santannapisa.it/it/ateneo/amministrazione-trasparente/amministrazione-trasparente>.

REGULATORY REFERENCES:

Equivalence and recognition of foreign degrees: art. 2, L. 148/2002; art. 6, DM 270/2004.
Self-declarations: DPR no. 445/2000 and subsequent modifications and supplements.

ANNEX 1 TO THE CALL FOR APPLICATION FOR THE ADMISSION TO THE MASTER DEGREE PROGRAM IN BIONICS ENGINEERING, ACADEMIC YEAR 2020-2021

Candidate's profile: requested capabilities and background

The courses of the Master Degree Program in Bionics Engineering consider as a pre-requisite a solid background in terms of methodology and scientific/technological knowledge, which typically features the Bachelor programs in Biomedical Engineering or equivalent ones.

It is expected that the applicants possess good analysis and synthesis abilities, as well as problem solving skills. During the interview, questions to applicants could concern their thesis activity, as well as their overall educational/technical pathway. Moreover, questions could be made in the form of problems (even unstructured ones), to test the candidate's reasoning ability.

In general, the basic concepts and principles of bioengineering are necessary, in particular concerning:

- Mathematics, physics and statistics;
- Basic knowledge of mechanics and fabrication technologies,
- Basic knowledge of electronics and signal processing;
- Basic knowledge of computer science;
- Basic knowledge of chemistry and materials science.