



**POLITECNICO  
DI TORINO**

IL RETTORE  
**Guido SARACCO**

Albo n. 1645/2019

## Call for applications

for the 2<sup>nd</sup> level Specializing Master's Programme in  
"SpacE Exploration and Development Systems"  
(12<sup>th</sup> edition)

Academic Year 2019/2020

(Annex "A"- Rector's decree n. 849/2019)



**ART. 1  
(Programme overview)**

The 12<sup>th</sup> edition of the 2<sup>nd</sup> level Specializing Masters Programme in “SpacE Exploration and Development Systems” (SEEDS) is offered by Politecnico di Torino for the academic year 2019/2020.

The administrative seat of this Specializing Master Programme is located at Politecnico di Torino – Office of Specializing Masters Programmes and Lifelong Learning (“Ufficio Master e Formazione Permanente”).

The programme is managed by the “Specializing Masters 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.

The Selection Committee is in charge of the selection process and of the assessment of the applications. A successive Rector's Decree will appoint the members of the Selection Committee.

**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 2<sup>nd</sup> level Specializing Master is a full time programme of one academic year duration for a total of 80 ECTS; it will start in November 2019 and will end in October 2020.

Lectures will be held in English at Politecnico di Torino premises – starting approximately in November 2019 and ending in March 2020.

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 III (Leicester)
INTERNSHIP PHASE 4 AUXILIARY ACTIVITIES FOR PROJECT WORK (ESA)



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)**

The 2<sup>nd</sup> level Specializing Masters Programme is open to a maximum of 15 participants.

You must hold a full degree (Master of Science degree/Laurea specialistica/Laurea magistrale or equivalent) by the enrolment deadline in the following areas:

- LM 17 - Physics
- LM 18 - Computer Science
- LM 20 - Aerospacial 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
- LM 53 - Materials engineering

You must prove to have a good knowledge of the English language (equivalent to level B2 CEFR) which can be certified by a language certificate included in the list of the accepted certificates (Table n. 3 – English Language certificates).

Table n. 2 - English language certificates

EXAMINATION BOARD	CERTIFICATE	MINIMUM REQUIREMENTS
IELTS <a href="http://www.ielts.org">www.ielts.org</a>	IELTS ACADEMIC or GENERAL TRAINING	5.5
PEARSON <a href="https://pearsonpte.com/">https://pearsonpte.com/</a>	Pearson Test of English Academic	59



ETS www.ets.org	TOEFL IBT	≥72
	TOEIC	Listening: 400 Reading: 385 Speaking: 160 Writing: 150
CAMBRIDGE Assessment English https://www.cambridgeenglish.org/ formerly known as: Cambridge English Language Assessment	All certificates*	Cambridge English Scale score ≥162
	Cambridge English: PRELIMINARY (PET) obtained before 2016	Pass with Distinction (≥91) Statement of Results is required
	Cambridge English: FIRST (FCE) obtained before January 2015	≥62 Statement of Results is required
	Cambridge English ADVANCED/CAE obtained before 2015	Any score
	Cambridge English: PROFICIENCY/CPE obtained before January 2015	Any score

You are exempted from having one of the above-listed certificates if, upon enrolment, you provide a stamped declaration/certificate written on official letter headed paper, which certifies that:

- a) you 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) you 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 you 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 in the USA, UK, Canada, Ireland, Australia and New Zealand do not need to include the phrase “The medium of instruction is English”.

Even if you have not earned your Master’s degree yet but are going to graduate before the enrolment deadline you can submit your application for admission to the programme.

#### **ART. 4 (Admission and Selection process)**

##### Admission and deadline

The Specializing Masters Programme is open to a maximum of 15 participants.

You can apply for admission for this Specializing Master’s Programme ONLY through the Application Form available at: [https://didattica.polito.it/master/seeds/2020/how\\_to\\_apply](https://didattica.polito.it/master/seeds/2020/how_to_apply)

DO NOT apply by e-mail, fax or mail because these applications will NOT be considered.

Application are due by:

- **September 30<sup>th</sup>, 2019 at 1:00 pm - italian time**

ALL the following supporting documents must be attached to your application 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 the General Data Protection Regulation (EU Regulation 2016/679) and the Personal Data Protection Code, Legislative Decree 30 June 2003 no. 196 and subsequent 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. Application form and questionnaire (available on the webpage of the Specializing Master’s programme <https://didattica.polito.it/master/home/en/request>)
  6. Motivation Letter: max 1 page (please, see the template available at the following link [https://didattica.polito.it/master/seeds/2020/documentation\\_required](https://didattica.polito.it/master/seeds/2020/documentation_required))

If you fail to attach even one of the above mandatory documents, you will be excluded from the selection process.

