



**POLITECNICO
DI TORINO**

Area Gestione Didattica

LA DIRIGENTE
Mahée Ferlini

Albo n. 1521/2018

Call for applications

for the 2nd level Specializing Masters Programme in

“SpacE Exploration and Development Systems”

(11th edition)

Academic Year 2018/2019

(Annex “A” - Executive Decision of the Head of the Division of Student Affairs no. 1009/2018)



ART. 1

Programme overview

The 11th edition of the 2nd level Specializing Master's Programme in "SpacE Exploration and Development Systems" (SEEDS) is offered by Politecnico di Torino for the academic year 2018/2019.

The administrative seat of this Specializing Master's Programme is located at Politecnico di Torino – Office of Specializing Master's Programmes and Lifelong Learning ("Ufficio Master e formazione permanente").

The programme is managed by the "Specializing Master's Programmes and Lifelong Learning School" ("Scuola di Master e Formazione Permanente").

The Programme Director is Nicole Viola, professor at the Department of Mechanical and Aerospace Engineering of Politecnico di Torino.

ART. 2

Training objective, didactic contents and organization of the activities

SEEDS is focused on the human and robotic exploration of space and on the related missions, systems, and technologies. The purpose of the programme is to provide young graduates with the core applied physics and engineering skills required to develop space systems and missions from initial concept through design, assembly and verification, to launch and operations.

The 2nd level Specializing Master is a full time programme of one academic year duration for a total of 80 ECTS; it will start in November 2018 and will end in October 2019.

Lectures will be held in English at Politecnico di Torino premises – starting in November 2018 and ending in March 2019.

An internship period will follow. During the internship period, participants will elaborate a project work.

The Project Work is without any doubts one of SEEDS main qualifying features.

It lasts more than six months and is divided into four phases (see table n. 1), each one performed in a different SEEDS site and one at ESA/ESTEC.

The Project Work deals with the design of a wide human space exploration mission. A different mission is identified every year.

The teaching programme includes 5 months of classroom activities with academic and corporate teaching staff and it is structured as follows (see table n. 2):

- 7 courses
- internship

Table n.1 – Internship phases

INTERNSHIP PHASE 1 PROJECT WORK I (Torino)
INTERNSHIP PHASE 2 PROJECT WORK II (Toulouse)
INTERNSHIP PHASE 3 PROJECT WORK II (Leicester)
INTERNSHIP PHASE 4 AUXILIARY ACTIVITIES FOR PROJECT WORK (ESA/ESTEC)



Table n.2 – Organization of the courses

Subject	ECTS	Hours
Fundamentals of space sciences and techniques	6	60
Space management and utilization	6	60
Space exploration systems I	6	60
Space exploration systems II	6	60
Human space systems I	7	70
Human space systems II	6	60
Space telecommunications, GNC and avionics	8	80
Internship	35	875
	80	1325

ART. 3

Admission requirements

In order to be enrolled at a 2nd Level Specializing Master's Programme, applicants must hold a full degree (Master of Science degree/Laurea specialistica/Laurea magistrale).

The programme is addressed to graduate students having completed a Master's degree programme (or equivalent title) in the following degree classes (D.M. 270/2004):

- LM 17 - Physics
- LM 18 - Computer Science
- LM 20 - Aerospace and Astronautic Engineering
- LM 22 - Chemical Engineering
- LM 25 - Automation Engineering
- LM 27 - Telecommunications Engineering
- LM 28 - Electrical Engineering
- LM 29 - Electronical Engineering
- LM 30 - Energy and Nuclear Engineering
- LM 32 - Computer Systems Engineering
- LM 33 - Mechanical Engineering
- LM 44 - Mathematical Modelling for Engineering
- LM 58 - Universe Sciences

All Master's degree programme belonging to equivalent LS (D.M. 509/1999) and foreign Master's degree programme in related areas of study will be accepted.

Candidates who have not yet obtained the Master of Science's degree will be provisionally accepted. In case they will not obtain the degree within the enrollment deadline they will not be admitted to the programme (approximately at the beginning of November 2018).

All candidates must prove to have a good knowledge of the English language, which must be certified by a language certificate included in the list of accepted certificates (see **Table n.3 English language certificates** in order to know the required level and accepted certificates).

Candidates can be exempted from having the IELTS 5.5 certificates (or substitutes) by providing a stamped declaration/certificate written on official letter headed paper, which certifies that:



- a) They have attended at least one school year at a high school in which the medium of instruction is English. In this case the school must issue a certificate stating that "The medium of instruction is English".
- b) They have a foreign high school diploma which is recognized by the Italian Ministry of Education and Research as equivalent to the Italian high school diploma (diploma di maturità), or they have a higher qualification awarded by a higher education institution in which the medium of instruction is English. In both cases the school must issue a certificate stating that "The medium of instruction is English".

