



“Stradivari”

Master in Science and Technology of String Instruments

Educational objective

The Master program is aimed at training engineers and science graduates to study analysis, measurement, design, construction technologies, and quality assessment of stringed musical instruments. The target profile is that of an expert of materials, geometric and mechanical design, sound processing, computational acoustic, acoustic and vibrational measurements and more. The program is also aimed at understanding the artistry of luthiers from a scientific-technological standpoint as well as from an artistic-historical perspective. This will enable the Master to be able to support and interact with a variety of experts of stringed musical instruments, whether operating in the world of luthiers or in the industry of musical instruments.

An expert with this profile is expected to be skilled in the selection, handling, treatment and processing of the materials involved in the construction of a high-end string musical instrument. This includes not just the wood, but also the varnishes, glues, all the other materials (metal, fibres, etc.) and tools that are involved in or required for the crafting, the processing and the preservation of stringed instruments.

This expert will also excel in predicting (through direct experience or through advanced simulation/computational tools) the acoustic/mechanical impact of new geometries on the instrument (strength, endurance, vibrational properties, projection, ergonomics, etc.).

This expert will be able to design new tools and methodologies for improving the quality and the efficiency of the luthier's craftsmanship. As part of his/her expertise, the professional

figure that will be formed by the master's program will be able to conduct a systematic and objective assessment of string musical instruments using advanced measuring systems, and successfully conduct comparative evaluations of musical instruments in the same class of quality.

Career opportunities

The professional figure that will come out of our Master's Program, will be able to offer his/her expertise to:

- Research institutions operating in the field of musical acoustics and musical audio processing.
- Research and development laboratories in the industry of stringed instruments.
- Institutes devoted to the study and the preservation of musical heritage (whether in the form of multimedia artifacts, or in the form of physical musical instruments).
- Consortia for quality assessment of products of luthiers or acoustic instruments in general.
- Professional centers for acoustic surveys.
- Music production centers and recording studios.

Qualification required

A Master of Science in Engineering, Computer Science, Mathematics or Physics is required.

How to subscribe

Forms for presentation of applications to selection can be downloaded from the master site.

Deadline for applications: 31/08/2012.

Selection date: 13/09/2012.

Selection site:

Politecnico di Milano - Polo Territoriale di Cremona, Via Sesto 39, Cremona.

The admission process will start with a

preliminary selection of candidates, based on the submitted documentation. Selected Candidates will then be invited to an interview (in person or via Skype).

Fee

University fee: 500 €.

Participation fee: 3000 €.

The registration fee at the Politecnico di Milano (500 €) plus 1.500 € must be paid upon enrollment, by 15/10/2012. The remaining participation fee must be paid within 31/01/2013.

Master details

Duration: 12 months full-time Master's degree from 1/10/2012 to 27/09/2013.

To obtain the Master degree students are required to attend at least 75% of the total course hours (75% of 800 hours), over the acquisition of 60 credits required in the teaching plan.

Each module will conclude with an examination, the overcoming of which is necessary for the acquisition of relevant credits. The final exam will consist of a discussion of a report on the activities performed during the internship.

Contacts

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