EUR-ACE® AT TRANSILVANIA UNIVERSITY OF BRAȘOV

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Transilvania
University
of Brasov

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of Brașov

TRANSILVANIA UNIVERSITY OF BRAȘOV



B-dul EROILOR no. 29, Brașov, 500036

http://www.unitbv.ro/

Transilvania University of Brașov

- **Transilvania University of Brașov** (UTBv) is a public high-education institution, established in 1948

- Faculties:
  - MECHANICAL ENGINEERING
  - TECHNOLOGICAL ENGINEERING AND INDUSTRIAL MANAGEMENT
  - MATERIALS SCIENCE AND ENGINEERING
  - ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
  - SILVICULTURE AND FOREST ENGINEERING
  - WOOD ENGINEERING
  - CIVIL ENGINEERING
  - FOOD AND TOURISM
  - PRODUCT DESIGN AND ENVIRONMENT
  - MATHEMATICS AND COMPUTER SCIENCE
  - ECONOMIC SCIENCES AND BUSINESS ADMINISTRATION
  - PSYCHOLOGY AND EDUCATION SCIENCES
  - PHYSICAL EDUCATION AND MOUNTAIN SPORTS
  - MUSIC
  - MEDICINE
  - LETTERS
  - LAW
  - SOCIOLOGY AND COMMUNICATION

Transilvania University of Brașov

- **The total number of students is: 19.288**
  - 15.284 B.Sc.
  - 3.536 M.Sc.
  - 468 Ph.D. Students

- **Study programs:**
  - B.Sc. programmes - 107
  - M.Sc. programmes - 69
  - Ph.D. research fields – 18

- **EUR-ACE certificated programs:**
  - Civil, Industrial and Agricultural Constructions – Faculty of Civil Engineering
  - Industrial Design - Faculty of Product Design and Environment
  - Mechatronics - Faculty of Product Design and Environment
  - Mechanical engineering – Faculty of Mechanical Engineering

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Faculty of Civil Engineering

Universitatea Transilvania din Brașov

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Study Program „Civil, Industrial and Agricultural Constructions”

http://constructii.unitbv.ro/programe-de-studii/licenta.html

- The begining of the study program lies in the academic year 1991-1992;
- In 2017 it was the last ARACIS evaluation and it was obtined the EUR-ACE® label
- Studied topics: mathematics, physics, chemistry, drawing and infographics, programming languages, mechanics, strength of materials, topography, building materials, static construction, geotechnical and foundations, computer aided design, civil engineering, construction timber, steel and concrete construction industrial, agricultural buildings construction technology construction work, etc.

- The domanin where the program is integrated is Civil Engineering
- Study period is 4 years (240 credits)
- The degree has a multidisciplinary and interdisciplinary formative base.
- Students acquire skills on: recognition of elements and structures for Civil, Industrial and Agricultural Constructions, the design of structures for Civil, Industrial and Agricultural Constructions; technological and economic design for execution works, operation and maintenance of constructions in the field of Civil Engineering domain, specific to the graduate program, organization and leadership of execution process, operation and maintenance in the field of Civil Engineering, specific to the graduate program, cmpliance with quality requirements and sustainable development, specific of Civil, Industrial and Agricultural Constructions

- Perspectives after graduation: engineer for civil, industrial and agricultural constructions, project engineer for constructions, leader of civil works, site master for civil, industrial and agricultural constructions, technical responsible with execution of civil, industrial and agricultural constructions, project supervisor, specialist inspector – constructions engineer, other positions : engineer in industry the operation and facilities, or technical offices in municipalities and country councils to follow of constructions.








- Number of students enrolled in the last 10 years: 996
- Enployment in the last 10 years: 95%
- Enrolled graduate students at master in the last 10 years: 427

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THE MAIN EMPLOYERS

- CANAM STEEL ROMANIA - design
- ENERGOCONSTRUCT 97 - execution
- MAURER IMOBILIARE SRL - execution
- SIKA ROMANIA SRL - execution
- SC CERENG CONSULT S Brasov - design
- SC ICCO FACILITY MANAGEMENT SRL Brasov- design and execution
- SC AEON BUILDING SRL Brasov - design and execution

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Faculty of Product Design and Environment

Universitatea
Transilvania
din Brașov

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Study Program „Industrial Design”

