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1. POLYTECH TOURS

1a. Practical Information

École Polytechnique de l'Université de TOURS
64 Avenue Jean Portalis – 37200 TOURS
Tel: (33) 2 47 36 14 13 / Fax: (33) 2 47 36 14 22
Website: www.polytech.univ-tours.fr

1b. Administrative Structure

Head: Mr. Emmanuel NERON, Professor
Administration and Secretary Responsible: Mrs Elisabeth BARDU
Vice-Head for Studies Organization: Mrs Gaëlle BERTON, Associate Professor
Vice-Head for International Relations: Mr. Stéphane RODRIGUES, Professor
Vice-Head for Research and Partnerships: Mr. Patrick MARTINEAU, Professor
Communication services: Mrs Valerie MOREAU
Coordinator of International Masters’ Programs: Mrs Laura VERDELLI, Associate Professor

2. DASSAULT’S SITE

Dassault's site is a combination of two departments of Polytech Tours:

- **DMS (Département Mécanique et Systèmes)** Mechanical and Systems Department: associated to the Engineering Diploma of the “Mechanics and System Design” speciality.
  Head of the department: Mr. LACROIX Florian (office: H)
  Tel: (33) 2 47 36 10 25

  Head of the department: Mr. GIRAULT Jean-Marc
  Tel: (33) 2 47 36 13 21 (office: H)
2a. Organisational Structure

Polytech Tours – Site Dassault
7 avenue Marcel Dassault – 37200 TOURS

- DMS Mechanical and Systems Department:
  Email: dms.polytech@univ-tours.fr or scolarite.dms.polytech@univ-tours.fr

- DEE Electronic and Energy Department:
  Email: dee.polytech@univ-tours.fr or scolarite.dee.polytech@univ-tours.fr

Contacts:

<table>
<thead>
<tr>
<th>Services</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretariat/Front Desk</td>
<td>(33) 2-47-36-13-00</td>
</tr>
<tr>
<td>Students' Affairs Department</td>
<td>(33) 2-47-36-10-03</td>
</tr>
<tr>
<td>Internship Department</td>
<td>(33) 2-47-36-13-03</td>
</tr>
<tr>
<td>Financial Department</td>
<td>(33) 2-47-36-13-04</td>
</tr>
<tr>
<td>Library</td>
<td>(33) 2-47-36-14-40</td>
</tr>
</tbody>
</table>

Opening Hours:

| Reception | Monday, Tuesday, Wednesday, Thursday, Friday | 8:30-12:30 and 13:30-17:00 |
### 2c. Administrative Structure

**Head of Electronic and Energy Department**  
Jean-marc GIRAULT (office: H)

**Head of Mechanical and Systems Department**  
Florian LACROIX (office: H)

**Reception/Secretariat**  
Sylvie METAYER

**Students’ Affairs Department**  
Amélie PLUMEREAU

**Internships Office**  
Katia BUREAU

**Laboratories Secretariat**  
Naïma BENYAGOUB (office: E)

**IT Department**  
Luc LECROISEY / Abdelhafid BOUAMOUD (office: P)

**Assistant Engineer in Mechanics**  
Emmanuel PENAUD (office: J)

**Assistant Engineer in Electronics**  
Thierry VIELLA (office: X)

**Financial Office**  
Anne GALOPIN (office: F)

**Buildings Facilities**  
Daniel PASQUEREAU (Technical Services Agent and attendant).

**Library** (common to each department – located in Portalis Site)  
Marie-Madeleine TALON

For an email contact, use the format firstname.familyname@etu.univ-tours.fr

### 2d. Pedagogical Structure

**Master EME Responsible Professor:**  
Caroline RICHARD (office: V)

**Electronic Speciality Responsible Professor:**  
Nathalie BATUT (office: U)

**Scheduling and Timetables:**  
Nathalie BATUT (office: U)

**International centre office’s representative ESEE:**  
Sébastien JACQUES

**Industrial Relations ESEE specialty:**  
Dominique CERTON

**Industrial Relations MCS specialty:**  
Arnaud DUCHOSAL
3. INSA CENTRE VAL DE LOIRE’S SITE

Located in Blois, the INSA Centre Val de Loire is part of INSA, one of the French National Engineering College Network. Some lectures will take place at the INSA or can be taught by videoconference. INSA is situated within a short walking distance of the station. Trains come directly from Paris and Tours. (35min from Tours by train)