### Selection process

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

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

Your Application will be assessed by the Selection Committee, that can assign a maximum of 100 points, according to the following criteria:

- maximum 40 points related to the CV: work experiences and coherence with Specializing Master’s topic;
- 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 and number of years passed between the date of the MSc degree and the application to SEEDS programme;
- maximum 10 points for the English language level: if the level is B2 no points will be assigned. The assignment is calculated from a baseline of C1 level.

If your application does not score at least 60 points will be considered "not suitable" and you will not be admitted.



The person in charge of the administrative procedure is Mr. Alberto Pusceddu (Head of the Specializing Masters Programmes and Lifelong Learning Office).

### **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 Programme's website:

- the lists of applicants admitted to the Specializing Master programme
- applicants the reserve list.

Provided that you have attached all the required documents and fulfilled all the requirements, you will see your position in the rankings and your final score on the "Selection outcomes" page, where the official lists are published: [https://didattica.polito.it/master/seeds/2020/selection\\_outcomes](https://didattica.polito.it/master/seeds/2020/selection_outcomes).

Please note that:

- if you do not fulfill all the requirements or fail to attach to the application the mandatory documents, you will be not admitted;
- if you have not yet obtained the Master's degree you will be provisionally accepted. In case you will not obtain the degree within the enrollment deadline (approximately in November 2019) you will not be admitted to the programme.

### **ART. 6 (Participation confirmation, enrolment and documents submission)**

#### Participation confirmation

In case you are on the list of applicants admitted to the Specializing Master's programme, in order to confirm your participation, you must comply within the deadline defined by Politecnico for participants to accept the offer and:

- download the Acceptance Declaration, fill it in and send it by e-mail to [master.universitari@polito.it](mailto:master.universitari@polito.it);
- pay a 1.000,00 euro advance fee (see ART. 8). This payment is needed to confirm the acceptance of the offer for the Specializing Master's programme.

You will receive the advance fee payment request in the same day of the publication of the selection outcomes. You will be given a week to proceed with payment.

Failure to send the declaration and payment within the aforementioned terms is considered as final renunciation to the programme.

In case you are on the reserve list, it means that you are eligible for replacement and will have the possibility to enrol in the programme if one or more participants renounce their offer of admissions. In this case, the Office of Specializing Master's Programmes will contact you according to your order on the ranking list.

Admitted students are given a deadline to confirm their participation.

If you decide to decline your offer of admission, you are invited to inform the Office of Specializing Master's Programmes ([master.universitari@polito.it](mailto:master.universitari@polito.it)) with an official notification.

#### Enrolment

If you are admitted, you must enrol at Politecnico before the programme starts. You will receive an e-mail with useful information for your enrolment. You are not allowed to be simultaneously enrolled in another Specializing Master's programme nor in any other university programme. If you are enrolled in another programme, you must



finish your studies or suspend them before enrolling in the 2nd level Specializing Master's programme in "SpacE Exploration and Development Systems".

#### Documents submission

After completing the enrolment process, admitted students must present the original documents uploaded to their Application Form to the Office of Specializing Master's Programmes together with the Acceptance Declaration before the programme starts (please refer to art. 4).

If your degree was awarded by a non-Italian University, upon enrolment you must submit the original copy of the Dichiarazione di Valore/Statement of validity (related to your degree) issued by the Italian Diplomatic Mission in the country where the qualification was awarded or Attestato di Comparabilità /Statement of Comparability issued by the CIMEA Centre.

If your degree was awarded by a European university, you can submit your Diploma Supplement instead of the Dichiarazione di Valore/Statement of validity.

If you do not submit your Statement of validity, you can enrol in the programme with condition, but you must present this document within 6 months of the beginning of the programme. If you do not provide the above-mentioned mandatory document by the deadline, you are placed on hold and cannot progress in your studies until you actually present this document.

If you are a non-EU national, you are required to comply with the norms on entry visa and residence permit. You have to submit:

- Student Visa – type D for participants who are non-EU citizens residing abroad;
- Valid residence permit for non-EU citizens residing in Italy.

Politecnico di Torino reserves itself the right to check the truthfulness of the declarations included in self-certificate sent by the applicants (pursuant to Article 46 of DPR. no. 445 of 28 December 2000) and Politecnico excludes them from the ranking list in the event of false declarations.

### **ART. 7**

#### **(Student assessment and final qualification)**

##### **STUDENTS' OBLIGATIONS**

The Specializing Masters Programme requires your full time commitment. You are requested to attend activities for at least 90% of the programme.

Absences for more than 10% of total classroom hours will lead to exclusion from the Specializing Master programme.

Withdraw from the programme must be put in writing.

For the purpose of obtaining the Specializing Master's degree, the Master Director 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.

You cannot be simultaneously enrolled in a Specializing Master's programme and in another university programme.

##### **EVALUATION METHOD**

At the end of each course, you 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, participants make a final presentation (dissertation of their project work conducted during internship) and are assessed for it.

##### **QUALIFICATION**

Upon completion of the programme, participants who regularly attended the activities and earned 80 ECTS (required for graduation), are awarded the "SpacE Exploration and Development Systems" 2<sup>nd</sup> level Specializing Master's diploma by Politecnico di Torino. The diploma will be issued in Italian.



If, at the end of the Specializing Master's Programme, you have not passed all the exams included in your Study Plan you can get a Certificate of Attendance and a Transcript of Records with the list of the exams that you have passed with grades, dates, credits and scientific disciplinary field.

### **ART. 8 Participation and enrolment fee**

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

- 1.000,00 Euro (one thousand/00) advance fee by the date defined by Politecnico as the deadline for accepting the offer of admission to the Specializing Master's programme. You will receive the advance fee payment request in the same day of the publication of the selection outcomes. You will be given a week to proceed with payment. This payment is mandatory to confirm your participation in the Specializing Master's programme; failure to send payment within the aforementioned terms is considered as final renunciation to the programme;
- 2.000,00 (two thousand/00) Euro + 19,53 Euro (nineteen/53) at the time of enrolment (approximately in November 2019).

The participation fee and the enrolment fee can be paid through the Apply@polito platform.

Your advance fee (1.000 Euro) can be reimbursed only in the following cases:

- if the Italian Embassy does not issue your Visa (for extra-EU citizens only);
- if the programme does not start, which happens only if the minimum number of participants is not reached.

If you withdraw from the programme or are excluded from it, you will not be reimbursed your participation fee and enrolment fee under any circumstances.

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

*\*\*16,00 Euro enrolment revenue stamp + 3,53 Euro premium for accident insurance. The insurance premium may change due to the stipulation of a new insurance contract.*

### **ART. 9 (Scholarships)**

Politecnico di Torino offers to SEEDS programme's participants the opportunity to benefit of 7 scholarships in the gross amount of 5.000,00 Euro (five thousand/00), also thanks to the support offered by "Agenzia Spaziale Italiana", that makes available 3 of them.

In order to be eligible for these scholarships, applicants must be admitted to the 2<sup>nd</sup> level Specializing Master's programme in "SpacE Exploration and Development Systems" a.y. 2019/2020. Applying for admission to the 2<sup>nd</sup> level Specializing Master's programme in "SpacE Exploration and Development Systems" a.y. 2019/2020 you will also apply for the scholarships awards.

Scholarships are awarded by the Selection Committee to the 7 top students on the ranking list. The Committee will award the ASI scholarships to the top 3 students and the other scholarships to the students from the 4<sup>th</sup> to 7<sup>th</sup> position of the ranking list.





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

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

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

- maximum 40 points related to the CV: work experiences and coherence with Specializing Master's topic;
- 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 and number of years passed between the date of the MSc degree and the application to SEEDS programme;
- maximum 10 points for the English language level: if the level is B2 no points will be assigned. The assignment is calculated from a baseline of C1 level.

Scholarship recipients are required to attend at least 90% of the programme (including lectures and training activities) in order to keep receiving their scholarship.

At the end of the selection process, the list of the scholarship recipients will be published on the Politecnico website on the "Selection outcomes" page.

Scholarship recipients will have to confirm their acceptance 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](mailto: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 the acceptance 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 a 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 2019), but at the end of December 2019.

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.

Politecnico di Torino reserves itself the right to offer other scholarships or excellence awards addressed to the SEEDS programme's participants in case of further availability of funding.

*\* around 400 Euro net per month*

## **ART. 10 (Competent office)**

The competent office is the Office of Specializing Master's Programmes and Lifelong Learning of Politecnico di Torino.

For any inquiries or additional information, please contact:

Office of Specializing Master's Programmes and Lifelong Learning  
Corso Duca degli Abruzzi, 24 - 10129 Torino (ITALY)

e-mail: [master.universitari@polito.it](mailto:master.universitari@polito.it)



**ART. 11  
(Processing of personal data)**

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) personal data are processed by Politecnico di Torino exclusively for the selection and enrolment process in pursuit of the university 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 on the processing of personal data is 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.

You can contact the Data Controller at [politecnicoditorino@pec.polito.it](mailto:politecnicoditorino@pec.polito.it) (certified e-mail)

For further information and inquiries write to [privacy@polito.it](mailto:privacy@polito.it)

You can contact the Data Protection Officer (DPO) of Politecnico di Torino for inquiries on the processing of your personal data and your rights at: [dpo@polito.it](mailto:dpo@polito.it); [dpo@pec.polito.it](mailto:dpo@pec.polito.it) (certified email)

**ART. 12  
(Final provisions)**

Communication with candidates will take place primarily through the "Apply@Polito" platform.

Specific communications might be sent via email or SMS using the contact details provided by candidates during registration on the platform.

Politecnico 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/](https://www.swas.polito.it/dotnet/albo_online/).

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