The ITA-CET committee endorses several post-graduate courses on tunnelling world wide.

Students wishing to follow an endorsed Master can request sponsorship from the <u>ITACET Foundation</u>.

Post-graduate courses endorsed by ITA

This Master is a full-time course lasting one year. During the first six months the students will attend theoretical lessons and seminars and will take part in technical visits to construction sites and laboratories. Most of the lessons will be online, while one month of face-to-face classes is scheduled to faciltate the collaboration among the students and the development of a network with academic teachers, professionals and managers involved in tunnelling. During the following six months, the students will have the opportunity to be be involved in interships/projects in companies active in the sector, under the supervision of professors and professionals.

Master Directors:

- Prof. Claudio DI PRISCO Politecnico di Milano
- Prof. Daniela PEILA Politecnico di Torino

Web page : <u>https://www.mastertunnelling.polimi.it/</u>

At the initiative of the French Association of Tunnels and Underground Space (AFTES), INSA Lyon and ENTPE in partnership with AFTES and the Centre d'Etudes des Tunnels created this Specialized Master designed to meet the high expectations

of the French and international markets in training specialists in the design, construction and operation of underground structures.

This course gives general civil engineers specialized training enabling their rapid evolution to positions of responsibility, whether in project management or operations. In February 2011, this Specialized Master obtained the accreditation of the Conférence des Grandes Ecoles. It has also obtained endorsement from ITA and support from the Underground Works Union (FNTP).

Email: sefdi@insa-lyon.fr **Website:** <u>https://www.insa-lyon.fr/fr/mastere-ouvrages-souterrains#0</u>

This online Master is organized by AETOS (the Spanish Association of underground Works), CICCP (Association of Civil Engineers) and UNED (the Spanish Open University). It is available online (enabling students to study at their own pace) or on-campus (subject to a sufficient number of registrations).

The objective of this ITA endorsed course is to provide students with a high level of instruction in tunnelling and underground works that will grant them access to the labour market in this specific technical field. Students will achieve sound knowledge in planning and design and the managment and execution of works.

An additional objective is to provide supplementary specialized instruction for students who envisage a career in research and/or teaching after the course.

The Master course runs from November to October and is conducted in Spanish, although a certain number of specific conferences may be held in English.

Email: master@aetos.es **Website:** <u>https://aetos.es/en/formacion/</u>

In 2014 the National Autonomous University of Mexico, (UNAM), the Alliance for Training and Research in Infrastructure for Development in Mexico (FiiDEM Alliance) and the Mexican Association for Tunnel Engineering and Underground Works (AMITOS) set up a Master's degree in civil engineering, with a specific focus on tunnelling and underground works.

The course, which has a duration of two years, is designed around 13 modules, covering essential topics such as geology, rock and soil mechanics, numerical methods in underground works, excavation procedures, support systems, laboratory and field testing and shotcrete use. These subjects are studied in the first two semesters. The third semester focuses on research activities and provides students with the chance to work on real projects through an internship, whilst a thesis is

defended at the end of the fourth semester.

To be accepted on this course, students must have already completed a civil engineering degree (9 semesters).

The course is taught primarily in Spanish.

Website: http://www.ingenieria.unam.mx/posgradoingcivil/index.html

<u>Flyer 2018</u>

Contact persons: Susana García Cotto (amitos@amitos.org) M.I. Marco Tulio Mendoza Rosas (rockmarc@unam.mx)

Website

: <u>https://mitwpu.edu.in/programme/mtech-civil-engineering-tunnel-engineering</u>

Course Director: Sandeep Potnis (sandeep.potnis@mitpune.edu.in)

Course brochure : <u>M.TechTunnelEnggProgramatMITWPUIndia.pdf</u>

Information on other academic courses in tunnelling

Information on other courses in tunnelling offered by establishments can be found below:

Brochure_NATM_Master_of_Engineering.pdf

Website: http://www.subsurface.at

Course director: Professor Robert Galler (robert.galler@unileoben.ac.at)

Brochure_NATM_Master_of_Engineering.pdf

Website: <u>Click here to access the web page</u>

Contact person: Professor Thomas Marcher (thomas.marcher@tugraz.at)

Information on courses offered by the University of Brasilia

ITA-CET University Network member: André Assis (aassis@unb.br)

Information on courses offered by the University of São-Paulo

ITA-CET University Network member: Tarcisio Celestino (tbcelest@usp.br)

Information on courses offered by TongjiUniversity

Website: http://civileng.tongji.edu.cn (University webpages)

ITA-CET University Network member: Yun Bai (Baiyun1958@tongji.com.cn)

Information on courses offered by Southwest Jiaotong University

ITA-CET University Network member: Wenge Qiu (qiuwen qw@163.com)

List of courses offered by the Ecole Nationale des Travaux Publics de l'Etat

ITA-CET University Network member: Denis Branque

(denis.branque@entpe.fr)

RUB is offering a new master course in English, entitled "Subsurface engineering", aimed at national and international students. It is a full 2-year master course, which requires a previous BSc degree in civil engineering, geosciences or a related field.

flyer 2022.pdf

Additional information can be found at the following link:

http://subsurface.sd.rub.de/

ITA-CET University Network member: Markus Thewes (markus.thewes@rub.de)

Information on courses offered by Delft University of Technology

ITA-CET University Network member: Professor Wout Broere

Website links:

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Click here for list of available courses

ITA-CET University Network member: Kristin Holmoy (kristin.holmoy@ntnu.no)

Information on courses offered by the University of Ljubljana

Website: https://www.ntf.uni-lj.si

ITA-CET University Network member: Jakob Likar (jakob.likar@ntf.uni-lj.si)

Information on courses offered by ETH Zurich

WEbsite: <u>http://www.igt.ethz.ch</u>

ITA-CET University Network member: Georgios Anagnostou (georg.anagnostou@igt.baug.ethz.ch)

Information on courses offered by Colorado School of Mines

ITA-CET University Network Member: Michael Mooney (mmooney@mines.edu)

Website: http://ucte.mines.edu/UCTE-grad-program

Website: https://www.colorado.edu (Online certifcate in tunnelling)

ITA-CET University Network Member: Dr. Fulvio Tonon, P.E., Ph.D. (fulvio@tononeng.com)