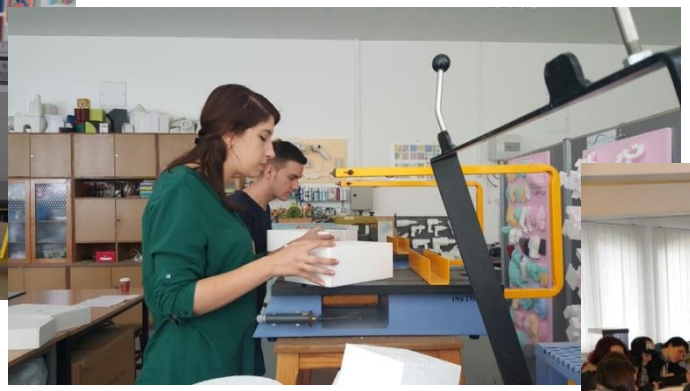
http://dpm.unitbv.ro/programe-de-studii/licență.html

- The roots of the study program „Industrial Design” are dated in 1998 when the study program „Product Design” started.
- In 2001 the name of the program was changed into „Industrial Design”; the first ARACIS evaluation took place in 2007 (one of the first evaluated programs in Romania).
- In 2017 was the last ARACIS evaluation and the EUR-ACE® label was obtained.
- Studied topics: computer-assisted modeling, conceptual design, graphic design, embodiment design etc.

- The domanin where the program is integrated is Industrial engineering
- Study period is 4 years (240 credits)
- The degree has a multidisciplinary and interdisciplinary formative base.
- Students acquire skills integrated in the design and promotion of innovative and competitive products, using specialized software and taking into consideration the rules of aesthetics and ergonomics, while knowledge enabling them to quickly integrate the latest developments concerning the rational and economical use of raw materials and energy.

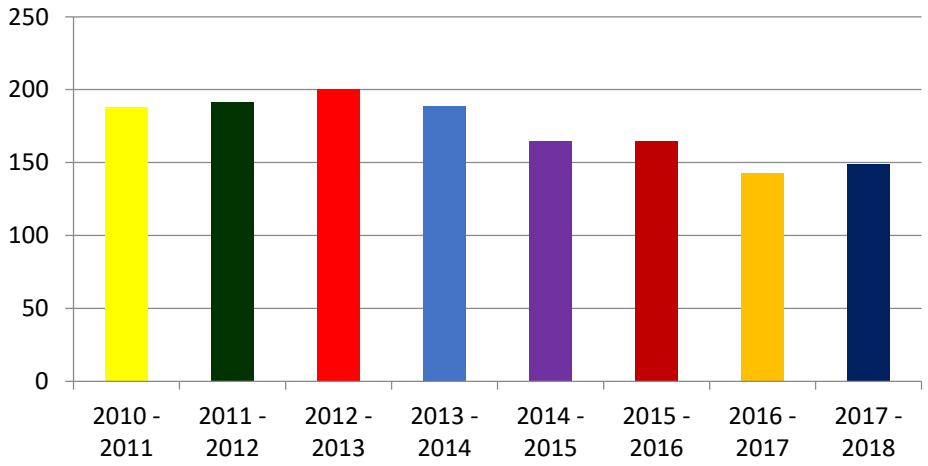
- Perspectives after graduation: graduates can work within teams of design and development of high-tech products, consulting companies in industrial design or open their own business in the fields of development, implementation and maintenance.





