POLITECNICO
MILANO 1863

PROVA SCRITTA

TRACCIA n. 1

Il/la candidato/a descriva quale impostazione darebbe a una ricerca finalizzata a valutare l'efficacia delle pratiche di economia circolare in contesti urbani e peri-urbani nel settore agroalimentare, considerando sia gli aspetti tecnico-operativi che le dinamiche di collaborazione tra attori pubblici, privati e del terzo settore. Si chiede di:

- Specificare metodologie di analisi qualitativa e quantitativa applicabili
- Individuare criteri per la selezione di casi studio e fonti dati primarie/secondarie
- Ipotizzare un piano di comunicazione multicanale per coinvolgere istituzioni locali, imprese e cittadini, con esempi di output ed eventi tematici.

POLITECNICO
MILANO 1863

PROVA SCRITTA

TRACCIA n. 2

Il/la candidato/a illustri come progetterebbe l'analisi delle startup del settore agroalimentare per identificare i trend di innovazione per la sostenibilità nelle dimensioni rilevanti descritte dagli Obiettivi di Sviluppo Sostenibile. Si richiede di:

- Definire un metodo per identificare le principali startup dell'agroalimentare a livello internazionale
- Proporre un framework di classificazione dei principali trend di innovazione per la sostenibilità che emergono dalla mappatura, con attenzione ai trend potenzialmente significativi per le sfide dei sistemi alimentari in ambito urbano
- Elaborare una strategia di reporting dei risultati dell'analisi e di disseminazione di tali risultati verso gli stakeholder più rilevanti

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PROVA SCRITTA

TRACCIA n. 3

Il/la candidato/a descriva come attiverebbe una ricerca collaborativa su tecnologie abilitanti (es. AI, IoT) per la transizione agroecologica, coinvolgendo PMI agricole, startup tech e enti di ricerca. Si chiede di:

- Delineare un modello di governance per partenariati cross-settoriali
- Identificare metriche per valutare impatti su filiera corta e riduzione sprechi
- Elaborare sinteticamente le attività di pubblicazione, comunicazione e disseminazione dei risultati di tale studio (in termini di eventi, output/prodotti realizzati, stakeholder da coinvolgere).

POLITECNICO
MILANO 1863

PROVA ORALE

Traccia n° 1

- Il/la candidato/a illustri compiti e funzioni del *Comitato Unico di Garanzia* secondo quanto previsto dallo Statuto del Politecnico di Milano.

- Il/la candidato/a descriva i compiti e le responsabilità del *Responsabile della prestazione* ai sensi del vigente Regolamento delle prestazioni per conto di terzi del Politecnico di Milano.

Il/la candidato/a legga e traduca:

Architects and engineers throughout history
In ancient times and well into the Middle Ages, builders were known as architects or mechanics. The name "engineer" first appeared around the twelfth century: those who were involved in the maintenance of roads and waterways and the construction of the first registers were called public *aestimatores, libellatores aquarum* and *inzigneri.* A decree of Lodovico il Moro made a distinction between the *magistri fabrorum*, engineers and architects and *aestimatores* meaning surveyors, establishing lower rates for the latter.
The board of engineers
From the mid-sixteenth century the State of Milan charged the Board of Engineers with the task of "licensing" engineers. This corporate body was responsible for protecting the profession and verifying that the candidate possessed the necessary professional skills (gained through internships) and the birthright (a member of a socially distinct family) required to practice the profession. With the arrival of Napoleon, the Board of Engineers was suppressed and engineers received their scientific training at universities and were required to perform an internship at the firm of a certified engineer.

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PROVA ORALE

Traccia n° 2

- Il/la candidato/a descriva la composizione e le funzioni del *Collegio dei revisori dei Conti* secondo quanto previsto dallo Statuto del Politecnico di Milano.

- Il/la candidato/a descriva le caratteristiche dei *Contratti e delle Convenzioni Quadro* ai sensi del vigente Regolamento delle prestazioni per conto di terzi del Politecnico di Milano.

Il/la candidato/a legga e traduca:

On November 29th, 1863, Francesco Brioschi, a politician, distinguished mathematician and hydraulic engineer, already the rector of University of Pavia and secretary general of the Ministry of Public Education, in his dual role as chairman of the board of the Scientific-Literary Academy, the original nucleus of the future university and founder and director of the Instituto Tecnico Superiore, the first Politecnico in Italy, inaugurated the two universities emphasizing their "common and special purpose" and correspondence with "the country's intellectual and material needs". On the same occasion Francesco Brioschi indicated the two elements that characterised the institution as a coordinator between the basic scientific teachings and technical teachings and the specificity of the latter two, a principle that prefigured the division of the study programme into specialisations. The Instituto Tecnico Superiore was based on the model of the German and Swiss polytechnic institutes and promoted a technical and scientific culture focused on specialization and the ability to contribute to the country's development. Initially limited to three years of study and two areas of study in Civil and Industrial Engineering, in 1865, on the initiative of Camillo Boito and through interaction with the Academy of Fine Arts of Brera, the institute was joined by the School of Architecture and in 1875 was completed by the two-year preparatory school.

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PROVA ORALE

Traccia n° 3

- Il/la candidato/a illustri quali sono gli organi di supporto del Dipartimento e che funzioni hanno ai sensi del vigente Regolamento del Dipartimento di Ingegneria Gestionale.

- Il/la candidato/a descriva i compiti e le responsabilità del Direttore Generale secondo quanto previsto dallo Statuto del Politecnico di Milano.

Il/la candidato/a legga e traduca:

"The Brioschi Asylum"

For the severity with which it was managed and its strict disciplinary provisions, the Istituto Tecnico Superiore was soon renamed the "Brioschi Asylum" by students. Attendance was mandatory and absences had to be justified by parents or a doctor whose signature had to be authenticated by the mayor of their town of residence. Students were required to attend classes, which were held from Monday to Saturday afternoon, to participate in the laboratories, defined as "manipulations", in practical exercises, in written tests and in "science journeys", educational trips to factories, industrial centres and civil constructions, in addition to international industrial exhibitions and cities of art. During these visits, students observed the most innovative production processes that were later discussed in class.

In the beginning, the study programme was limited to three years and, in order to be accepted, the candidate must have attended and passed the exams of a two-year university programme in the schools of Physical Sciences, Mathematics and Natural Sciences, since 1875. With the implementation of the two-year preparatory requirement, candidates were enrolled immediately after graduation. In the first year of the institute's activity, "due to extraordinary circumstances" lessons began on December 1, but the academic year normally lasted from mid-November to the end of July "limiting vacations to holidays and an additional ten days during Carnival and around the Easter holidays."