Practical Information and contact:
INSA Centre Val de Loire – Institut National des Sciences Appliquée Centre Val de Loire
Rue de la Chocolaterie
BP 3410
41034 Blois Cedex
Phone: (33) 2.54.55.84.50 / Fax: (33) 2.54.55.84.35
Web: http://www.insa-centrevaldeloire.fr/

International Office:
Phone: (33) 2 54 55 84 54

4. RESEARCH BODY

The laboratories LAME and GREMAN strongly support the M2RI EME programs.

4a. Description of LMR, CEROC and CERMEL

The LAME laboratory of the University of Tours, was created in 2017. The laboratory is located in Polytech Tours (head office), in INSA-CVL Blois and in Polytech Orléans. It is part of the clusters “Elastopole” and “S2E2.”

The main research theme is “dynamic characterization of materials and structures”.

This theme is divided into three sub topics;
- Characterization and modeling of materials behavior
- Fatigue of materials and
- Structural vibrations

Materials studied include liquids, elastomers, polymers, metals and ceramics.

Current team

47 Teaching and Researchers
7 Engineers and Administrative assistants
14 Thesis scholars
4 Temporary research staff

The laboratory is behind the creation of two hybrid Industry/university research centers
- CEROC (2005) in cutting Tools applications
- CERMEL (2007) in Elastomers

Since 2011, the laboratory is participating in one research center CERTEMPlus (Mechanical reliability in Electronic components)

It is now participating in a new European Project SICRATES (2013 -2016). It has realized 20 other industrial contacts in the past 5 years.

Different internationals partners:
- VIT University, Anna University, SRM University in India
- Lodz Technical University in Poland
- University of Manchester in UK
- University of Missouri, USA
- Politecnico di Torino, Italy
Main Industrial and institutional partners:
Safety, Hutchinson, Caillau, SNCF, CEA, RCP, Valeo, Thales

Main equipment
- Fatigue testing machines 5
- Dynamic mechanical analyzers 3
- Differential Scanning calorimeter 1
- Nanoindentors 2
- Tensile testing machines 3
- Scratch tester 2
- Scanning Electron Microscope with EDX, EBSD and insitu Tensile testing
- High speed machining centers 3
- Vibration acquisitions and analysis
- Work stations with CAD, ABACUS, ANSYS software

➢ CEROC (Centre d’Etudes et de Recherches sur les Outils Coupants)
Studies and Research Center for Cutting Tools

Contact: Mr. DUCHOSAL Arnaud (mail: arnaud.duchosal@univ-tours.fr)

CEROC is the resulting collaboration of the University of Tours and the Sandvik-Coromant Research and Development organization. Created at the Sandvik-Coromant Fondettes plant in 2005, CEROC’s mission is to link the industrial world with the research community. Sandvik -Coromant is one of the world leaders in producing tungsten carbide cutting tools.

CEROC is opened to regional businesses and is an innovating place of training. It combines the expertise of production conditions to materials behaviors’ knowledge, in order to optimize machining concepts and to increase productivity.

Studies are made on abrasion resistance of tungsten carbide wafers to optimize its service life and improve its properties.

Scientific equipment and hardware of CEROC:
- Nanoindenter
- 3D Profilometer
- High-temperature fatigue testing machine
- High-temperature tribometer
- Scanning electron microscope (SEM)

➢ CERMEL (Centre d’Etudes et de Recherche sur des Matériaux Elastomères)
Research and Study Centre on Elastomeric Materials

Contact: Mr.LACROIX Florian (mail: cermel@univ-tours.fr)
Web: www.cermel.univ-tours.fr

Opened since 2007, the Research and Study Centre on Elastomeric Materials (CERMEL) was created thanks to the partnership between the LMR (Rheology and Mechanics Laboratory) of the University of Tours and Hutchinson SNC company which is a specialist of industrial rubber processing.

It was created thanks to local communities. Teacher-researchers and LMR researchers work in partnerships with Hutchinson’s researchers or other companies through research contracts.