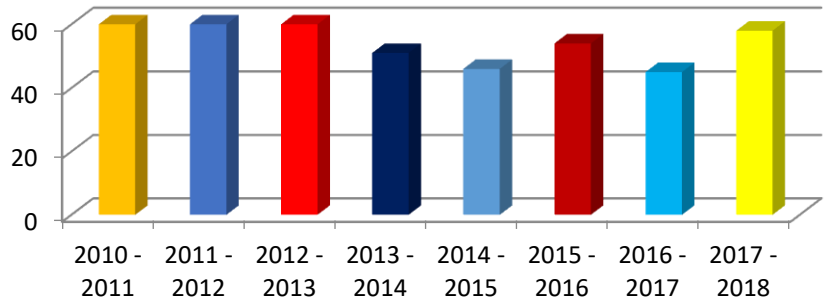


Total number of students



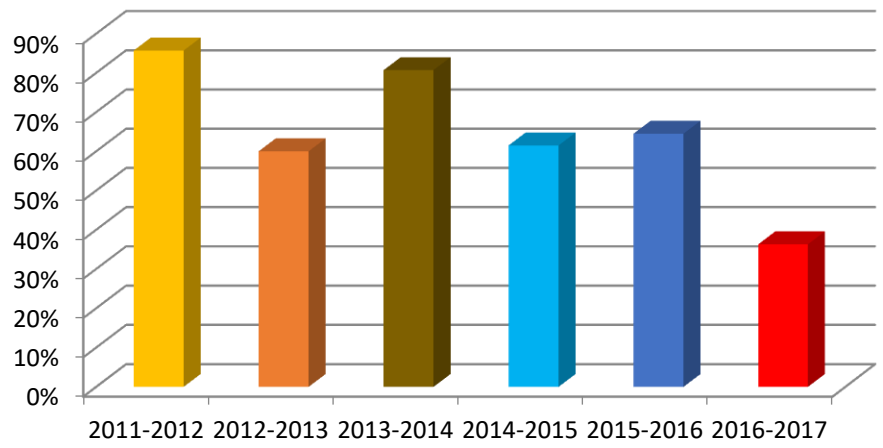
Academic year	Total number of students
2010 - 2011	188
2011 - 2012	191
2012 - 2013	200
2013 - 2014	189
2014 - 2015	165
2015 - 2016	165
2016 - 2017	143
2017 - 2018	149

Enrolled students in the first year of study



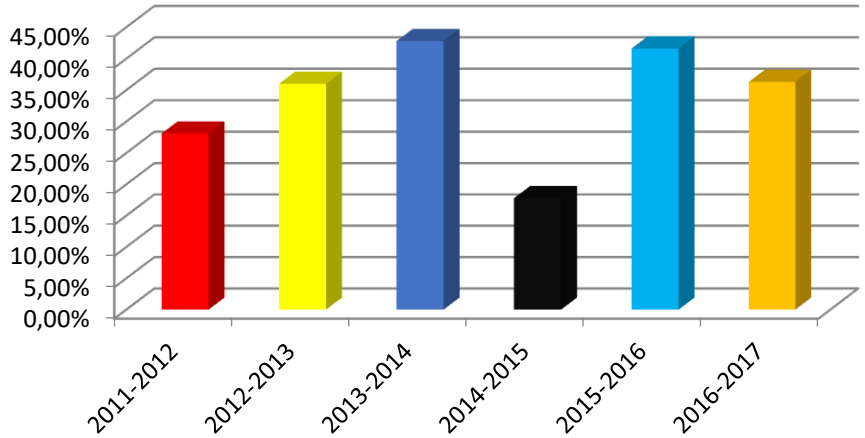
Academic year	Enrolled students in the first year of study
2010 - 2011	60
2011 - 2012	60
2012 - 2013	60
2013 - 2014	51
2014 - 2015	46
2015 - 2016	54
2016 - 2017	45
2017 - 2018	58

Employment (%)



Graduation year	Employability (%)
2011-2012	86%
2012-2013	60%
2013-2014	81%
2014-2015	62%
2015-2016	65%
2016-2017	36%

Graduate students enrolled at master



Graduation year	Enrolled [%]
2011-2012	28,10%
2012-2013	36,00%
2013-2014	43%
2014-2015	17,80%
2015-2016	42%
2016-2017	36%

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Study Program „Mechatronics”

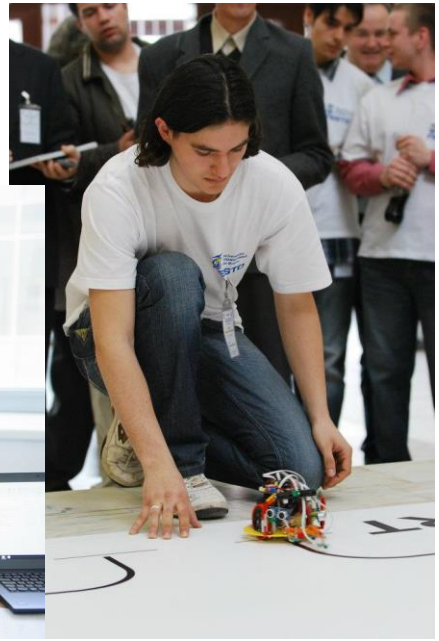
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- The provisional authorization of the study program „Mechatronics” was done in 1995
- In 2007 was done the first ARACIS evaluation (one of the first evaluated programs in Romania).
- In 2017 was the last ARACIS evaluation and it was obtined the EUR-ACE® label
- Studied topics: computer science, electronics, processing technologies, computer aided design, automation with microcontroller and PLC, mechatronic systems, etc.

