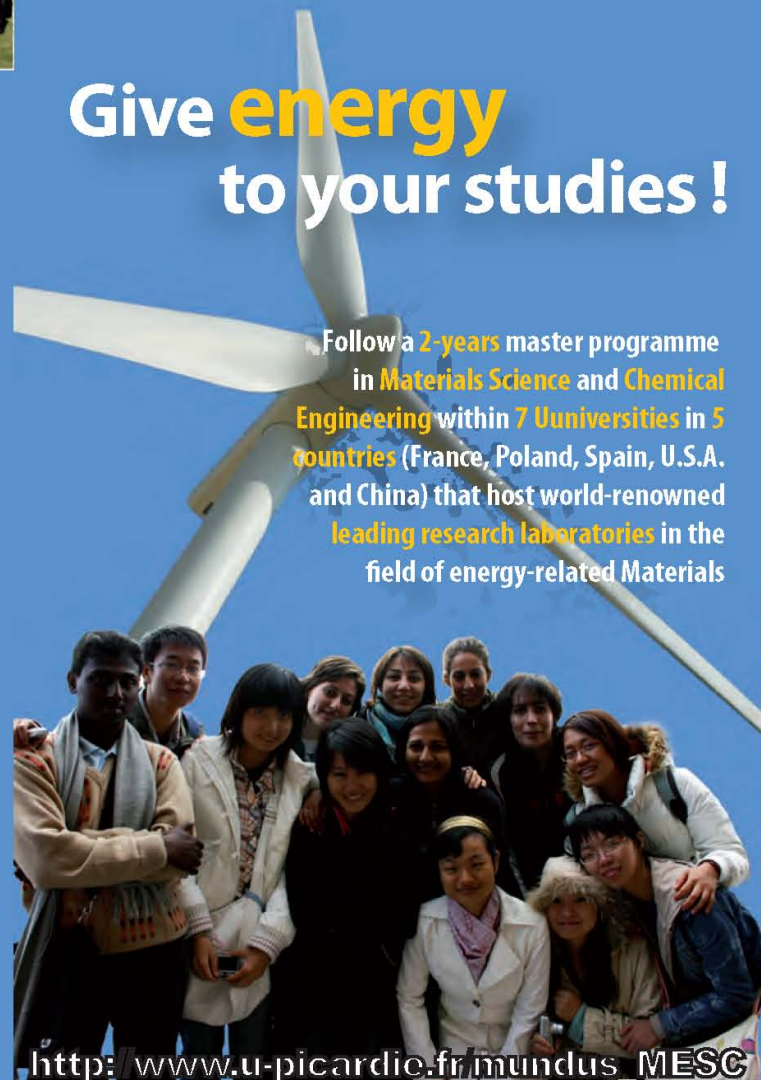




MESC
materials for energy storage and conversion

Give **energy**
to your studies!



Who can apply ?

Students who have at least a **Bachelor degree** (or licence) **in Science** (Chemistry, Physics, Physical Chemistry, Chemical Engineering, Metallurgy, Material Sciences, Electrochemistry). Students in their final year of undergraduate (licence 3, bachelor) are welcome on the condition that they are graduated before they enrol

How to apply ?

2 mandatory steps:

- ▶ **Online:** At www.u-picardie.fr/mundus_MESC/page.php?p=Selection-criteria. Please make sure that you have electronic copies of passport, CV, two recommendation letters, transcripts of records, English proficiency score, essay on energy related topic.
- ▶ **By post:** Please send all the required documents listed above by registered post at Jamila Tamimy (MESC administrative coordination) whose address is listed on the page behind.

When to apply ?

- ▶ To join MESC with an Erasmus Mundus scholarship, or private scholarships from MESC partners: **Before January 31st**
- ▶ To join MESC as a self supported student: **Before May 15th**

Admission criteria :

Applicants will be evaluated on the basis of their prior performance and professional promise, as evidenced by **academic records** and **recommendation letters** from individuals familiar with their capabilities. Besides usual evaluation of student's records, applicants will have to explain their goals and interests in following a European Master course.

As all the courses will be taught in English, students whose native language is not English must take the **English test** (TOEFL/TOEIC/IELTS...) prior to applying to the Master. A minimum level of 550 points is required.