Concentrated on fatigue behavior of elastomers mostly used in power transmission belts, the field of scientific investigation covers:
- **Numerical modeling of mechanical behaviors of polymers’ study**
- **Adhesion behaviors** between elastomers and polymer fibers in power transmission belts
- **Fatigue thermal and mechanical behaviors**
- **Materials characterization and validation of polymers’ behaviors** (under extreme conditions as for products which are used for planes instrument panels)
- **Fracture surfaces**

Its aim is to predict and improve the service life of industrial products by studying dynamics behaviors of polymers through experiments close to actual conditions.
CERMEL meets the needs of industry by providing services and collaborative research eligible for public funding. It can support firms in their technological development, reinforce their innovative potential and increase their competitiveness.

CERMEL is an active member of the Elastopôle competitiveness cluster, which encourages close ties with industrial and scientific partners. It is also, for students, a training ground with direct links to industry.

It has a 500 m2 technical platform equipped with state of the art technological and scientific instruments enabling analysis of the mechanical and physical responses of materials and structures under stress-spectra similar to real conditions of use.

CERMEL is a center of excellence and innovation for elastomers and polymer matrix nano-composites

4b. GREMAN (Materials, Components & Systems for Energy Efficiency: from Nano to Macro.)

**Director:** Prof. LETHIECQ Marc  
**Deputy Director:** Prof. ALQUIER Daniel  
**Secretary:** Mrs BENYAGOUB Naïma  
**Web:** [www.greman.univ-tours.fr](http://www.greman.univ-tours.fr)

GREMAN, research group on materials, microelectronics, acoustics & nanotechnology, is a joint research laboratory of Tours university and CNRS in partnership with the French alternative energies and atomic energy commission (CEA) and INSA Centre Val de Loire.

The laboratory was created by a merge of three research groups : Advanced Materials Electrodynamic laboratory (LEMA), Power Microelectronics laboratory (LMP), Ultrasound Characterisation, Piezoelectricity and Transductors teams (formerly LUSSI).

GREMAN laboratory is specialised on materials, microelectronics, acoustics and nanotechnology. GREMAN's research cover all the process from materials to components and systems. Our lab operates on five technical platforms in Tours and Blois.

Materials and technologies needs to optimize energetic efficiency are growing. To answer those needs, GREMAN research team is composed by scientists from several specialities : electroniciens, technologists, physicists, condensed materials chemists...

Our lab activities are focused on five main themes :
- Functional oxides for energy efficiency: combinatory synthesis and nanostructuration.
- Magnetic & optical properties of ferroic and electronic correlation materials.
- Innovative materials and components for power and RF microelectronics: wide bandgap & porous SCs and their applications.
- Piezoelectric & capacitive micro & nano systems for ultrasound transducers and energy conversion.
- Methods and instrumentation for ultrasonic characterization of complex media.

**A laboratory of over 100 people:**
- 42 permanent academic staff
- 16 administrative & technical staff
- 38 PhD students
- 10 post-doctoral researchers

**Research contracts and international visibility:**
- About 90 publications per year
- 8 PhDs defended per year
- 10 to 15 research contracts per year (European, national, industrial, local) representing 2 to 3 million euros per year.

GREMAN researchers collaborate with several local and regional teams, whether directly or through structures such as CERTeM (Centre d'Études et Recherches sur les Technologies de la Microélectronique, whose the LAME at Tours and GREMI at Orleans are also members), the Institute of Ultrasound (collaborations with INSERM UMR930) or the common center of scientific computing CASCIMODOT (Orléans-Tours). Collaborations with laboratories such as CEMHTI and CRMD Orleans or SPCTS at Limoges will intensify through the future MATV2L Research Federation (Matériaux Val de Loire et Limousin), centered on the physico-chemistry of solids.
Local industry partnerships are also very diverse, since SMEs such as Vermon or HF Company until the multinational STMicroelectronics. The clusters, first and foremost the pole S2E2 (Science and Electrical Power Systems) which STMicroelectronics is a leader, are places to share with many regional players whose come from several collaborations.

Our lab is particularly involved in education through five master's degree of Tours and Orleans universities:

- Multifunctional materials and new technologies for energy (Tours university);
- Non-linear physics (Tours university);
- Electronics and mechanical engineering (International master's degree Tous university & INSA Val de Loire);
- Mecatronic, automation, robotic and signal (Orleans university & INSA Centre Val de Loire);
- Medical imaging (Tours university).