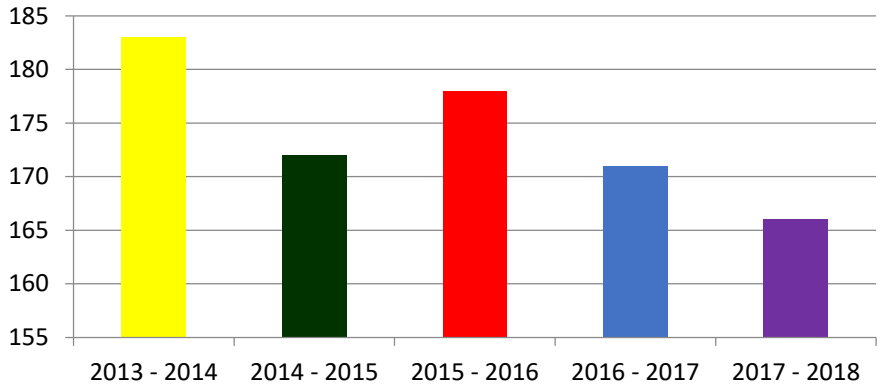
- Mechatronics study program students acquire skills for: mechanical subsystems aided design (2D drafting, 3D modeling), aided design and electronic circuit diagram of the mechatronic systems (hardware), design and development of software for mechatronic systems (in assembly language and high level languages) etc.
- Perspectives after graduation: continuing studies by Master and PhD programs, working in multinationals companies; developing their own companies on mechatronic design.





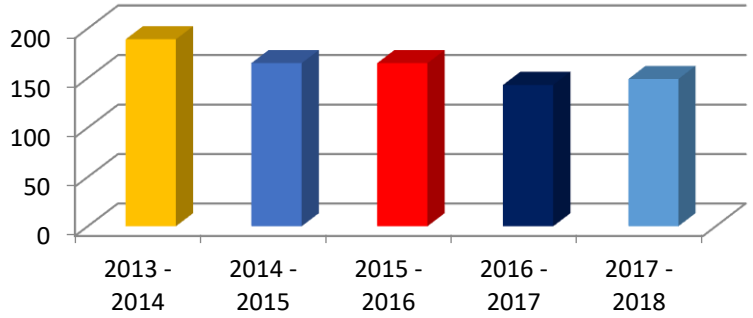


Total number of students



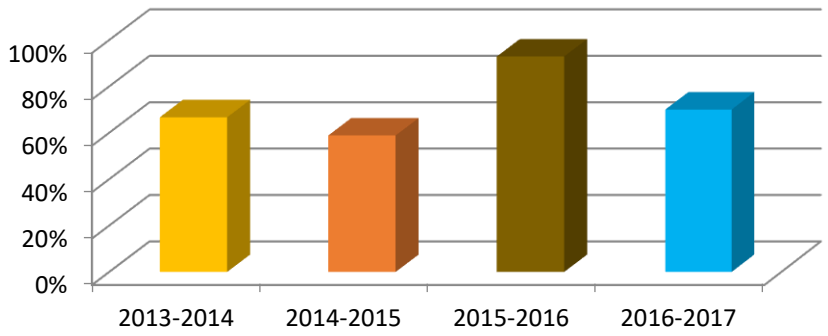
Academic year	Total number of students
2013 - 2014	183
2014 - 2015	172
2015 - 2016	178
2016 - 2017	171
2017 - 2018	166

Enrolled students in the first year of study



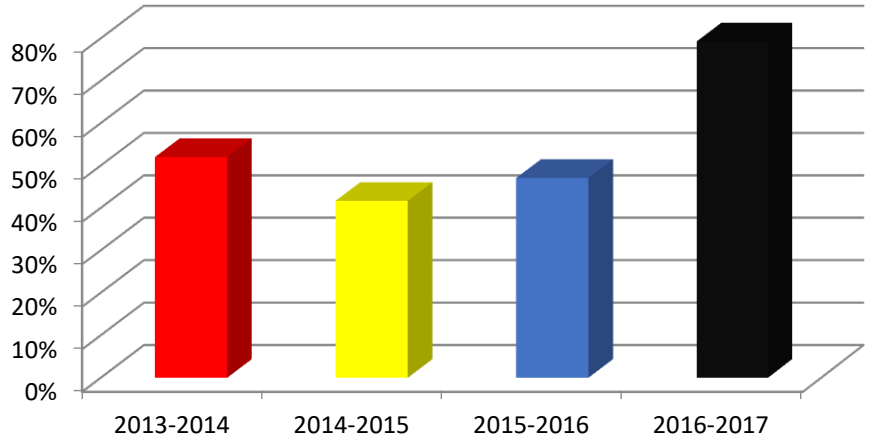
Academic year	Enrolled students in the first year of study
2013 - 2014	51
2014 - 2015	41
2015 - 2016	51
2016 - 2017	50
2017 - 2018	39

