ADVANCED **MASTER**

Course offered in collaboration with the CHEC (Centre for Higher Studies in Construction). Classes are held mainly in Paris on the CHEC premises.

AIMS

To train high-level specialists to be immediately operational in the design and dimensioning of major works built for a large part in wood (apartment buildings, engineering structures, tertiary buildings, sports halls etc).

GENERAL **PRESENTATION**

This CHEC/ENSTIB course brings students the in-depth knowledge and know-how to fulfill construction companies' needs for top-level engineers. The teaching methods are corporate-oriented and the faculty is comprised of professionally active engineers and senior executives.

CANDIDATES

Candidates must be in their final year of engineering school in civil engineering, mechanics or construction technology. They must have obtained their diploma by course commencement date (in September).

In certain cases, the CHEC/ENSTIB course may also be followed within a post-graduate context, more particularly the continuing education system.

For further information on applying, please visit :

www.enstib.univ-lorraine.fr

REGISTRATION **PROCESS**

Candidates are invited for individual interviews in Paris in June. Results are announced without undue delay, subject to candidates obtaining their engineering diploma at the end of the current university year. Candidates may also be put on a clearing list.

Candidates must be in their final year of engineering school in civil engineering, mechanics or construction technology.

For further information on applying, please visit

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PROFESSIONAL **OPPORTUNITIES**

Graduates are operational immediately and can take charge of highly technical work in companies and engineering offices when straight out of school. There are more job offers than graduates for each class and a permanent demand in high responsibility positions at all stages of construction both nationally and internationally.

ENSTIB and CHEC alumni publish a directory and provide a career path service.

ORGANIZATION

The programme is organized in 2 phases. The first phase, starting on the first Monday of September and ending in June of the following year, entails nearly 900 teaching hours. Between May and the end of June, students carry out a 'project' (from design to calculation). This significant one-month task comprises individual work, in addition to supervised sessions and is validated by an oral presentation on CHEC premises. The second phase consists in personal work within a company mission framework, leading to the oral presentation of a thesis. This phase lasts at least 4 months and the presentation takes place in Epinal mid-December.

Romain Munsch
Promotion 2015

After my engineering course at ENSTIB between 2011 and 2014, I did an advanced master's year in 2015. I was offered a contract straight out of school.

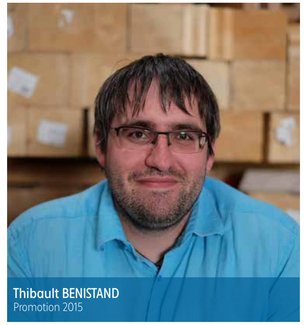
Now I work for Khepren Engineering, an engineering and design office that promotes mixed materials (the right material for the right place). I'm their wood design specialist.

The training I received, first in ENSTIB and then in the advanced master's course, was just perfect. ENSTIB gave me a thorough overview of wood as a material and the advanced master's course gave me the in-depth knowledge of materials solidity as well as an insight into other building materials.

I have really good memories of the clubs and societies, particularly Avenir Bois, which let me carry on working wood with my hands and handle the management of a project with a great team.

I took the advanced master course between 2014 and 2015 and I didn't really have to look for a job afterwards, because I already had several offers and ideas to follow up even before the end of the school year.
Now I'm doing a PhD at the LERMAB Laboratory in the University of Lorraine. There's no direct link between my former training course and and my PhD, but having worked for a year between the two, I can confirm that the advanced master course is perfectly in line with structural engineer positions in design offices.
I did my engineer course via an apprenticeship with the Higher national school of technology and engineering in Alès and the course undeniably offers young engineers a formidable opportunity to work on major projects, such as the MIRAMAS stadium or high-rise wooden buildings...

I fondly remember my end-of-year project with 4 colleagues, where we had to dimension a large building!



Thibault BENISTAND
Promotion 2015

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LORRAINE INP Enstib ÉPINAL

WOOD : NATURAL INNOVATION

ADVANCED **MASTER**

IBC, IBC – A PROFESSIONAL ASSOCIATION **DEDICATED TO WOOD CONSTRUCTION**

Most specialist engineers are members of the IBC Professional Association, which groups design and engineering offices and experts in construction and civil engineering in the wood construction sector at a national level.