GREMAN's teachers-researchers are also involved in courses at IUT of Tours and Blois, Sciences and techniques education and research unit and Polytechnique (Graduate school of engineering) of Tours university and INSA Centre-Val de Loire.

**Location:**
The main site is located inside STMicroelectronics' buildings.

- GREMAN-STMicroelectronics (main site):
  6 rue Pierre et Marie Curie, BP 7155, 37071 TOURS, CEDEX 2
- Polytech Tours, site Dassault:
  7 avenue Marcel Dassault, 37204 Tours Cedex 3,
  Tel. (33) 2 47 36 13 00, fax (33) 2 47 36 13 12.

  ➢ CERTeM (Centre d'Etude et de Recherche Technologiques en Microélectronique)
  Studies and Technological Research Center on Microelectronics

Created in 2000 the CERTeM is a mixed public-private laboratory. With human and technical resources, it is dedicated to collaborative research in microelectronics field. The CERTeM platform in particular, dedicated to microelectronics and microsystems, includes a 400 m² class, 100 clean room as well as a wide range of characterization tools.

The CERTeM gathers convergent interests of the major players in business planning: State, local authorities, businesses and universities.

**Objective:** To encourage innovation and job creation with industrial and research laboratories in the Center region.

  ➢ Plug And Fab

The PAF is located within the site Dassault of Polytech Tours. It is a center supported by the research laboratories of Polytech and the University of Tours. Its role is to promote the development of projects based on the use of renewable electrical energy. It is based on the human resources of laboratories across the whole University and students of Polytech.

### 5. TEACHERS FOR EME PROGRAM

<table>
<thead>
<tr>
<th>NAME</th>
<th>CONTACT</th>
<th>PHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
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<td>+33 (0)2 54 55 47 34</td>
</tr>
<tr>
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<td>+33 (0)2 54 55 84 40</td>
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<td>+33 (0)5 49 49 80 97</td>
</tr>
<tr>
<td>Mr. FEUILLARD Guy</td>
<td><a href="mailto:guy.feuillard@univ-tours.fr">guy.feuillard@univ-tours.fr</a></td>
<td>+33 (0)2 47 35 84 44</td>
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<td>+33 (0)5 49 49 82 33</td>
</tr>
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<td>+33 (0)2 47 35 84 65</td>
</tr>
<tr>
<td>Mr. MILTON Samuel</td>
<td><a href="mailto:Samuel.milton@univ-tours.fr">Samuel.milton@univ-tours.fr</a></td>
<td></td>
</tr>
<tr>
<td>Mr. NTSOENZOK Esidor</td>
<td><a href="mailto:esidor.ntsoenzok@univ-orleans.fr">esidor.ntsoenzok@univ-orleans.fr</a></td>
<td></td>
</tr>
<tr>
<td>Mrs. RICHARD Caroline</td>
<td><a href="mailto:caroline.richard@univ-tours.fr">caroline.richard@univ-tours.fr</a></td>
<td>+33 (0)2 47 36 13 13</td>
</tr>
<tr>
<td>Mr. SERRA Roger</td>
<td><a href="mailto:Roger.serra@insa-cvl.fr">Roger.serra@insa-cvl.fr</a></td>
<td>+33 (0)2 54 55 84 41</td>
</tr>
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</table>
6. CONTENTS AND ORGANIZATION OF MASTER EME

6a. Academic Year 2016-2017 General Schedule

<table>
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<tbody>
<tr>
<td>WELCOME MEETING</td>
<td>2 OCTOBRE 2017</td>
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<tr>
<td>STARTING OF COURSES</td>
<td>3 OCTOBRE 2017</td>
</tr>
<tr>
<td>END OF FACE TO FACE LECTURES</td>
<td>26 JANUARY 2018</td>
</tr>
<tr>
<td>INTERNSHIPS STARTING</td>
<td>29 JANUARY 2018</td>
</tr>
<tr>
<td>INTERNSHIPS ENDING</td>
<td>29 JUNE 2018</td>
</tr>
<tr>
<td>END OF ACADEMIC YEAR</td>
<td>31 AUGUST 2018</td>
</tr>
<tr>
<td>END OF 1ST SEMESTER</td>
<td>26 JANUARY 2018</td>
</tr>
<tr>
<td>BEGINNING OF 2ND SEMESTER</td>
<td>29 JANUARY 2018</td>
</tr>
<tr>
<td>INTERNSHIPS EXAM (REPORT AND ORAL PRESENTATION)</td>
<td>WEEK 26</td>
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ACADEMIC HOLIDAYS

