

European Master Course in Software Engineering



Pilot Edition UPM-UNIKL

Call for Student Applications

EMSE 2014-2016

Deadline July 31, 2014

<http://emse.inf.unibz.it>

1. OVERVIEW

The Consortium of the Free University of Bozen-Bolzano (Italy), the Technische Universität Kaiserslautern (Germany), the Universidad Politécnica de Madrid (Spain), and the University of Oulu (Finland) will offer a two year (120 ECTS credits) Joint Masters Programme, named European Master Course in Software Engineering (EMSE) from course 2015-2016. Universidad Politécnica de Madrid (UPM) and the Technische Universität Kaiserslautern (UNIKL) will carry out a pilot study for the preparation of the new consortium procedures, offering a double degree program given by both universities following the quality principles established by the consortium.

Mission

The objective of EMSE is to educate professionals in the field of Software Engineering. Software engineering aims at the creation of high quality software in a systematic, controlled, and efficient manner. The participants will be able learn and use sound engineering principles and practices in order obtain economically viable software that is reliable and works on real machine.

Description of the Programme

A curriculum in Software Engineering covers a wide range of topics, such as software process management, verification and validation, software design, and requirements engineering, and a pool of specialities like software quality, distributed systems and development, open source software, and agile methods.

Structure of the Programme

The curriculum consists of core topics, specificities, a project, an internship, and a master thesis. The pilot study foresees a mobility period in two different universities of the Consortium: UPM and UNIKL. The student will spend the first year at UPM and the second year at UNIKL, following the study plan in Figure 1.

Project and thesis work will be carried out at UNIKL and will be jointly supervised and evaluated by two supervisors, one from each university.

(for more information see <http://www.inf.unibz.it/emse-dokuwiki/emse/rules>)

Starting term

The term starts in September.

Learning outcomes

EMSE aims at training students in emerging research domains that shape the future of Software Engineering. It prepares students for industry and research carriers as PhD programmes.

After completing the EMSE studies the student will have gained expertise, competence, and practical skills on software management and quality, innovation and creativity, software process and product standards, social and economic market of IT, and teamwork.

The international dimension of the Masters Course guarantees that students familiarise with different educational methods and cultures.

UPM

UNIKL

| UPM | | Topic | UNIKL | |
|---|------|-------|--|------|
| Title | ECTS | | Title | ECTS |
| Requirements Engineering | 6 | VV | Safety & Reliability of Embedded systems | 4 |
| Models and Methods for Process Improvement and Assessment | 4 | PST | Performance modelling of distributed systems (A) | 4 |
| Software Internship Management | 4 | I | Internship | 8 |
| Software Metrics | 4 | TS | Product line Engineering | 4 |
| Verification and Validation | 6 | PST | Middleware for Heterogeneous and Distributed Information Systems | 8 |
| Software Economics | 3 | ESER | Software Engineering Seminar | 4 |
| Critical Software | 3 | | | |
| semester 30 | | | semester 32 | |
| Agent Based Software Engineering | 6 | T | Thesis | 30 |
| Software Design | 4 | | | |
| Interaction Design | 6 | | | |
| Experimental Software Engineering | 6 | | | |
| Software Architecture | 4 | | | |
| Software Quality Management | 4 | | | |
| semester 30 | | | semester 30 | |
| year 60 | | | year 62 | |

Figure 1 - Study Plan.

Language

All courses are taught in English.

Internship Program

At the second year students will be hosted in the EMSE associated partners for a mandatory internship.

2. MASTERS DEGREE

Upon the successful completion of the curriculum and fulfilment of the Masters course requirements, students will be awarded a double degree, one for each university they have visited. The official names of the awarded degrees are:

- Master Universitario en Ingeniería del Software – European Master on Software Engineering por la Universidad Politécnica de Madrid
- Master of Science in Computer Science from the Technische Universität Kaiserslautern

3. ADMISSION

Students are accepted in the program regardless of sex, age, or nationality.

To be admitted, applicants need to fulfil the admission criteria and be in ranking list or in the reserve list for the selection criteria.

This call is open only to European Union (EU) nationals or non-EU nationals with at least 12 consecutive months of residence in the EU.