With regard to points "a" and "b", please note that diplomas awarded by high schools (or higher education institutions) in the USA, UK, Canada, Ireland, Australia and New Zealand do not need to include the phrase "The medium of instruction is English".

Table n. 3 – English language certificates

Examination Board	Certificate	Minimum score accepted
IELTS (https://www.ielts.org/)	IELTS (International English Language Testing System) – Academic or General training	5.5
Cambridge English Language Assessment (http://www.cambridgeenglish.org/exams/)	Cambridge Preliminary English Test (PET)	Pass with Distinction
	Cambridge English First (FCE)	
	ADVANCED/CAE	
	PROFICIENCY/CPE	
	BULATS	-Reading & Listening: overall score 60 - Writing: overall score B2 -Speaking: overall score B2
Cambridge Assessment English (http://www.cambridgeenglish.org/exams-and-tests/qualifications/general/)	All certificates	Cambridge English Scale: score 162
Formerly know as: Cambridge English Language Assessment (http://www.cambridgeenglish.org/exams-and-tests/)	BULATS	Reading & Listening: overall score 60 Writing: overall score B2 Speaking: overall score B2
ETS http://www.ets.org/toefl	TOEFL (Test Of English as a Foreign language) - ibt	72
	TOEFL (Test Of English as a Foreign language) - cbt	228
	TOEFL (Test Of English as a Foreign language) - pbt	568
	TOEIC (Test of English for International Communication)	Listening: 400, Reading: 385, Speaking: 160, Writing: 150
Pearson (http://pearsonpte.com/)	Pearson Test of English Academic	59
LCCI – EDI / Pearson (http://qualifications.pearson.com/en/qualifications/lcci.html)	JETSET	JETSET Level 5 or higher Reading: 50% Writing: 50% Listening: 50% Speaking: 50%
	ELSA (English Language Skills Assessment)	Reading, Writing, Listening and Speaking: B2 in all 4 tests
CaMLA (http://www.cambridgemichigan.org/exams)	Michigan ECPE (Examination for the Certificate of Proficiency in English)	
	Michigan ECCE (Examination for the Certificate of Competency in English)	
telc gGmbH (https://www.telc.net/en.html)	TELC	Reading, Writing, Listening and Speaking: B2 in all 4 tests



Examination Board	Certificate	Minimum score accepted
Trinity College London (http://www.trinitycollege.com/)	Trinity ISE	ISE II
AKS Unicert (http://www.unicert-online.org/en)	UNIcert II	UNIcert II

ART. 4

Admission and Selection Procedures

The Specializing Master's Programme is open to a maximum of **15** participants.

Application for the Specializing Master's Programme must be completed on-line by filling out the application form available on the Politecnico di Torino website at: https://didattica.polito.it/master/seeds/2019/how_to_apply

Application forms must be submitted within:

- **September 10th, 2018** at 11:59 a.m. - Italian time

ALL the following supporting documents must be attached to the application form on Politecnico di Torino website (in English or Italian only):

1. valid identification document (passport for extra-EU applicants)
2. curriculum vitae (cv must include the authorization to the processing of personal data – in compliance with of the General Data Protection Regulation (EU Regulation 2016/679) and the Legislative Decree no. 196/2003 and further amendments);
3. English certificate (see table n. 3 “English language certificates”, art. 3);
4. List of exams of both Bachelor's and Master's degree programmes:

- for applicants with degree(s) obtained from a non-Italian University or from a private Italian University: official transcript(s), issued by the University of origin, produced on headed paper, containing the full list of all the exams passed and the grades obtained. The transcript(s) must also include the date of the degree conferral.

Upon enrolment, the admitted candidates must submit the original copy of the “Dichiarazione di Valore”/“Statement of validity” (related to the Master's degree) issued by the Italian Diplomatic Mission in the country where the qualification was awarded. If the Master's degree was awarded by a European university, admitted candidates can turn in the “Diploma Supplement” instead of the “Dichiarazione di Valore”.

or

- for applicants with degree(s) obtained from an Italian Public University: self-certification (“dichiarazione sostitutiva di certificazione” - Art. 46 DPR 28 December 2000, n. 445) in which applicants declare to have obtained **both a Bachelor and a Master's degrees**.

The self-declaration must include: the name of degree, the name of the University, the date of degree conferral and the graduation final grade, the full list of all the exams passed and the grades obtained (these information are required for both degrees).

In compliance with art. 75 of D.P.R. 445/2000, should the self-certification be found to be false or incorrect, the applicant loses any benefit which he/she might have acquired on the basis of the untruthful declaration.

