The Spanish Open University.
International Master’s in Theoretical and Practical Application of Finite Element Method and CAE Simulation
1. THE “UNIVERSIDAD NACIONAL DE EDUCACIÓN A DISTANCIA (UNED)”. 

1. It is the largest university 
2. And also... it is the nearest 
3. It is prestigious and innovative 
4. Services 
5. UNED produces good professionals.
1. It is the largest university

- More than one million people have studied with UNED in the last 40 years.

- Lecturers (1,450), tutors (6,900) and administrative staff (2,000) guarantee a high quality service to the student.

- It is the university with the greatest number of students (225,000).

- It is the only Spanish State university spread over 3 continents.

- We are on more than 10,000 webpages, which is more than any other Spanish University.
2. And also... it is the nearest

**Proximity**

It is in all the Spanish Autonomous regions, with 62 Associated Centers, 133 Lecture-halls and almost 400 Multimedia Centers—AVIP—.

**It is Global**

With 16 overseas Centers in Europe, America and Africa.

**It is modern and flexible.**

It adapts to student needs.
2. And also... it is the nearest

Global. With centers in more than 15 countries.
2. And also... it is the nearest

**Proximity.** It is in all the spanish Autonomous regions
2. And also... it is the nearest

Almost 400 Multimedia Centers “aulas AVIP” that bring the university to further-flung places.
3. It is prestigious and innovative

Method.

- The students have the freedom to combine classroom situations plus distance learning supported by its own platform.
- It has the largest range of courses on-line.
- There are an average of 20 to 30 contact hours in tutorials a week in the Associated Centers.
- Classroom exams are a guarantee of our reliability. We do more than 500,000 exams a year.
3. It is prestigious and innovative

**Official studies**

- 27 Grados EEES
- 44 Másteres EEES
- 39 Doctorados EEES
- 28 Licenciaturas/Diplomaturas/Ingenierías

Acceso a la Universidad para mayores de 25 y 45 años

Prueba de Acceso a la Universidad (Selectividad)
3. It is prestigious and innovative

Other kinds of courses

- Top-up courses
- Postgraduate courses
- Language Center (CUID). Almost 10,000 students learn 12 different languages.
- ”Open” courses (more than 400 courses/year)
- More than 150 Summer Courses all over Spain (5,000 students in 40 Centers).
- UNED Senior
3. It is prestigious and innovative

RESEARCH

More than 160 of research groups.
In 4 areas:

Humanities.
Social Sciences.
Psychology.
Sciences and engineering.
3. It is prestigious

Sponsors

Public contributors
4. Services

For student use:

- Virtual Guides for each subject.
- Tutorials in our Associated Centers.
- ALF Communities.
- Open Courses.
- Social networks (Facebook, YouTube, Twitter, LinkedIn).
- Student-teacher telephone service.
- National and international videoconferences.
- Suggestion box.
4. Services

and more...

- Fresher orientation.
- Selfstudy courses.
- Careers office (working with more than 1,200 companies).
- UNED Publisher: More than 250,000 publications a year (151 new books, 112 reprints and 29 journals).
- Virtual bookshop.
- Virtual Library.
- Library network
- 84 hours a year broadcast on TVE and 341 hours on RNE
- We produce more than 300 hours of teaching videos a year.
- Secretary on-line.
- UNED TV channel around the clock (www.canaluned.com) with 2,000 hours of audio and video materials.
4. Services

CanalUNED.com: Television, Radio, Internet and Video
4. Services

Social service.

- Disabled students (More than 6,000)
- Agreement with Government Department for Prisons (Instituciones Penitenciarias) for more than 1,000 students.
- UNED Senior, for the over 55s.
- Collaboration with the Armed Forces, Private Businesses, Trade Unions, Public Institutions, Research Centers, ...
- Cooperation in Developing Countries:
  - More than 1,000 students in Equatorial Guinea.
  - Iber UNED Plan to help new open and distante learning universities in Mexico, Peru, Bolivia, El Salvador, Costa Rica, Ecuador and Dominican Republic.
  - Training program for members of “Laboratorios de Paz” in Colombia.
  - Participation in “Observatorio de la Cooperación Universitaria al desarrollo (CRUE-AECID).”
5. UNED produces good professionals.