MESC full partners :



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MESC associated members :



European Research Institute ALISTORE-ERI
<http://www.alistore.eu/>



CIC Energigune, Vitoria, Spain
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What is MESC ?

The European Master Course Materials for Energy Storage and Conversion (MESC) is designed to provide a **2-years (120 ECTS)** education programme in **materials science** and **electrochemistry** within **7 universities in 5 countries** : France (Marseille, Toulouse, Amiens), Poland (Warsaw), Spain (Cordoba), U.S.A. (Philadelphia) and China (Xiamen). These universities host world-renowned leading research laboratories in the field of Energy-Related Materials.

MESC has been granted in 2005 by the European Commission as a top-quality **Erasmus Mundus** Master programme which enhances the visibility and attractiveness of European Higher Education overseas.

For Third Country (Non European) and European students who join MESC it is also an opportunity to **study in a multicultural environment** since our students come from all over the world. That's why classes are taught in **English** by professors and researchers who interact through the European Research Institute **ALISTORE-ERI**. We also provide **upgrading** in English to help everybody follow classes and local language courses in the visited countries. Therefore do not hesitate to **give energy to your studies** and to join MESC!

Degree awarded

After successful completion of the curriculum, students will **graduate** with a **multiple Master degree** in "Materials for Energy Storage and Conversion" awarded by the universities of the Consortium and recognised in each of the countries visited.

The MESC Curriculum

Semester 1 in France

Mandatory units taught in Toulouse and Marseille

- TU1** General electrochemistry
- TU2** Solid-state chemistry
- TU3** Physical chemistry of materials : bonds, defects...
- TU4** Language (English)

Optional units taught in Toulouse

- TU5** Application of surface treatment to the energy storage
- TU6** Energy storage and conversion 1

Optional units taught in Marseille

- TU7** Surface and interface analysis
- TU8** Materials science and modelling

Semester 2 in Poland

Mandatory units

- TU9** Polymer electrolytes
- TU10** Materials technology and fuel cells
- TU11** Energy storage and conversion 2
- TU12** Photovoltaics
- TU13** Language (English)

Semester 3 in France or Spain

Mandatory units taught in Amiens and Cordoba

- TU14** Structural investigation and characterization of materials
- TU15** Thermal, structural, morphological analysis of materials
- TU16** Materials at the nano scale
- TU17** Energy sources & storage : demands & applications
- TU18** Laboratory practice and bibliographic thesis

Optional units taught in Cordoba

- TU19** Modern techniques for the synthesis of nanomaterials
- TU20** Application of nanomaterials to energy storage & conversion

Optional units taught in Amiens

- TU21** Battery technology and benchmarking
- TU22** Materials for hydrogen storage

Semester 4 : Master Thesis

Six months research training within laboratories of the European Research Institute ALISTORE-ERI or in Xiamen or Drexel Universities.

- TU23** Master Thesis oral defence and poster presentation



Multiculturality ...a way to enrichment

Job opportunities

MESC students are strongly linked to laboratories and partner companies members of ALISTORE-ERI, who offer them several topics for their 6 months research training (semester 4). It is a good way to put into practice what they learned during their 2 years master course and to find a position after graduation.

Finance your studies

Grants

Students joining MESC can receive a range of grants who will help them to finance the extra costs generated by mobility :

1) Erasmus Mundus grants :

- For Third country students (Cat A) : A 1.000 € monthly allowance during 24 months + 8.000 € for travel and accommodation expenses + 8.000 € for the participation costs to the MESC programme. The total amount of the Erasmus Mundus grant received by every Cat A student selected on the main list is **40.000 €** for the 2 years.

- For European students (Cat B) : A 500 € monthly allowance during 24 months + 3.000 € for their travel and accommodation expenses + 2.000 € for the participation costs to the MESC programme. The total amount of the Erasmus Mundus grant received by every Cat B student selected on the main list is **17.000 €** for the 2 years.

2) Private scholarships (ALISTORE-ERI, CIC,...) :

For the students not selected on the main list for an EM scholarship but ranked among the first in the reserve list, there is a possibility to join the program with these grants : **20.000 €** for the 2 years.

Participation costs

Tuition fees for Third countries students are **2.000 € / Sem.** (8.000 € for the 2 years) and for European students they are **500 € / Sem.** (2.000 € for the 2 years)