5. Admission Request Form (available on the webpage of the Specializing Master's Programme link https://didattica.polito.it/master/seeds/2019/documentation_required;
6. Motivation Letter: max 1 page (please, see the template available at the following link https://didattica.polito.it/master/seeds/2019/documentation_required)



Failure to attach even one of the above mandatory documents will result in excluding applications from the selection process.

After the application deadlines, the Selection's Commission will evaluate all the applications received.

Selections (both for scholarship recipients and non-scholarship recipients) will consist in the evaluation of:

- CV;
- education results;
- motivation letter;
- English proficiency;

The Selection's Commission will assign a maximum of 100 points on the basis of the following criteria:

- maximum 40 points related to the CV: studies, publications, awards (max 35 points), work experiences and coherence with Specializing Master's topic (max 5 points);
- maximum 30 points for the education results: average grade; number of years to obtain the final degree;
- maximum 20 points for the motivation: motivation letter analysis (max 10 points) and number of years passed between the date of the MSc degree and the application to SEEDS programme (max 10 points);
- maximum 10 points for the English language level: certification level (max 5 points), abroad experiences (max 5 points). If the level is IELTS 5.5 (or equivalent) no points will be assigned.

Candidates who will not reach the minimum score of 60 points will be considered "not suitable" and they will not be admitted.

The person responsible for the admissions administrative procedure is Mr. Alberto Pusceddu (Head of the Specializing Master's Programmes and Lifelong Learning Office at Politecnico di Torino).

ART. 5

Selection Outcomes

At the end of the selection process, the following lists will be published on the "Selection outcomes" page of the Specializing Master's Programme website:

- the list of applicants admitted to the Specializing Master's programme
- the reserve list

Candidates, who attached all the required documents, who fulfills all the requirements, and who will reach the minimum score of 60 points will see their position in the rankings and their final score on the "Selection outcomes" page, where the official lists are published.

Please note that:

- Candidates who will not attach all the required documents, who will not satisfy all the requirements or who will not reach the minimum score required, will be not admitted.
- Candidates who have not yet obtained the Master of Science's degree will be provisionally accepted. In case they will not obtain the degree within the enrollment deadline they will not be admitted to the programme (approximately in the beginning of November 2018).

ART. 6



Enrollment

Admitted candidates who accept the offer to participate in the programme will have to enrol at Politecnico di Torino by the starting date of Specializing Master's Programme (approximately in the beginning of November 2018).

Upon enrolment, participants who hold a degree from a non-Italian University must submit the original copy of the "Dichiarazione di Valore"/"Statement of validity" (related to the Master's degree) issued by the Italian Diplomatic Mission in the country where the qualification was awarded.

If the Master's degree was awarded by a European university, participants can turn in the "Diploma Supplement" instead of the "Dichiarazione di Valore".

Participants who are non-EU citizens and reside in Italy must submit a valid Italian residence permit.

Participants who are non-EU citizens and reside abroad must submit an Italian VISA for study purpose "type – D".

ART. 7

Evaluation and qualification

STUDENTS' OBLIGATIONS

The Specializing Master's Programme requires the participants a full time commitment. Attendance to the activities is mandatory for at least 90% of the programme.

Absences will be allowed up to a maximum of 10% of total classroom hours. Absences for more than 10% of total classroom hours will lead to expulsion from the Specializing Master's programme.

Withdraw from the programme must be put in writing.

For the purpose of obtaining the Specializing Master's degree, the Master Coordinator will also evaluate the student's participation in the activities and the appropriateness of his/her behaviour.

Detailed rules about the exams will be provided during the opening day.

It is not possible to be enrolled in a Specializing Master's Programme and in another University programme at the same time.

EVALUATION METHOD

For each course participants will have to take an exam consisting in a written evaluation test, in a work group, in a paper presentation or in a mix of the previous types. At the end of the programme the final presentation (dissertation of the project work prepared during the internship) will allow to assess the student's skills.

QUALIFICATION

After completing the programme, participants who have regularly attended the activities and reached the total amount of 80 ECTS required for graduation, will be awarded the "SpacE Exploration and Development Systems" 2nd level Specializing Master's degree by Politecnico di Torino. The diploma will be issued in Italian.

ART. 8

Participation, enrolment fee and financial support

The participation fee is 3.000,00 Euro (three thousand/00) + an *enrolment fee* (19,53 Euro): the total amount shall be paid to Politecnico di Torino according to the following installments:

- 1.000,00 Euro within the deadline which will be defined by Politecnico for participants to accept the offer for the Specializing Master's Programme;
- 2.000,00 Euro at the time of enrollment + *enrolment fee*

The participation fee and the enrolment fee can be paid by wire transfer through the "Apply@polito" platform.



