



Call for applications
for the 2nd level Specializing Master's programme in
“Tunnelling and Tunnel Boring Machines”
(13th edition)

Academic Year 2021/2022

(Annex “A”- Rector's Decree no. 388/2021)



**ART. 1
(Programme overview)**

The 13th edition of the 2nd level Specializing Master's programme in "Tunneling and Tunnel Boring Machines" is offered by Politecnico di Torino for the academic year 2021/2022.

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 Daniele Peila, Associate Professor at the Department of Environment, Land and Infrastructure Engineering of Politecnico di Torino.

**ART. 2
(Training objective, didactic contents and organization of the activities)**

The thirteenth edition of the 2nd level Specializing Master's programme in "Tunneling and Tunnel Boring Machines" is designed to provide young graduates with a sound of technical and managerial knowledge so that they can acquire a multidisciplinary knowledge that is necessary to work in the tunnelling sector.

It is a 1-year programme scheduled from January 2022 to December 2022, full time from Monday to Friday. It combines 3 taught modules including a combination of teaching methods such as face-to-face lectures, seminars and practical activities (from January to July), followed by an internship (2 months, 10 ECTS, 250 hours) either abroad or in Italy in a construction site or in a tunnelling design company (between July and October). The award ceremony will be held on December 2022.

The successful completion of the Master will provide students with 60 ETCS.

Lectures will be held in English; training activities, except for the site visit and the internship, will take place at Campus Politecnico - Lingotto. The programme is residential.

Politecnico di Torino defined specific operational procedures concerning the measures against the spread of COVID-19 that are constantly updated according to the provisions of the Italian Authorities on this matter (please refers to <http://www.coronavirus.polito.it>).

In case COVID-19 emergency should continue and it would not be possible to hold classes on site, all classes will be guaranteed online, through a virtual classroom platform (on synchronous basis with possibility to register classes to make these available on asynchronous basis). In case Italian national rules allow to hold classes at Politecnico di Torino but some enrolled students would be unable to attend due to their regional or national provisions on COVID-19, these students will be guaranteed the possibility to follow classes online, upon presentation of documentation proving such impeding provisions.

The teaching programme is structured as follows:

- 9 courses divided in three modules (table n. 1)
- Internship
- Final project

The full list of the Specializing Master's courses is available in Table n.1 – *Organization of the courses*.



Table n.1 – Organization of the courses

	TEACHER	SSD	ECTS/CFU	HOURS
MODULE 1				
Tunnel design and construction method	Daniela Peila	ING-ND/28	8	80
Rock Mass Characterization. Geo investigations and risk assessment	Stefano Lo Russo	ICAR/07 GEO/05	6	60
Tunnel supports	Monica Barbero	ING-IND/28 ICAR/07	5	50
Numerical design	Adjunct Professor	ING-IND/28 ICAR/07	3	30
MODULE 2				
General aspects of mechanized tunnelling and Hard Rock TBMs	Daniela Peila	ING-IND/28	8	80
Soil mechanics tunnelling	Daniele Peila	ING-IND/28	6	60
Plants and microtunnelling	Marilena Cardu	ING-IND/28	3	30
MODULE 3				
Contractual and legislative aspects, work sites management, quality	Daniele Peila	ING-IND/28	4	40
Safety and environmental issues of work sites	Daniele Peila	ING-IND/28	3	30
			46	460

**ART. 3
(Admission requirements)**

You must hold a full degree (Master of Science degree/Laurea specialistica/Laurea magistrale or comparable degree) by the enrolment deadline in order to be admitted to this 2nd Level Specializing Master's programme.

The programme is intended for graduates who completed a Master's degree programme (or comparable) in the following areas:

- Civil Engineering (LM 23)
- Environmental Engineering (LM 35)
- Geology (LM 74)

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

The Selection Committee can admit candidates holding different degrees if they prove to have the scientific and cultural knowledge necessary to successfully attend the programme.

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. 2 – English Language certificates).

Table n. 2 - English language certificates

EXAMINATION BOARD	CERTIFICATE	MINIMUM SCORE ACCEPTED
IELTS https://www.ielts.org/	IELTS (International English Language Testing System) – Academic or General training	5.0
Cambridge English Language Assessment	Cambridge English: PRELIMINARY (PET)	Pass with Merit
	BULATS	Reading & Listening: overall score 54



http://www.cambridgeenglish.org/exams/		Writing & Speaking: at least one B2 in one of the tests
Cambridge Assessment English http://www.cambridgeenglish.org/exams-andtests/qualifications/general <i>formerly known as:</i> Cambridge English Language Assessment http://www.cambridgeenglish.org/exams/	All certificates	Cambridge English Scale: score 154
	BULATS	Reading & Listening: overall score 54 Writing & Speaking: at least one B2 in one of the tests
ETS http://www.ets.org/toefl	TOEFL - ibt	62
	TOEFL iBT Home Edition	
	TOEFL - cbt	210
	TOEFL - pbt	547
	TOEIC	Listening: 360; Reading: 350; Speaking: 150; Writing: 140
Pearson http://pearsonpte.com/	Pearson Test of English Academic	51
LCCI – EDI / Pearson http://qualifications.pearson.com/en/qualifications/lcci.html	JETSET	JETSET Level 4 Reading, Writing, Listening e Speaking: pass with overall score (“total”) “Distinction”
Trinity College London http://www.trinitycollege.com/	Trinity ISE I	Reading, Writing, Listening, Speaking: pass with overall result “Distinction” in all the tests □