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<tr>
<td>Autumn</td>
<td>Saturday 10/28/2017 to Sunday 11/05/2017</td>
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<tr>
<td>Christmas</td>
<td>Saturday 12/23/2017 to Sunday 01/07/2018</td>
</tr>
<tr>
<td>Spring</td>
<td>Saturday 04/21/2018 to Sunday 05/06/2018</td>
</tr>
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The courses are designed with two distinct programs for electronics and mechanical engineering with a few common courses. Common courses are marked with the superscript \(^C\). Courses for electronics specialization with the superscript \(^E\) and the Mechanical Engineering specifications with the superscript \(^M\).

**Note 1:**
To obtain the EME diploma it will be required from student, at the end of the program, to pass a French test and an English test. Each student will need to score: at least 270 at the TCF and at least 650 at the TOEIC. The TCF and TOEIC tests may be replaced by other equivalent tests. However, students who could justify upon admission of a B2 level in English are not concerned with English courses and English Level test and symmetrically students who could justify upon admission of a A2 level in French are not concerned with French courses and French Level test.

**Note 2:**
Polytech Tours engineering students who candidate to a double-enrollment must have validated their B2 levels in English and in French at the time they submit their application to the master jury.
7. CONTENTS OF TEACHING MODULES

This Masters, taught entirely in English, aims to specialize students in the science and engineering of ceramics, metals, polymers/elastomers, and composites, with emphasis on a variety of subjects like materials for electronics, biomaterials, nanotechnologies, mechanics, design, numerical modeling, reliability, life cycle analysis, processing and instrumentation, etc.

This is an interdisciplinary Masters in Electronics and Mechanical Engineering presented by Polytech Tours, integrating course units delivered by academic staff from the 2 laboratories and leading guest researchers. This program will cater to the needs of both engineering and science majors.

Close contacts with the Industry will be provided through off-campus work assignments in industry (internships) or in academic lab. Our goal is to produce well-qualified materials scientists and engineers who can function effectively in the technical arena as well as possess the skills to assume leadership roles in industry, academia, and government.

This Master is organized jointly with the INSA (Institut National des Sciences Appliquée Centre Val de Loire) in Blois.

7a. Program’s Objectives

The program’s objectives are to produce graduates who are:

- able to apply the principles of materials science for undertaking advanced engineering and/or research projects.
- knowledgeable about a variety of engineering materials (including metals, semiconductors, ceramics, polymers, and composites), and the relationships among processing, structure, properties, and performance.
- able to define and solve problems, especially those involving materials selection and design, and are able to develop, implement and evaluate solutions via integration of their basic scientific skills and knowledge.
- able to communicate effectively and who demonstrate the ability to function in multi-disciplinary teams.
- skilled at using modern engineering tools for characterization, analysis and design of materials.
- able to understand their responsibility to their profession and society in a global context.
7b. **Teaching Units (T.U.) Contents**

**T.U.1: Mechanical Properties of advanced materials – ECTS 4 – (C)**
Responsibles: Pr Gilbert Henaff & Pr. Jonathan Cormier
Program: Courses: 7h – Tutorials: 9h – Practical work: 9h

**T.U.2: Piezoelectric Materials and their Applications – ECTS 4 – (C)**
Responsibles: Pr. Guy Feuillard (Blois)
Program: Courses: 10h – Tutorials: 9h – Practical work: 6h
Description: Ferroelectric and piezoelectric materials, fabrication process, properties and functional characterization.
Elastic waves in isotropic solids, Energy considerations, guided waves.
Ultrasonic imaging techniques, nondestructive testing and evaluation (NDT, NDE). ultrasonic flowmeters, design and modeling of ultrasonic transducers.
Piezoelectric sensors and actuators.

Responsible: Pr. Jean-Mathieu Menick (Blois)
Program: Courses: 10h – Tutorials: 6h – Practical work: 9h
Fundamentals of heat transfer according to conduction, convection and radiation.