4. ADMISSION CRITERIA

In order to be considered for the selection all students must fulfil the following admission requirements:

- Respect the application deadline
- Provide proof of proficiency in English language. TOEFL (≥ 550 (paper based), ≥ 213 (computer-based), or ≥ 81 (internet-based)), IELTS (≥ 6.0) or equivalent certificates. Only applicants who are Nationals and/or first-degree-holders of Antigua & Barbuda, Australia, The Bahamas, Barbados, Belize, English-speaking Canada, The Gambia, Ghana, Grenada, Guyana, Republic of Ireland, Jamaica, Kiribati, Liberia, Mauritius, Micronesia, New Zealand, Nigeria, Papua New Guinea, St. Kitts-Nevis, St. Lucia, St. Vincent, Sierra Leone, Solomon Islands, Trinidad & Tobago, United Kingdom, United States of America, Zambia or Zimbabwe do not have to submit language certificates. The consortium can request a further personal interview to assess the student's English level.
- Have been awarded a BSc in Software Engineering, Computer Science or Computer Engineering or degrees with equivalent skills in the three areas (Software Engineering, Computer Science or Computer Engineering)
- Provide a certificate of the subjects taken during their degrees, along with the marks obtained and the number of hours/credits devoted to each subject (Transcript of records).

5. SELECTION CRITERIA

Applicants that fulfil the admission criteria will be ranked according to the selection criteria. A ranking list and a reserve list will be defined for each learning path according to the following criteria:

- Language skills
- Type of entrance qualification
- Academic records
- Work experience and professional qualifications
- Motivation and willingness.

Only applicants of the ranking list and reserve list are admitted to the program.

6. TUITION FEE

- The EMSE tuition fee is € 2,720/year. The first year at UPM students must pay an extra local fee of € 1215 (additional to the € 2720 EMSE fee), to comply with local regulations.

Tuition fees cover any participation cost to EMSE, except the official fees charged for the issuance of the official degrees.

Students will be provided access to the facilities of the participating universities (library, computers, laboratories, wi-fi, Internet, alumni associations, university sport associations).

7. SCHOLARSHIPS

There are two available scholarships that cover the stay in UPM (first year). The scholarship amounts to a total of **€ 10,000**. Tuition fees for the first year are deducted from this scholarship. During the stay in UNIKL the second year the student will be self-paying, but the student may ask for grants offered by other institutions to cover his/her stay in UNIKL.

8. HOW TO APPLY

Applicants must send to emse-secretariat@unibz.it the following documents in electronic form:

- A copy/photocopy of the applicant's passport (or identity card for EU applicants). Only pages with a photo and personal data.
- A copy/photocopy of the IELTS, TOEFL, or CAE English language certificate.
- A copy/photocopy of all academic degree certificates (i.e. Bachelor or equivalent, Master or equivalent) or other postgraduate degrees/academic qualifications. If the degree is not in English, German, or Italian, an English translation is needed, made by an officially recognised translator or your University.
- Copies/photocopies of all official transcripts or other official academic records that give proof of the higher education studies (i.e. Bachelors, Masters etc.) including credits and grades achieved in each single subject. Snapshots of university websites are not accepted.
- Working experience (if any).
- A Motivation Letter.

Additional documents or an interview may be requested.

Unreadable or incomplete documents or late submissions will not be considered.

Enrolment procedures will start after deposit payment of the first instalment (see "how to enrol").

HOW TO ENROL

Admitted students will be contacted by the EMSE project manager and guided in the enrolment procedure.

Admitted students must pay the tuition fee for the first year by September 31st, 2014

9. IMPORTANT DATES/DEADLINES

- June 2th, 2014 — submission opening date for EU and NON-EU applicants with at least 12 consecutive months in EU.
- July 31st, 2014 — submission closing date for EU and NON-EU applicants with at least twelve consecutive months in EU.
- August 31st, 2014 — notification to applicants.
- September 8th, 2014 — participation confirmation of applicants.
- September 15nd, 2014 — payment of the first-year tuition fee for all admitted applicants and start of classes at UPM.

10. CONTACTS

EMSE secretariat

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