The participation fee paid by the participants to accept the offer for the Specializing Master's Programme (1.000,00 Euro) will be refunded only in case of failure of VISA issuing by the Italian Embassy (for extra-EU citizens only) or in case that the programme will not be activated, which happens only if the minimum number of participants required will not be reached.

In case of withdrawal or exclusion from the programme the participation and enrolment fee won't be refunded under any circumstances.

The programme will start only if the minimum number of 10 participants is reached.

Thanks to the support offered by "Compagnia di San Paolo" and "Agenzia Spaziale Italiana", Politecnico di Torino offers to SEEDS programme's participants the opportunity to benefit of a scholarship.

In order to know all the requirements and details, please refers to https://didattica.polito.it/master/seeds/2019/financial_support.

FOR ANY INQUIRY OR ADDITIONAL INFORMATION PLEASE CONTACT:

Office of Specializing Master's Programmes and Lifelong Learning

Corso Duca degli Abruzzi, 24 - 10129 Torino (ITALY)

Email: master.universitari@polito.it

ART. 9

Scholarships

Politecnico di Torino, thanks to the support of the "Agenzia Spaziale Italiana" (ASI) and "Compagnia di San Paolo" (CSP), offers to a maximum of 10 Italian and foreign students of the 2nd level Specializing Master's Programme in "SpacE Exploration and Development Systems" a.y. 2018/2019 the possibility to receive a scholarship in the gross amount of 5.000,00 Euro (five thousand/00).

In particular, ASI will finance 3 scholarships and the Compagnia di San Paolo will finance 7 scholarships.

In order to be eligible for these scholarships, students must be admitted to the 2nd level specializing master's programme in "SpacE Explorations and Development Systems" a.y. 2018/2019.

The Selection's Commission will award the 10 scholarships to the top 10 students on the admitted candidates' list. In particular, the Commission will award the ASI scholarships to the top 3 students and the Compagnia di San Paolo scholarship to the students from the 4th to 10th position of the list.

At the end of the selection process, the list of the scholarship recipients will be published on the Politecnico website (<https://didattica.polito.it/master/seeds/2019/introduction>), on the "Selection outcomes" page.

Scholarship recipients will have to confirm their participation through a declaration form. This form will be published on the website. It must be filled in and sent by email (master.universitari@polito.it) within the deadline that will be communicated (generally within 7-10 days).

In case one or more candidates will not confirm their participation within the given deadline, the scholarship will be re-assigned to students on the reserve list according to their position in the list.

The candidates placed on the reserve list will be contacted only if scholarship winner will not confirm. In this case, a new deadline will be assigned.

The gross amount of the scholarships is 5.000,00 Euro*.

Payment of the scholarship is made in 11 instalments. The first instalment is not paid at the moment of arrival at Politecnico (November 2018), but at the end of December 2018.



Payment of the scholarship and the participation to the 2nd level Specializing Master's Programme will be interrupted in case of irregular attendance of classes or insufficient results.

The scholarship may be subject to IRPEF taxation because it shall be considered as income equivalent to that of an employee. In order to establish the correct tax category, the student will therefore be required to fill out the form "Modulo detrazioni IRPEF" provided by the administrative offices of Politecnico di Torino.

* around 400 Euro net per month

ART. 10

Privacy policy and access to documents

Personal data included in the application form will be processed by Politecnico di Torino in accordance with the General Data Protection Regulation (EU Regulation 2016/679) and the Code regarding the protection of personal data (Legislative Decree No. 196 of 30th June 2003 and further amendments) in pursuit of its institutional aims and in accordance with the transparency purposes imposed by the law. The processing of personal data is based on the principles of correctness, lawfulness and relevance of purposes.

More information about the processing of personal data and the right of access by the data subject are available at: <https://didattica.polito.it/privacy/>. The data controller is Politecnico di Torino, represented by the Rector, with statutory seat in Corso Duca degli Abruzzi, 24 - 10129 Torino. For information and inquiries it is possible to contact: privacy@polito.it.

It is possible to contact the data protection officer of Politecnico di Torino for any inquiries on the processing of personal data and the right of access: dpo@polito.it

For additional information, please contact: master.universitari@polito.it.

ART. 11

Final provisions

Politecnico di Torino does not take any responsibility in case of unavailability of recipients and for loss of communications due to inexact indication of a candidate's email address or telephone number or due to delay or failure to notify changes to the contacts provided during registration.

This Call is published on the online University Bulletin available at https://www.swas.polito.it/dotnet/albo_online/.

The same can be found on <https://didattica.polito.it/master/seeds/2019/introduction>.