Employment (%)



Graduation year	Employability (%)
2013-2014	67%
2014-2015	59%
2015-2016	93%
2016-2017	70%

Graduate students enrolled at master



Graduation year	Enrolled [%]
2013-2014	52%
2014-2015	41,67%
2015-2016	47%
2016-2017	79%

Transilvania University of Brașov

Faculty of Mechanical Engineering

Universitatea Transilvania din Brașov

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Study Program „Mechanical Engineering”

http://mecanica.unitbv.ro/programe-de-studii/licență.html

- The roots of the study program „**Mechanical engineering**” are dated in 1997 when the study program „Applied Science. Applied Mechanics” started
- In 2007 the name was changed into „Mechanical engineering” and the first ARACIS evaluation was done (one of the first evaluated programs in Romania)
- In 2017 the last ARACIS evaluation took place and it was obtined the EUR-ACE® label
- The domanin where the programm is integrated is Mechanical engineering

- Study period is 4 years (240 credits)
- The degree has a multidisciplinary and interdisciplinary formative base.
- Students acquire specific skills related to procedures and means of modern computer-aided design based on the latest theories and methods in the fields of modeling and behavior of materials and mechanical structures formable static and dynamic structures made of metallic and composite, materials, etc.
- Studied topics: mathematics, physics, mechanics, strength of materials, mechanical vibration, computer programming and programming languages, finite element method, mechanics of composite materials, tribology, vibration machinery and equipment, fatigue mechanical structures, active control of mechanical, numerical modeling in fluid mechanics, thermal equipment design, quality management in the industry etc.

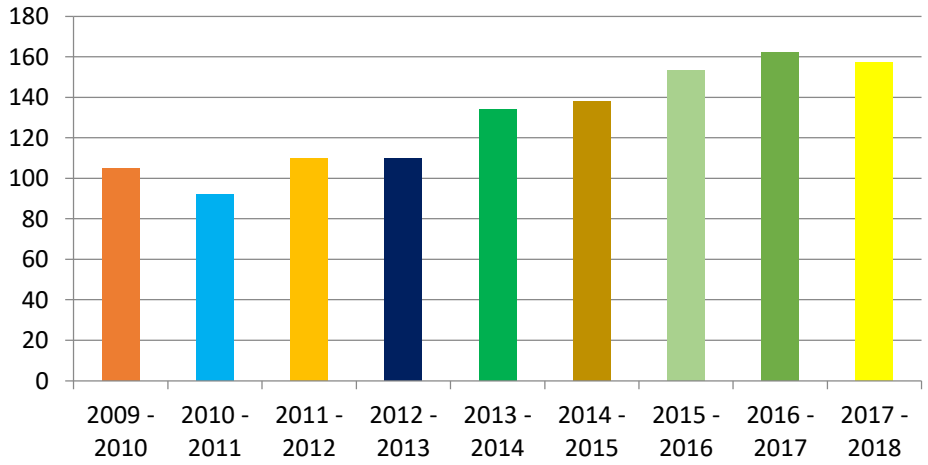
- Perspectives after graduation: development engineers in various industries, design engineers in mechanical engineering, automotive engineering, aerospace engineering, research engineers and test engineering in the same areas, in the country and abroad.





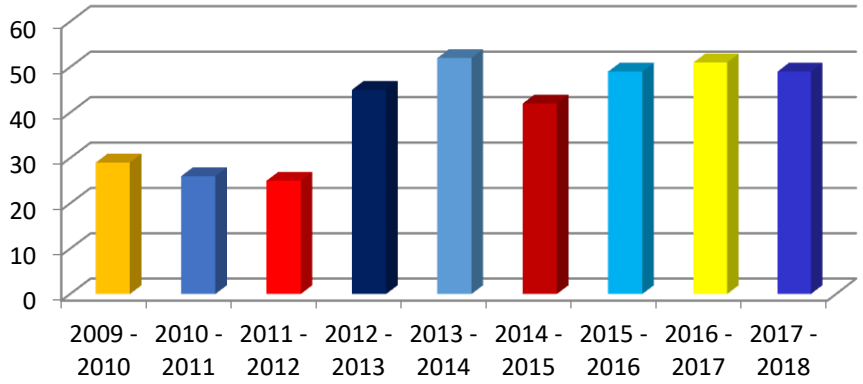


Total number of students



Academic year	Enrolled students
2009 - 2010	105
2010 - 2011	92
2011 - 2012	110
2012 - 2013	110
2013 - 2014	134
2014 - 2015	138
2015 - 2016	153
2016 - 2017	162
2017 - 2018	157

