Faculty of Electrical Engineering and Computer Science

25 years of Higher Education in Electrical Engineering (1985-2010) in Suceava

Evaluation Visit of European University Association - 2011
1215 Students Enrolled in Higher Education Programmes

- Undergraduate: 62%
- Graduate: 29%
- Postgraduate: 5%
- Lifelong Learning: 4%

Diagram showing the distribution of students across different education levels.
Higher Education Programmes

The study programmes are established according to the requirements of

- labour market
- quality assurance standards set by ARACIS
- available resources
Higher Education Programmes

Degree Programmes

- Undergraduate studies - Bachelor of Science (4 years)
- Graduate studies - Master of Engineering (2 years)
- Postgraduate studies - Ph.D. (3 years)

Lifelong Learning Programmes

- Training Courses – 1 week, 3 months, 2 years
- Post-doctoral Programmes (research)
Degree Programmes – Bachelor of Science

Economical Engineering Programme is organized in co-operation with FESPA.
Degree Programmes - Master of Engineering

(field - specialization)

- Computers and IT – Computer Science and Engineering
- Automatics – Computer Engineering and Process Control
- Electrotechnics
  - Advanced Techniques in Electrical Machines and Drives
- Energetics
  - Modern Systems for Energetic Process Control
- Electronics - Communications and Computer Networks
Degree Programmes - Master of Engineering

Interdisciplinary Programmes

- **Digital Arts** - Computer Aided Visual Arts, Design and Advertising Image
  (with FLSC and University of Arts)

- **Engineering and Management**
  - Computer Aided Management in Industry and Administration
  (with FSEAP)
Degree Programmes – Ph.D.

Enrolled Ph.D. Students

- Computers and IT: 20
- Electrical engineering: 15
- Electronics and telecommunications: 20
Lifelong Programmes

Training Courses

- IT Courses - WEB Design, Internet Applications Programming, PC Use ...
- Electroenergetic Balance Sheets
- Energy Management
- CAD Applications Development in Electric and Energetic Fields
- Informatics
## FEECS vs. USV

<table>
<thead>
<tr>
<th>Study Programme</th>
<th>Number of Programmes in USV</th>
<th>No. of Progr. in FEECS</th>
<th>in FEECS [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science</td>
<td>38</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Master of Engineering</td>
<td>50</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>11</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>Longlife Learning</td>
<td>7</td>
<td>5</td>
<td>71</td>
</tr>
</tbody>
</table>

Data from 2009.
Compatibility of Academic Regulations with Similar Faculties in EU

- In 1993-1998, FEECS was the coordinator of 2 Tempus Programmes that allowed us to organize the educational process similar to the partner institutions
- Since 1996, FEECS adopted the European Credit Transfer Systems
- FEECS concluded a *Double Diploma Agreement* with Ecole d’Ingenieurs de Lille, based on ECTS, in 2000
- Ph.D. Co-tutelle with USTLille(F) and KaHO Gent (B)
FEECS STRUCTURE

Department of Computers and Automation

SYSCON Research Center
FEECS STRUCTURE

Department of Computers and Automation
  SYSCON Research Center

Department of Electrotechnics
  EMAD Research Center
FEECS STRUCTURE

- Department of Computers and Automation
  - SYSCON Research Center

- Department of Electrotechnics
  - EMAD Research Center

- Department of Computers
  - CCSC Research Center
FEECS STRUCTURE

Academic Council of the Faculty of Electrical Engineering and Computer Science

Bureau of the Academic Council

Department of Computers and Automation
  SYSCON Research Center

Department of Electrotechnics
  EMAD Research Center

Department of Computers
  CCSC Research Center

Secretariat
C building (3.500 square meters) houses 26 laboratories.

D building:
- 4 amphitheatres
- 6 laboratories
- 2 seminar rooms
- conference hall
- High Performance Computing Laboratory
- IT Center

G building houses the Electromagnetic Compatibility Laboratory.
ACCREDITED RESEARCH CENTERS

EMAD - Research Center in Electrical Machines, Apparatus and Drives

CCSC - Research Center in Computer Science

SISCON - Systems and Process Control Research Center
Piezoelectric motors
Special electromechanical energy converters
Vibromotors
Microelectromechanical systems (MEMS)
Robots and actuators
Electric drives and automations
Electric and hybrid vehicles
Research Center in Computer Science
CCSC

- Artificial Intelligence
- Pattern Recognition
- Distributed Systems
- Embedded Systems
- Information Technologies
- Process Control
“University of Suceava has the most performant super-computer from the Romanian academic environment” (translation of newspaper title).
High Performance Computing Laboratory

www.eed.usv.ro/gridnord

Storage System – 6.936 Tbytes

Computing power in double precision - 6.45 Tflops
SISCON - Systems and Process Control Research Center

- remote location and identification (RFID);
- electromagnetic compatibility (EMC);
- process control and automations;
- wired and wireless data transmissions;
- digital signals processing;
- power line carrier communications;
- embedded processing systems;
- network time synchronization and applications
SISCON – Electromagnetic Compatibility Laboratory

Accredited by RENAR Bucharest
Electromagnetic Compatibility Laboratory
accredited by RENAR Bucharest

http://www.emclab.ro
# Research Results

## FEECS contribution to the scientific production of the University (in 2009)

<table>
<thead>
<tr>
<th>Explanations</th>
<th>USV</th>
<th>FEECS</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers published in ISI Journals</td>
<td>63</td>
<td>25</td>
<td>39.7</td>
</tr>
<tr>
<td>Papers published in Proceedings of the ISI indexed Conferences or International Conferences</td>
<td>176</td>
<td>32</td>
<td>18.2</td>
</tr>
<tr>
<td>Papers published in IDB indexed Journals others than ISI</td>
<td>48</td>
<td>17</td>
<td>35.4</td>
</tr>
<tr>
<td>Prizes and Diplomas for Research awarded by international bodies</td>
<td>21</td>
<td>18</td>
<td>85.7</td>
</tr>
<tr>
<td>Prizes and Diplomas for Research awarded by National Bodies</td>
<td>19</td>
<td>4</td>
<td>21.4</td>
</tr>
<tr>
<td>Inventions Patents</td>
<td>32</td>
<td>21</td>
<td>65.6</td>
</tr>
</tbody>
</table>
Outstanding Contributions to Romanian Research, Development and Innovation

Prof.univ.dr.ing. Dorel CERNOMAZU
(153 inventions)
Medals obtained at Inventics Exhibitions in Brussels, Geneve, ...


International Eureka Contest
Bruxelles - 2010

An invention having as authors members of FEECS (Nicolae SOREA, Dorel CERNOMAZU, Leon MANDICI) was awarded with:

- Silver Medal from Brussels Innova
- Prof. Ignacy Mościcki Medal from Zalozyciel Institute (ASSOCIATION OF POLISH INVENTORS AND RATIONALIZERS), Poland.
International Recognition

- Prizes and medals at international level
- Keynote speakers, PC members, ...
- Title of Doctor Honoris Causa of Cernăuți University, Ukraine, awarded to prof. eng. Adrian Graur, PhD
Faculty of Electrical Engineering and Computer Science

Accredited by

European Federation of National Engineering Associations (FEANI)
Compatibility and Co-operation

- European Credit Transfer System (ECTS)
- ERASMUS and Leonardo da Vinci
- Co-operation with 28 universities from 19 European countries
Compatibility and Co-operation

- Universite des Sciences et Technologies - Polytech’Lille, FRANŢA
- Universita degli Studi di Catania, ITALIA
- Katholieke Hogenschool Sint Lieven Gent, BELGIA
- Instituto Politecnico de Porto, PORTUGALIA
- University of Limerick, IRLANDB
- Fachhochschule Oldenburg / Ostfriesland, GERMANIA
- University of Southern Danmark, DANEMARCA
- ...
International Computer Contest for Students

- Teams from Beijing, București, Cernăuți, Chișinău, Iași, Lille, Limoges, Moscova, Novi Sad, Porto, ...

Hard & Soft
Microsoft Imagine Cup
ACM Programming Contest
Tehnici de interconectare în electronică
CSIDC
Siemens-VDO
International Computer Contest for Students

Presidents of the Jury

- John Milner – City University of London
- Timothy Hall – University of Limerick
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Conferences and Symposia

- **DAS 2010** - 10th International Conference on Development and Application Systems, May 27-29, 2010 - Suceava, Romania
Faculty Management

- FEECS follows its Strategic Plan (2008/2013)
  - Objectives derived from University Strategic Plan
- Each year the Academic Council establishes an Operational Plan
  - Objectives from Faculty Strategic Plan
  - Actions
  - Results Analysis at the end of each year
Faculty Management

● Active Participation of Teachers and Students in
  ● decision making process
  ● task definition

● Task Control
  ● Task responsible
  ● Head of the Departament
  ● Research officer, Vice-dean, Dean
  ● General director, Rector
Conclusions

- BSc, ME, PhD and Longlife Learning programmes with a dynamic evolution
- Education programmes designed after dialogues with companies and analysis of labour market
- Interdisciplinary programmes
- Quality promotion in all the educational and research activities
- Co-operation in education and research with other faculties in USV, Romania and Europe
- Outstanding contributions in Inventics
- European vocation