**T.U.4: Acoustics and vibrations – ECTS 4 – (C)**
Responsibles: Mr. Julien Bustillo (Blois) & Mr. Baptiste Bergeot (Blois)
Program: Courses: 10h - Tutorials: 9h – Practical work: 6h
Propagation phenomena (Fundamental laws of propagation, reflection, transmission, attenuation) Acoustic radiation (acoustic impedance, vibrating sphere, scalar diffraction theory).
Introduction to non-linear acoustics and its applications.
Experimental vibrations.
Fluid-structure interactions : numerical approaches (finite elements), modal synthesis.
Acoustic radiation of vibrating structures.

**T.U.5: French as a Foreign Language /Preparation to Professional Activity – ECTS 4 – (C)**
Responsible: Mrs Todorovic Gordana
Program: Tutorials: 48h
French language and culture (common with other M2RI courses)

**T.U.6: Bibliographic / search seminar – ECTS 4 - (C)**
Responsible: Invited Professor
Program: The goal of this module is: to improve the research skills of students; to help students to plan their own research; and to develop critical evaluative skills in relation to the research conducted by other scholars.

**T.U.7a: Materials and Technologies for Microelectronics – ECTS 3 – (E)**
Responsible: Pr Laurent Ventura
Program: Courses: 12h - Tutorials: 13h
This course deals with processes of semiconductor devices fabrication:
- Functionalities (Doped well, bipolar junctions, ohmic and rectifying contacts, insulating layers, ...)
- Fabrication processes (doping diffusion, implantation, oxidation, deposition, surface cleaning, wet and plasma etching, lithography...)
- Electrical and optical characterization for the determination of semiconductor properties and device performances.

**T.U.7b Material Fatigue – ECTS 3 – (M)**
Responsible: Mr. Samuel Milton
Program: Courses: 12h – Tutorials: 10h – Practical work: 9h
Fatigue of materials, endurance limit, mean stress effects, low cycle fatigue, stress concentration effects. Miners law Introduction to Fracture mechanics, Plastic zone and fracture toughness. Fatigue crack propagation
T.U.8a: Power Devices and Systems – ECTS 3
Responsible: Pr Laurent Ventura
Program: Courses: 8h - Tutorials: 2h – Practical work: 15h
This course deals with processes of semiconductor devices fabrication:
Practical works will be done in the microelectronic center of the University of Tours (CERTeM) in connection
with the STMicroelectronics Company. Knowledge of technologies for electronic components and microcircuits
fabrication.

Responsible: Pr Caroline Richard
Program: Courses: 10h - Tutorials: 6h – Practical work: 9h
Mechanical and physical properties of thin films/coatings for advanced applications. Relation between
structure and properties. Surface treatment and analysis techniques

T.U.8: 4 months INTERNSHIP – ECTS 30 – (E or M)
Internship in a research laboratory or in an industrial environment. Literature survey, presentation of the project
and realization of the project under a project supervisor. A final project report will be defended before a jury.
The project can be carried out in one of the European partners to this program

Total ECTS Points: 60

Contact Persons:
Mechanical Specialty:
Caroline Richard, Professor
GREMAN Laboratory, 7 Avenue Marcel Dassault, 37200 Tours
Email: caroline.richard@univ-tours.fr

Electronics Specialty:
Nathalie Batut, Assistant Professor
GREMAN Laboratory, 7 Avenue Marcel Dassault, 37200 Tours
Email: nathalie.batut@univ-tours.fr
8. TUITION FEES AND CONDITIONS REGARDING THE ENROLMENT OF INTERNATIONAL STUDENTS IN THE EME RESEARCH MASTER

This chapter is aimed at clarifying some key general rules and decisions that have been made about tuition fees and possible grants for the EME Master by the University of Tours.

8a. Tuition Fees

Basic Regime of tuition Fees

The Executive Board of the University of Tours has voted on March 26, 2012 on the new tuition fees that are applicable to all International Masters offered by the Polytechnic School of the University. The tuition fee applicable for all incoming international students is settled at 3,200 euro per student. To this amount must be added 2,000 euro for the Research Internship during the Second Semester if the internship takes place within one of the research units of the University of Tours. In this case the additional fee of 2,000 euro paid by the student along with her/his registration, will be approximately balanced by an Internship research compensation paid to the student by the research unit (see below section 2).