Its mission statements are :

- To identify its members' fields of activity
- To advance knowledge in the sector's specialization and specialties
- To represent the sector in professional bodies, normative authorities and both public and private institutions, whether national or international
- To monitor technology and norms
- To inform and promote the association
- More generally to carry out any action related to the use of wood in construction (both building and civil engineering) which may benefit its members

IBC certifies its members' abilities and proposes a highly qualified independent design and engineering panel, ready to share their know-how with contractors, project managers and companies to carry out sustainable projects which respect European norms. Members all have at least one wood engineering skillset and a regular activity in the sector, recognized by the association. They are impartial regarding companies or construction systems and promote construction in wood through their representation in professional bodies, normative authorities and both public and private institutions, whether national or European.

They participate in technical and regulation briefing seminars to share and develop their expertise and promote the use of wood in construction.

All confirmed members furnish detailed sustantiation of their references in any given field, recognized by the Board of Trustees, to which any member holding at least 8 referenced fields may belong. Each reference covers design, calculation and plans, as well as the structure's stability according to regulatory charges, both normal and accidental.

The following are the given fields : traditional frames, glued laminates, timber frames, industrial construction, general structures, special structures, civil engineering for walkways, bridges, roads, exceptional structures, heritage structures and restoration.

IBC has defined a chart for 'Wood Structure Engineering' missions carried out by its members for clients and partners, which aims to contractualize these missions for public and private markets concerning performance, written documents, graphs and calculations.

Consult the chart on ***ingenierie-bois-construction.fr***

ibc
Ingénierie Bois Construction

IBC - Tour de l'horloge, 4 place Louis Armand – 75012 Paris

COMMON CORE CURRICULUM

13 ECTS
234h

THEORY

- Materials solidity
- Finished parts modelling
- Structural dynamics
- Structural instability
- Project tools
- Fissure rupture

10 ECTS
183h

STRUCTURE DIMENSIONING

- Calculating actions on structures
- Metal structure instability
- Plasticity calculation
- Steel components design and assembly
- Post bases
- Eurocode 3
- Seismic engineering
- Multi-material structures

7 ECTS
138h

HUMAN AND SOCIAL SCIENCES

- Construction history and architecture
- Eco construction
- Construction law
- Technical English
- Regulations and norms

WOOD SPECIALIZATION

15 ECTS
339h

WOOD STRUCTURE DESIGN

- High-rise buildings
- Enclosing and covering
- Mechanical and physical properties of wood
- Design and behaviour of structures
- Wooden building systems
- Wood dimensioning regulations

15 ECTS
300h

PROJECTS

- Design and dimensioning of a building

INTERNSHIP

30 ECTS
4 months
minimum

INTERNSHIP

Engineering offices
- Design studies
- Implementation studies
- Specific development

CHEC

THE CENTRE FOR HIGHER STUDIES IN CONSTRUCTION (CHEC)

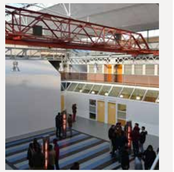
The CHEC was founded in 1957 by the Building and Civil Engineering federations with a view to enabling young graduates to gain the necessary skills to carry out a construction projet and to be prepared for actual real-life work, even designing highly technical structures.

It is a private, state-accredited, higher technological education institue and has trained approximately 5,000 engineers including some 1,000 foreign students from over 60 countries.

Find out more on ***www.chec.fr***

Why do a advanced master course ?

By Laurent Bléron, dean of ENSTIB



« The building industry is well aware of the ever increasing importance of wood. Wooden buildings are attractive for their energy-saving properties, their beauty and their environmentally-freindly aspect. Choosing wood is choosing the future, with its growing popularity as a base material for major high energy performing, zero impact buildings. At ENSTIB, we foresaw the training needs and in 2004 we opened our Master's degree CHEB (Design and Higher studies in Wood Structures) in partnership with CHEC (Cente for Higher Studies in Construction). This has since become an advanced master's diploma. The cursus is an important addition to our unique range of courses, which has been growing for over 30 years. We aim to promote the use of wood both in France and abroad, for economic, social and environmental progress, through training engineers in the core skills and knowledge necessary to perform credibly as project leaders or managers.

The CHEC has been located in Arcueil since 2009, which facilitates collaboration with schools and universities in Paris and the Val de Bièvre.

Since the course was opened, national civil engineering norms have become European. Eurocodes and their national annexes were published between 2004 and 2007.

Advances in scientific knowledge and computational tools can make concepts more difficult to understand. These norms mean users have to be fully conversant with a growing number of concepts and methodologies and so be multi-skilled, combining expertise in wood with those in steel and concrete.

Over the last 10 years, the collaboration between ENSTIB and CHEC has become a benchmark in the profession. Our advanced master's graduates are operational immediately and can take charge of highly technical work in companies and engineering offices when straight out of school. »