

Master of Science

Process Engineering Wood Sciences Technology

KEYWORDS

Wood, Technologies,
Manufacturing, Initial conversion,
Calculation of structures

OBJECTIVES

In an international context of political implementation aimed at managing forestry resources rationally and at enhancing the value of wood by converting it on the spot, this Master is designed to provide engineers with tools enabling them simultaneously to master forest heritage management and the production, conversion and marketing of wood. They will be capable of assessing a company for the initial conversion of wood and of proposing technical solutions for a better utilisation of the material (solid wood but also many new wood-based materials). The programme includes the organisation and management of a small to medium-sized firm.

APPLICANTS: SCIENTIFIC AND LINGUISTIC ENTRY REQUIREMENTS

Foreign or French Students must hold the following diploma: B.Sc. or M.Sc. degrees in mechanics, mechanical engineering, industrial engineering, wood. Recognized foreign degrees equivalent to the French diplomas mentioned above (Bachelor or Master of Science).

Required linguistic level: good level in French. (=> 400 points in the TEF)

PROCEDURES AND DATES OF ADMISSION

Registration forms must be returned before June 21st 2005: laurent.bleron@cluny.ensam.fr

Admission is based on university record and personal interview.

Fees: 750 euros a year. Real cost of the course: 10500 euros. Real costs are covered by a grant from the French Government.

LOCATION AND LANGUAGE OF THE MASTER'S DEGREE

The programme is taught in French, at ENSAM in Cluny (Burgundy).

SKILLS ACQUIRED AND PROFESSIONAL OPENINGS

The holders of this Master's Degree will be able to manage technical engineers in design, methods, quality control, organisation and production departments. Employment of graduates is essentially situated in small firms, local and regional governments. In addition the holder of this master will:

- be capable of stimulating a team and of defending a project,
- be capable of organising its technology and to be seen as a driving element in the implementation of new technologies,
- be adaptable within the profession through the production, management and service, development and control in all the domains of wood,
- to possess the skills of analysis and synthesis, a spirit of initiative and an

- ability to communicate with various partners,
- to have developed a very good capacity of written and oral expression in French and in English and the knowledge of another modern foreign language,
 - to possess the qualities essential to exercise responsibility and leadership of a team.

SCHEDULE

The programme is composed of four semesters. The educational objectives will favour the acquisition of knowledge in following domains:

- a thorough knowledge of wood and its characteristics as a material.
- the general mechanisms of how a company functions, product life-cycles and market constraints.
- management of innovation and its financing,
- eco-design and eco-management.
- management and human aspects of the company.

1st semester: homogenization of knowledge in: the Dynamics of Mechanical Systems, Electronics of Signal and Continuous Systems, Treatment of Solid Wood, Mechanics of Continuous Circles, Calculation of Wooden Structures, Approach of Object Modelling, Manufacturing Techniques, Materials and Processes, Methods and Mathematical Tools, Foreign Language.

2nd semester: Sustainable Development, Structural Mechanics, Analysis of Wood Processing, a Project in Design and Manufacturing, a Project in the Analysis and Processing of Wood, Foreign language Between 2nd and third semesters: 3 months internship in a company abroad.

3rd semester: Foreign Language, Training in the life of the company, Management Innovation and Financing, Prevention of Technological Risks, Methods and Tools of Digital Models, Tools of Virtual Reality, High Cutting Speed, Calculation of a wooden industrial building, Engineering of the 1st conversion of wood, Study and conception of a new unit of 1st conversion of wood, Project in connection with the industrial training.

4th semester: industrial training in a company: + 400 hours = editing staff report.

CALENDAR

This Master's degree takes place over 2 years, from September to July. It is divided into four semesters (4 x 30 ECTS) the last one being spent in a company.

LEAD SCHOOL AND PARTICIPATING SCHOOLS

Lead School: ENSAM
 participating Schools:
 ISAT - University of Burgundy (Nevers)
 Faculty of Science of Wood - University of Western Hungary Sopron Hongrie)

Faculty of Forestry and the Technologies of Wood - Mendel University (Brno, Czech Republic)
 Faculty of Science and Techniques of Wood and Faculty of the Technique for the Environment - Technical University of Zvolen (Zvolen, Slovakia)
 Faculty of Wood Industries - University of Transylvania, (Brasov, Rumania).

CONTACT

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[http:// www.cluny.ensam.fr](http://www.cluny.ensam.fr)

PROGRAM PARTNERS (COMPANIES, LOCAL COMMUNITIES)

APROVALBOIS (Interprofession of Wood industries in Burgundy)

Association of Wood Processing Manufacturers of Slovak Republic (ZSDSR) CTBA

Regional Council of Burgundy General, Council of the Saône and the Loire (European Gallery of the Forest and Wood).