NB1: The payment of this tuition fee is compulsory if the student wants to be granted the full Master Degree.

NB2: For “Exchange Students” who come under the umbrella of a bilateral agreement between the University of Tours and any other Partner University (including in Europe) and who are registered in their home university, there will be no fee to be paid, but the students will be granted only the credits (ECTS) of the courses in which they will be registered and in which they will succeed. An additional certificate can be delivered in such cases, but not the Master Degree.

Additional Tuition Fees for the Research Internship Period
(variable conditions depending on the student’s situation)

In compliance with the available regulations in France and with the rules adopted accordingly by the University of Tours, all Research Masters’ students fully registered in the Master PS/URP must achieve a research training period (Research Internship) of about 4 months during the Second Semester in a research unit (in France or abroad, including in their home university) to prepare their Research Master Thesis. This additional fee for the research training period is 2,000 euro. But this fee has various financial impacts according to the specific case in which will stand each of the incoming students:

Case 1: The student achieves her/his research-training period within an academic research centre in France (and specifically in Tours). In this case, the 2,000 euro of research training fee are paid by the student at registration, the student will get from the research unit a Training Compensation of approximately the same amount (slight variations are likely to occur depending on the management rules of the University and/or the research unit).

NB: This compensation provision is dictated by the French Regulation for every student (whatever her/his citizenship) achieving in France a training period of more than 8 full weeks.

Case 2: The student achieves her/his research-training period outside an academic research centre in France. This could be either in another country, including the home country (and specifically a research centre or an academic department in her/his home university). In this case, the 2,000 euro of research training fee is not paid at all by the student, but the student will not receive any Training Compensation.

NB1: In case the research training-period is achieved abroad or in the home country, the student must provide an official document specifying where (country, city) and with whom (research unit or academic department) and the name and complete information about the responsible in charge of him/her (tutor, research responsible, etc.).

NB2: In any case, the fully registered student in the EME Master must be (co)supervised by a Professor intervening in the Master or in the associated research units and must prepare and present a Research Master Thesis under the authority of this supervisor. This is a compulsory condition for being granted the Master Degree in Electronics and Mechanical Engineering.
Regional Scholarships

Every year, the Region Centre allocates a certain number of scholarships to students fully enrolled in the PS/URP Master program, i.e. to students who effectively pay the 3,200 euro tuition fee (+ the eventual additional fee of 2,000 euro regarding the research-training period; see above).

NB: Exchange Students are not eligible for these grants.

The beneficiaries will receive a personal notification for the award of this scholarship. This notification is sent to the beneficiaries at the latest at the end of September. When additional scholarships are made available after the starting of the Academic Year, some few students attending the International Masters of the University may be selected in October as beneficiaries.

The standard amount of this scholarship is 500 euros per month during 4 months (the amount can be different for the regional cooperation priority areas) from October to January included (i.e. 2,000 euro of total grant for every beneficiary).

8b. Conditions regarding the enrolment of international students within the EME research Master

Length of the program: one year (two semesters) starting every Academic Year in late September or very early October.

Admission requirements: The program targets English-speaking graduate students specializing in Electronics and/or Mechanical Engineering.
This requirement corresponds to at least 240 European credits (ECTS).

Application Process: An application form must be filled by the applicant and sent in due time to the University François Rabelais, together with all the required complementary documents. A jury examines each file and admits or rejects the application. Application deadlines: Application deadlines: early application 31st May 2017, late application 30th June 2017.

English Proficiency: Level B2 of the Common European Framework of Reference for Languages or equivalent, i.e. minimum level required (for non-native English speakers): Paper-based TOEFL score = 577, Internet-based TOEFL score = 87, TOEIC score = 750, IELTS = 5, Cambridge = FCE.

French Proficiency: Only required for everyday life (minimum recommended level: A1 of the Common European Framework of Reference for Languages, i.e. TCF 1 or DELF A1). Enrolled students at beginners’ level will benefit from French courses offered by the Polytechnic School and pass a TCF test (see above Chapter 6, Section b).

NB: The Enrolment Committee of the M2RI – EME Master can occasionally consider applications of students who do not already match the B2 level for English Proficiency, but who are close to it. In this case, enrolled students may benefit from English courses offered by the Polytechnic School.

