



ALBO n. 1181/2017

Call for applications

for the 2nd level Specializing Masters Programme in

“SpacE Exploration and Development Systems”

(10th edition)

Academic Year 2017/2018

(Annex “A”- Executive Decision of the Head of the Division of Student Affairs no. 915/2017)



ART. 1

Programme overview

The 10th edition of the 2nd level Specializing Masters Programme in “SpacE Exploration and Development Systems” (SEEDS) is offered by Politecnico di Torino for the academic year 2017/2018.

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.

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 2017 and will end in October 2018.

Lectures will be held in English at Politecnico di Torino premises – starting in November 2017 and ending in March 2018.

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

The 2nd level Specializing Masters Programme is intended for Italian and foreign citizens having completed a Master of Science Degree (or equivalent title) in the following areas or related subjects:

- 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

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 end of October 2017).

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** at the end of this article in order to know the required level and accepted certificates).

Candidates who have a Bachelor's degree or a Master's degree from a University where English is the medium of instruction do not need to submit these certificates. In this case the University must issue a transcript of records which also state that "The medium of instruction is English".

Table n.3 – English language certificates

Examination Board	Certificate	Minimum score accepted
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
Cambridge English Language Assessment http://www.cambridgeenglish.org	Cambridge Preliminary English Test (PET)	Pass with Distinction
	Cambridge English First (FCE)	
	ADVANCED/CAE	



/exams/	PROFICIENCY/CPE	
	BULATS	Reading & Listening: overall score 60 Writing e Speaking: overall score B2 NB: Certificate should state the name of authorized BULATS center where the exam was taken.
IELTS (https://www.ielts.org/)	IELTS (International English Language Testing System) – Academic or General training	5.5
Trinity College London (http://www.trinitycollege.com/)	Trinity ISE	ISE II
Pearson http://pearsonpte.com/	Pearson Test of English Academic	51
LCCI / Pearson http://qualifications.pearson.com/en/qualifications/lcci.html	ELSA (English Language Skills Assessment)	Reading, Writing, Listening e Speaking: B2 in all 4 tests
	JETSET	JETSET Level 5 or higher Reading: 50% Writing: 50% Listening: 50% Speaking: 50%
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 gmbH (https://www.telc.net/en.html)	TELC	Reading, Writing, Listening e Speaking: B2 in all 4 tests
AKS Unicert (http://www.unicertonline.org/en)	UNIcert II	UNIcert II¶

ART. 4

Admission and Selection Procedures

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

Application for the Specializing Masters 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/2018/how_to_apply

Application forms must be submitted within:

- **September 11th, 2017** 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 Legislative Decree no. 196/2003);
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 Masters Programme link https://didattica.polito.it/master/seeds/2018/documentation_required;
6. Motivation Letter: max 1 page (please, see the template available at the following link https://didattica.polito.it/master/seeds/2018/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: 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 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.

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
- 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 reach the minimum score required, who will not satisfy all the requirements or who did not attach all the required documents, 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 at the end of October 2017).

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 Masters Programme (approximately in the end of October/beginning of November 2017).

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 Masters 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 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 Masters 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

Tuition, enrolment fee and financial support

The tuition 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 Masters Programme;
- 2.000,00 Euro at the time of enrollment + *enrolment fee*

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

The tuition fee paid by the participants to accept the offer for the Specializing Masters 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 tuition 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/2018/financial_support.

FOR ANY INQUIRY OR ADDITIONAL INFORMATION PLEASE CONTACT:

Office of Specializing Masters Programmes and Lifelong Learning

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

Email: master.universitari@polito.it

ART. 9

Privacy policy and access to documents

The information provided for in Article 13 of the "Code regarding the protection of personal data" (Legislative Decree No. 196 of 30th June 2003) is available at: <https://didattica.polito.it/privacy/>.

The personal data included in the on-line application form are treated for the selection and enrolment process only; the data are used by Politecnico di Torino within the institution itself, and exclusively for purposes of the institution: for this reason, personal data are shared with various offices within the University (to carry out the activities within their competence) without further notification to the applicants.

Owner of the database is Politecnico di Torino, represented by the Rector, with legal sat in Corso Duca degli Abruzzi, 24 - 10129 Torino.

The person in charge of the student data is the Head of the Division of Student Affairs.

Access to all documents is allowed in the forms provided for by current Legislation.

ART. 10

Selection Commission

A Selection Commission, be nominated with a decree of the Rector, will evaluate all the application received within the deadline (4th September 2017, 11:59 italian time).

ART. 10

Final provisions

1. 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.

2. 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.
3. 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/>.