In alternative to one of the above-listed certificates you can provide, within the deadline for applications, a stamped declaration/certificate written on official letter headed paper, which certifies that:

- 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”;
- 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 (HEI) in which the medium of instruction is English. In both cases the school or the HEI must issue a certificate stating that: “The medium of instruction is English”.

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

ART. 4 (Admission and selection process)

Admission and deadline

The 2nd level Specializing Master’s 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/tunnelling/2022/how_to_apply



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

Applications are due by:

- **September 24th at 2 p.m. - Italian time**

Evaluation of applicants' qualifications

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. List of exam of both Bachelor's and Master's degree programmes:
 - for graduates/graduand from a non-Italian university or a private Italian University: official transcript(s) issued by the university of origin, produced on letter-headed paper, containing the full list of exams passed and the grades obtained. The transcript(s) must also include the graduation final grade and the date of the degree conferral. Upon enrolment, admitted applicants must submit the original copy of their "*Dichiarazione di Valore*" Statement of validity" (related to their Master's degree) issued by the Italian Diplomatic Mission in the country where the degree was awarded. If the Master's degree was awarded by a European university, admitted applicants can present their "Diploma Supplement" instead of their "*Dichiarazione di Valore*".

or

- for graduates/graduand 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 degree.

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

In compliance with art. 75 of D.P.R. 445/2000, should the self-certificate 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.

4. English language certificate (see table n. 2 "English language certificates", art. 3);
5. Master's degree thesis abstract;
6. Admission form and questionnaire (available on the webpage of the Specializing Master's programme https://didattica.polito.it/master/tunnelling/2022/deadline_documentation?d=preview)
7. Motivation Letter: max 1 page (see the template available at this link https://didattica.polito.it/master/tunnelling/2022/deadline_documentation?d=preview).

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

After the application deadline, the Selection Committee assesses all the applications and the attached documents.

The Selection Committee can assign a maximum of 100 points, according to the following criteria:

- academic background's coherence with T&BM programme's topic (**up to 25 points**);
- MSc's final grade (for graduands: weighted average grade of the exams passed before the application deadline as stated in the documentation uploaded to Apply@polito) (**up to 18 points**);
- Motivation letter (**up to 25 points**);



- MSc's final thesis, number of years needed to obtain the degree and evaluation on the cv in order to pursue the homogeneity of the class group (**up to 25 points**);
- Work experiences related to T&TBM programme's topic (**max 1 point per year up to 5 points**);
- Work experiences in a different field but in the engineering and/or geology's field (**max 0,5 points per year up to 2 points**).

The final score will be based upon the above-mentioned criteria, up to a maximum of **100 points**; candidates who do not reach the minimum score of **60 points** will be considered as "ineligible" and they will not be admitted to the programme.

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, a merit-ranking list will be published on the online University Bulletin and on the Selection Outcomes page of the Specializing Master Programme's website.

The ranking list will contain:

- the list of applicants admitted to the Specializing Master's programme;
- applicants on 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, when the official lists are published.

Please note that 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 enrolment deadline (approximately beginning of January 2022) 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;
- 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) 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 "Tunnelling and Tunnel Boring Machines".

Documents submission

After completing the enrolment process, admitted students must arrange an appointment and present the original documents uploaded to their Application Form to the Office of Specializing Master's Programmes and Lifelong Learning 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 from 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)

The Specializing Master's programme requires you a full-time commitment. You are requested to attend activities for at least 85% of the programme.

Absences for more than this limit lead you to exclusion from the Specializing Master's programme.

Withdraw from the programme must be put in writing.

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

STUDENT ASSESSMENT

At the end of each course, you have to take an exam consisting in a written test and/or an oral evaluation test.



If you fail the exam, you can arrange a make-up exam directly with the professor responsible for the course. You can take a make-up exam just once.

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

The final grade is assigned by the Graduation Examining Committee who will assess the overall Average grade of all the exams on a scale of 110. The Graduation Examining Committee can add up to a maximum of 5 points, taking into consideration the evaluation of the work you have carried out for the project work (dedication, autonomy, methodological rigour, relevance of results, etc.).

If you reach the score of 110/110, the Graduation Examining Committee might decide to confer the degree with honours (cum laude).

The decision must be taken by qualified majority (at least 2/3 of the Committee members must vote in favour of awarding this distinction).

More details about the exams, final presentation and project work will be presented at the beginning of the programme.