Application and contacts:

Applications forms and the list of requirements (documents, certificates, etc.) can be found on the Polytechnic School website:
http://polytech.univ-tours.fr/formations/international-research-master-414044.kjsp?RH=1410854106999&RF=1401801147562

Contacts:

Head of Electronic Program: Mrs BATUT Nathalie
e-mail: nathalie.batut@univ-tours.fr

Head of Mechanical Program: Mrs. RICHARD Caroline
e-mail: caroline.richard@univ-tours.fr

Administrative contact information: Mrs PLUMEREAU Amélie
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9. METHODS OF ASSESSMENT OF MASTER DEGREES AT THE UNIVERSITY FRANÇOIS RABELAIS OF TOURS

The Board of Studies and University Life (CEVU) of July 3rd 2008, unanimously adopted CEVU amendment of September 17th 2009.
The Board of Directors of September 15th, 2008, unanimously adopted on September 28, 2009:

MASTER’S DEGREE

Pursuant to the order of April 9th, 1997, decrees 2002-480,481,482 of April 8th, 2002, and order of April 25th, 2002, relative to the national master’s degree:

1. A Bachelor’s degree holder student is by rights granted access in the same field for the first 60 European credits. Admission to the 2nd year of Master’s degree is granted by the President of the University upon proposal from the academic staff.

2. The Master’s degree is granted when 120 European credits have been obtained beyond the Bachelor’s degree.

3. Methods of assessment are established in every degree no later than the end of the first month of the academic year and cannot be amended during that same year.

Exceptional provisions:

In the event of exceptional circumstances assessed on an individual basis by the President or acting on his/her authority, by the Vice-President of the SFVU, “continuous assessment may be replaced by a final examination that remains to be defined. In addition to this, should the course include a final examination, it may be replaced by other methods of assessment that will be defined according to the circumstances.”

These provisions must be validated by the appropriate boards.

4. A special study program including adjustments for assessment is defined for each degree and for certain categories of students, such as students who hold jobs or have specific duties in academic or student life (which comprises students who have been elected to the three university boards and the board of directors of the CROUS), students enrolled in dual degrees, students with families, disabled students and athletes.

5. A table specifying the methods of assessment, including those under the special study program (type of test, factors for each course component and each course unit) is completed and attached to the course table.

6. Two testing sessions are organized per semester. Second session examinations of the first and second semesters are held either within two months at least of the first session, or within two weeks at least of the first session, provided that the second session is preceded by an Individual Academic Program. Dissertations and internship reports take place in a single session.

7. Different course components that make up a course unit may compensate for each other.

8. Course units within the same semester may compensate for each other; this is set up over the same semester based on the average of grades obtained for different course units weighted by factors. The internship/individual dissertation grade cannot make up for the grades of other units (or other courses and activities) and vice-versa: this provision is valid for all M2 and M1 with a long internship or a dissertation based on an introduction to research. All grades from other units are included in this system: if the average of all these units stands below 10/20, students will have to re-sit for all the units whose average grade score below 10/20. Students retain the benefit of the course units they have obtained.

9. There is no compensation between semesters.

10. Course components for which students have obtained an average grade are acquired once and for all. Obtaining a course component entails that the corresponding European credits are obtained.

11. Course units for which students have obtained an average grade are acquired once and for all. Obtaining a course unit entails that the corresponding European Credits are obtained (30 credits per semester).
12. The intermediary Master’s degree conferring 60 European Credits is awarded after the 1st year-Master examining committee’s due deliberation and upon the student’s request.

13. The Master’s degree is awarded at the end of four semesters after the examining committee’s due deliberation, granting 120 credits, provided that the student scores \textbf{at least 270} at the TCF and \textbf{at least 650} at the TOEIC. The TCF and TOEIC tests may be replaced by other equivalent tests.

14. A Master’s degree is awarded based on both semesters of M2. Repeating the second year is not accepted, except under exceptional circumstances to be assessed by the examining committee and upon decision of the President of the University

\textit{Pictures from the graduating ceremony at Polytech Tours of Students from International Masters from 2012 to 2014}

\textbf{Academic Year 2011/2012:}
Academic Year 2012/2013:

Academic Year 2013/2014: