

2012

INTERNATIONAL MASTER'S IN THEORETICAL & PRACTICAL APPLICATION OF FINITE ELEMENT METHOD AND CAE SIMULATION

Expert Module

*Mechanical Branch
Construction Branch*

on-line Master's

Specialized Modules

*Structure dynamic analysis
Nonlinear structure analysis
Heat transfer analysis
Steel structures advanced analysis
Fluid mechanics analysis
Concrete structures advanced analysis
Geotechnical analysis
Low frequency electromagnetic analysis*

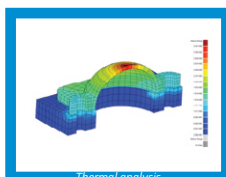
Master's

Final Project. Best project awarded.

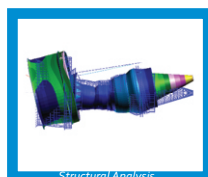
Since 1993



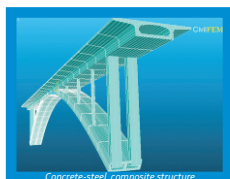
Mesh



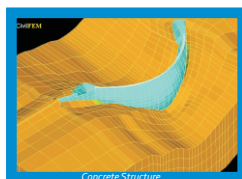
Thermal analysis



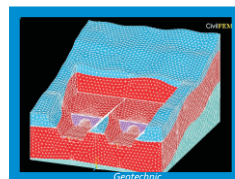
Structural Analysis



Concrete-steel composite structure



Concrete Structure



Geotechnic

Expert, Specialist and Master levels

UNED



INGECIBER, S.A.

INTRODUCTION

ETSI/UNED and Ingeciber began their partnership in 1993 by unifying their wide experience using numerical analysis methods in different research areas and professional engineering applications.

The objective was, and still is, to prepare specialist in the use of Finite Element Method (FEM) and CAE Simulation for practical professional application.

Specialist in FEM (university professors and Ingeciber expert engineers) have designed and elaborated a study programme that finally has become the **International Master in Theoretical & Practical Application of Finite Element Method and CAE Simulation**.

More than 2,500 postgraduates have participated in this Master's since then, which clearly demonstrates that the course has obtained wide prestige and recognition over the years.

Committed to excellence in teaching, research and innovation, the Partnership is actively engaged with industry, governments and universities across the world in tackling some of the major challenges of today and tomorrow.

We hope that you will consider undertaking our World Class Master's Degree course and achieve your full potential.

COURSE CONTENT

The multi-dimensional curriculum is aimed not just at acquiring knowledge but at developing critical thinking and analytical ability and facilitating research at every stage of the course.

1. Expert Module: provides key understanding of the FEM, in order to have a solid foundation to further develop at more advanced levels.
2. Specialized Modules: provide a huge range of possibilities for in-depth analysis of different areas through theoretical and practical knowledge: Dynamic, Non-Linear, Heat Transfer, Fluid Mechanics, Steel Structures and Advanced Concrete analysis.
3. The course offers three different degree options (Expert, Specialist and Master's) to pursue your training through core and elective subjects.

4. A wide range of texts and practical exercises (English language) provide complete studying material.
5. Practical learning is accomplished by using Patran/MSC Nastran, CivilFEM with Marc and CFD++ software (under educational license).
6. The course uses the following tools: On-line virtual classrooms, video conferences, technical forums, e-mail, on-line additional support material, etc.
7. Local collaborators will be available to give tutorials in different countries.

DEGREES

The following awards will be granted on successful completion of the different Master's levels:

Expert in theoretical and practical application of finite element method

(The students must take Expert Module).

Specialist in theoretical and practical application of finite element method and simulation

(The students must take the Expert Module and one Specialized Module).

Master's in theory and practical application of finite element method and simulation

(The students must take the Expert Module, one of the Specialized Modules Group and the Final Project).

Diplomas are issued by UNED university of Spain. To access this postgraduate course at least a EHEA bachelor's degree (*grado EEES*) is required.

ACADEMIC ROUTE

Participants who choose Mechanical Branch in the Expert Module, will use PATRAN / MSC NASTRAN software in Dynamic, Non-Linear and Heat Transfer specialized modules and CFD++ software in Fluid Mechanics specialized module.

Participants who choose Construction Branch in the Expert module, will use CivilFEM with Marc in Dynamic, Non-Linear, Steel Structure and Concrete Advanced specialized modules.

TEACHING STAFF

Director

Mr. Juan José Benito Muñoz. Construction Engineering and Manufacturing Department, School of Industrial Engineers, UNED University.

Coordinators

Mr. Miguel Ángel Moreno Fdez. de Yepes. Manager, Ingeciber, S.A.

Mr. Ambrosio Baños Abascal. Engineering Department, Ingeciber, S.A.

Professors

Mr. Enrique Alarcón Álvarez. Civil Engineer PhD, UPM.

Mr. Ramón Álvarez Cabal. Industrial Engineer PhD, UPM.

Mr. Juan José Benito Muñoz. Industrial Engineer PhD, UNED.

Mr. Enrique López del Hierro Fernández. Industrial Engineer PhD, UNED.

Mr. Francisco Blázquez García, Industrial Engineer PhD. UPM

Mr. Pablo de la Fuente Martín. Civil Engineer PhD, UPM.

Mr. Luis Gavete Corvinos. Mine Engineer PhD, UPM.

Mr. Julio Hernández Rodríguez. Industrial Engineer PhD, UNED.

Mr. Alberto Fraile de Lerma. Industrial Engineer PhD, UPM.

Mr. Francisco Montans Leal. Industrial Engineer PhD, UPM.

Mr. Ignacio del Rey Llorente. Industrial Engineer PhD, UPM

Mr. Mariano Rodríguez-Avial Llardent. Industrial Engineer PhD, UNED.

Mr. Eduardo Saleté Díaz. Civil Engineer PhD, UPM.

Mr. José Ángel Sánchez Fernández. Civil Engineer PhD, UPM.

Mr. José M^a Sancho Aznal. Architect PhD, UPM.

Lecturers

Mr. Ambrosio Baños Abascal. MsC Science, Ingeciber, S.A.

Mrs. Sheila Coca Sola. Civil Engineer. Ingeciber, S.A.

Mr. José Luis Cuadros Fernández. Mechanical Engineer, Ingeciber, S.A.

Mr. Rubén Establés Antón. Civil Engineer, Ingeciber, S.A.

Dr. Juan Carlos Lancha. Civil Engineer PhD, O.H.L.

Mr. Rubén Mariño Díaz. Mining Engineer. Ingeciber, S.A.

Mr. Román Martín Martín. Civil Engineer, Ingeciber, S.A.

Dr. Miguel Ángel Moreno Fdez. de Yepes. Civil Engineer PhD, Ingeciber, S.A.

Mr. Sergio de Rico Herrero. Industrial Engineer, Ingeciber, S.A.

Dr. Eduardo Saleté Casino. Civil Engineer PhD, Ingeciber, S.A.

Mr. Ronald Siat Caparros. Civil Engineer, Ingeciber, S.A.

COURSE SECRETARY

Ingeciber, S.A.

Mrs. Constanza Pizarro. e-mail: c.pizarro@ingeciber.com

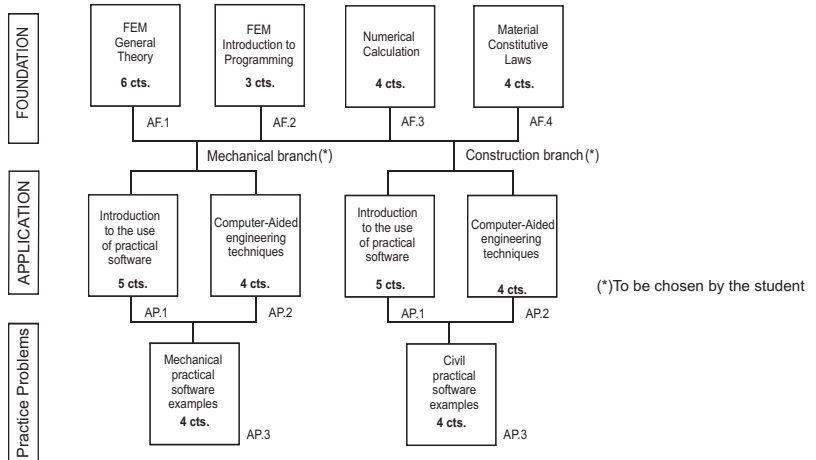
Mrs. Gema Ramos. e-mail: g.ramos@ingeciber.com