- We have agreements with more than 1,200 companies.

- Most Spanish businesses:
  - have taken on UNED graduates
  - not only are graduates knowledge and technical know-how highly valued, but also their reliability and dedication.

- Our self-study system develops people’s ability.

- And.. one example. Credits from The Law School are the only ones recognised all over Spain.
INTERNATIONAL MASTER’S IN THEORETICAL AND PRACTICAL APPLICATION OF THE FINITE ELEMENT METHOD AND CAE SIMULATION.
- Spanish Open University (UNED) and INGECIBER, S.A. have been working together for 18 years to offer a complete Masters in FEM for postgraduate engineers and scientists (in Spanish).

- “Theory, Application and Practices of FEM and Simulation with CAE”.

- “Using the most advanced CAE software in the market.

- Preparing postgraduates for real professional work.

- Postgraduate /Top-up course of the UNED.
INTERNATIONAL MASTER’S IN THEORETICAL AND PRACTICAL APPLICATION OF THE FINITE ELEMENT METHOD AND CAE SIMULATION.

- Since 1993. 18 editions.
- 3 Degree levels: Expert, Specialist and Master.
- More than 14 disciplines.
- 14 University professors
- 12 lecturers from the industry (mostly from Ingeciber)
- The most complete tools available for the postgraduate courses:
  - Specific Software licenses for university students
  - Specific training manuals
  - Virtual classrooms.
  - Videoclasses
  - On-site lectures and other events
  - ...

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### Changes in the software used

<table>
<thead>
<tr>
<th>Year</th>
<th>Software</th>
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<tr>
<td>1993</td>
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<tr>
<td>1995</td>
<td>ANSYS, ADAMS</td>
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<td>2003</td>
<td>ANSYS, ADAMS, CivilFEM</td>
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<td>2005</td>
<td>ANSYS, CivilFEM for ANSYS</td>
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<td>ANSYS, CivilFEM Workbench</td>
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<td>2011</td>
<td>Patran/Nastran CivilFEM</td>
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<td>2012</td>
<td>Patran/Nastran CivilFEM, ADAMS</td>
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</table>
Expert Degree

Fundamentals

General Theory of MEF
Application with MEF programming
Numerical analysis
Behaviour laws of materials

Application and practice

Mechanical branch. Software Patran/MD Nastran (Feb-2011)

Application with the software of practices
CAE Design Technics
Practices. Examples

Construction branch. Software: CivilFEM for MARC (Feb-2012)

Application with the software of practices
CAE Design Technics
Practices. Examples
Specialist Degree

Mechanical specialty

- Dynamic Analysis
  Patran/Nastran
  (May-2011)
- Non linear analysis
  Patran/Nastran
  (May-2011)
- Thermal analysis
  Patran/Nastran
  (May-2011)
- Fluid Mechanics
  CFD++
  (May-2011)
- Fluid Dynamics
  XFlow
  (May-2012)
- Electromagnetic
  analysis
  Patran/MARC
  (May 2012)
- Cinematic analysis
  ADAMS
  (May 2012)

Fundamentals
Application with software
Practices. Examples

Construction specialty

- Dynamic Analysis
  CivilFEM for MARC
  (May-2012)
- Non linear analysis
  CivilFEM for MARC
  (May-2012)
- Steel Structures
  CivilFEM for MARC
  (May-2012)
- Reinf. Concrete
  CivilFEM for MARC
  (May-2012)
- Geotechnical
  CivilFEM for MARC
  (May-2012)
- Fluid Mechanics
  CFD++
  (May-2011)
- Fluid Dynamics
  XFlow
  (May-2012)

Fundamentals
Application with software
Practices. Examples

INTEGRAD
Master Degree

Final Thesis
# Postgraduates

<table>
<thead>
<tr>
<th>Module</th>
<th>Students since 1993</th>
<th>Students in 2011</th>
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<td>Expert Module</td>
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<td>Basic Module</td>
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<td>Dynamic</td>
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