FINAL QUALIFICATION

Upon completion of the programme, participants who regularly attended the activities and earned 60 ECTS (required for graduation), are awarded the "Tunnelling and Tunnel Boring Machines" 2nd 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)

Participation and enrolment fee

The participation fee is 6.000,00 Euro (six thousand/00) + 21,00 Euro (twentyone/00) for the enrolment fee¹.

The total amount must 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 Euro (two thousand/00) + 21,00 Euro (twentyone/00) at the time of enrolment (approximately January 2022);
- 3.000,00 Euro (three thousand/00) within six months from the enrolment.

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.

¹ 21,00 € = Premium for accident insurance (5,00 €) + Enrolment revenue stamp (16,00 €). The insurance premium may change due to new rules adopted by Edisu and to the stipulation of an insurance contract



Enrolling in the programme you accept any obligation and charge related to the payment of the participation and enrolment fee.

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 issue of the Diploma of the 2nd level Specializing Master's programme in "Tunnelling and Tunnel Boring Machines" requires the payment of a revenue stamp (16,00 €).

Participation sponsored by Third Parties

If your participation in the programme is sponsored by Third Parties (payment of one or more instalments), it will be processed as follows:

- the sponsor must complete and submit the form available at https://didattica.polito.it/master/home/it/finanziamento_quote_per_il_dipendente
- after the end of the admission process, the sponsor will receive a message with:
 - the list of admitted sponsored candidates
 - payment methods.
- The 2nd level Specializing Master's Programme in "Tunnelling and Tunnel Boring Machines" is included in the course catalogue of Politecnico. Therefore, participation and enrolment fees are VAT exempt (Article 4 of DPR 633/72). Upon payment, Politecnico di Torino will issue a payment receipt.

In case of participations sponsored by Third Parties, Politecnico di Torino may provide for exceptions from the provisions related to the number of instalments and to the deadlines scheduled for the payment of the participation and enrolment fee.

If you are enrolled in the 2nd level Specializing Master's Programme in "Tunnelling and Tunnel Boring Machines", including if you are sponsored by Third Parts, you are subject to the rules and provisions of the Tuition Fee Guide concerning failure to pay or late payment and hold on academic progress.

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

ART. 9 Single courses enrolment

You can enrol in the single courses of this Specializing Master's programme, without enrolling in the entire programme, provided that you meet the requirements prescribed for the programme (ART. 3 – Admission Requirements).

The list of the Specializing Master's courses available for single course enrolment is available in Table n.3 – *Single courses*.

The maximum number of participants, deadlines and instructions to apply will be available starting approximately from the end of November 2022 on the Specializing Master's programme's webpage.

You will be able to apply to a single course by a specific form that will become available at the page: https://didattica.polito.it/master/tunnelling/2022/at_a_glance.

You will be admitted to enrol in single courses on a first come first served basis, up to the maximum number of participants.



Participation fee for single course enrolment are composed of a fixed fee (21,00 Euro)** and the amount required for the specific course (Table n. 3 – Single Courses) for each credit that you want to purchase. The fixed fee is valid for the academic year 2021/2022. This means that if you enrol in more than one single course you will have to pay the fixed fee just once.

We remind you that single course enrolment:

- is incompatible with your enrolment at any other Italian university: you are not allowed to be enrolled in another degree programme;
- is valid for one academic year (i.e. one edition of the Specializing Master's programme);
- participants enrolled in single courses do not contribute to the minimum number of participants required to activate the programme. They are admitted in excess. Single courses enrolment will be available provided that the Specializing Master's programme in Tunnelling and Tunnel Boring Machines will be activated;
- single course enrolment can be denied in case the chosen course reach the maximum number of participants;
- In order to be admitted to the final exam(s) you are required to attend activities for at least 75% of the course(s) you are enrolled in. If you fail the exam, you can arrange a make-up exam directly with the professor responsible for the course. You can take a make-up exam just once.

Table n. 3 – Single courses

N.	Course	ECTS	Hours	Participation fee
1	Tunnel design and construction method	8	80	1.040,00 €
2	Rock Mass Characterization. Geo investigations and risk assessment	6	60	780,00 €
3	Tunnel supports	5	50	650,00 €
4	Numerical design	3	30	390,00 €
5	General aspects of mechanized tunnelling and Hard Rock TBMs	8	80	1.040,00 €
6	Soil mechanics tunnelling	6	60	780,00 €
7	Plants and microtunneling	3	30	390,00 €
8	Contractual and legislative aspects, work sites management, quality	4	40	520,00 €
9	Safety and environmental issues of work sites	3	30	390,00 €

***16,00 Euro enrolment revenue stamp + 5 Euro premium for accident insurance. The insurance premium may change due to the stipulation of a new insurance contract.*

**ART. 9
(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



**ART. 10
(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 (certified e-mail).

For further information and inquiries write to 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; dpo@pec.polito.it (certified email).

**Art. 11
(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/.

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