Telephone: +34 91 386 22 22. Fax: +34 91 386 45 80

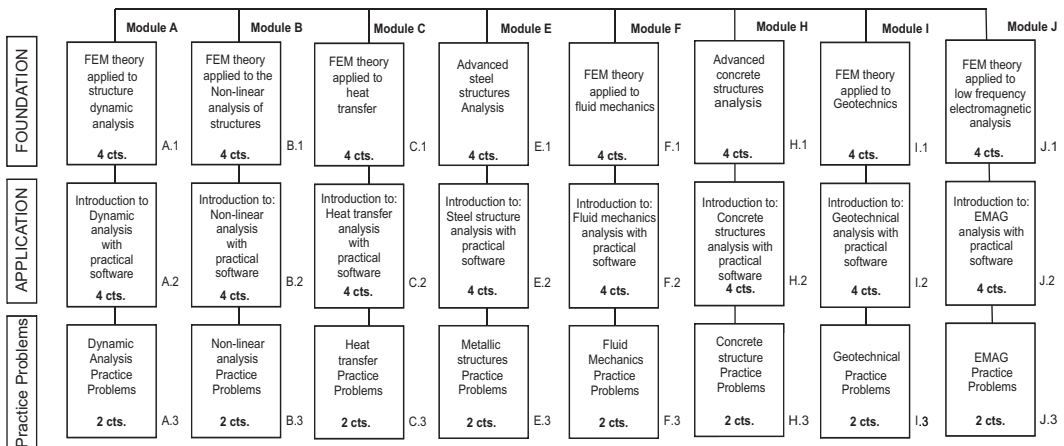
Avda. Monforte de Lemos, 189. 28035 Madrid. Spain

COURSE STRUCTURE

EXPERT MODULE (30 cts)



SPECIALIZED MODULES (10 cts by module)



SPECIALIZED MODULES GROUPS

- Structural: Construction Branch and A, B and E Modules
- Construction: Construction Branch and A, B, E, H and I Modules*
- Mechanical: Mechanical Branch and A, B, C, F and J Modules*

* Choose three of the five modules

NOTE: Modules I & J will not be available for students that have studied the Master with Patran/MSC Nastran or CivilFEM with Marc respectively.

FINAL PROJECT MODULE (10 cts)

SCHEDULE

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|-----------------------------|----------------------------|
| Registration deadline | 28 Feb 2012 |
| Opening Session | 24 Mar 2012 |
| Expert Module | 26 Mar 2012 to 29 Oct 2012 |
| Speciality Modules | 02 Jul 2012 to 03 Dec 2012 |
| Final Project Master Module | 26 Mar 2012 to 29 Oct 2012 |

METHODOLOGY

The methodology applied is that of UNED University: Texts and practice software will be provided; Self-assessment and course assessment exercises will be made available; On-line Exams; The Master's provides on-line virtual classrooms in the UNED on-line campus.

FEES

Fees include: tuition, materials, shipping, software, examination and certification fees.

Registration fees:

| | |
|---------------------------|-------------------|
| Expert Module..... | 1,770.00 € |
| Specialized Modules..... | 590.00 € / module |
| Final Project Module..... | 590.00 € |

ENROLLMENT

Make your registration on-line:

www.fundacion.uned.es

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Tlfnos.: (+34) 91.386.72.75/15.92 Fax: (+34) 91.386.72.79

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More information on www.uned.es/mastermef