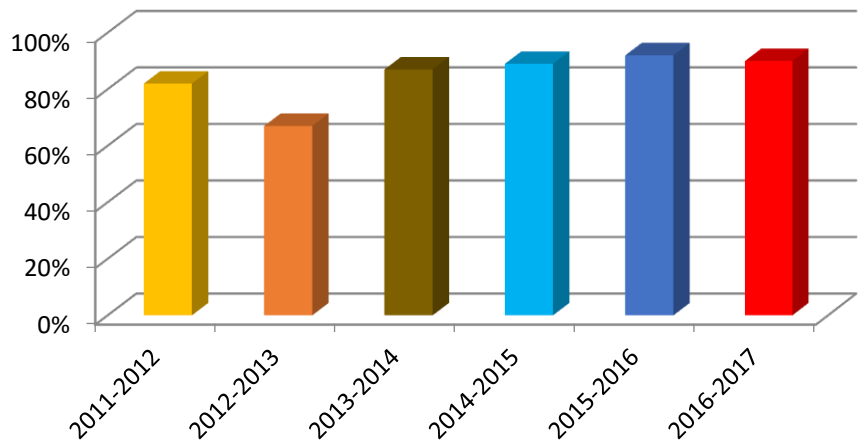
Enrolled students in the first year of study



Academic year	Number of students enrolled in the first year of study
2009 - 2010	29
2010 - 2011	26
2011 - 2012	25
2012 - 2013	45
2013 - 2014	52
2014 - 2015	42
2015 - 2016	49
2016 - 2017	51
2017 - 2018	49

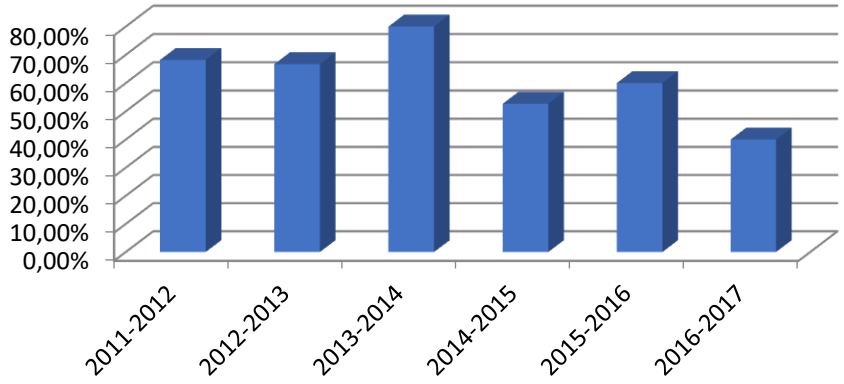
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Employment (%)



Graduation year	Employability (%)
2012	82
2013	67
2014	87
2015	89
2016	92
2017	90

Enrolled graduate students at master in mechanical engineering domain



Graduation year	Enrolled [%]
2011-2012	68,18%
2012-2013	66,66%
2013-2014	80%
2014-2015	52,63%
2015-2016	60%
2016-2017	40%

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THE MAIN EMPLOYERS

SCHAEFFLER Romania

CONTINENTAL Powertrain Romania

DRÄXLMAIER Romania

BENCHMARK Romania

NBHX Rolem

PREH Romania

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GENERAL BENEFITS

- The EUR-ACE accreditation system offered us:
  - A view of the required standards needed to achieve a high level of the quality in engineering degree programmes in our faculties and university;
  - The vision of how to put together: students, higher education institutions, employers, professional organisations and accreditation agencies to create the frame for achieve the requests of the new engineering career;

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FOCUSED BENEFITS

- For the University
  - Improve the quality of the first cycle of study in the field of engineering education considering the new components of the standards, used in evaluation;
  - highlights vulnerabilities in the curriculum for the engineering programms;
  - the collaboration with the evaluators from economic environment helps to identify new topics in the curriculum in accordance with industry requests;
  - it can be done a critical analysis of the overall study programme;
  - it can be done a projection on the topics that have to be studied at the level of master as complementary subjects for admission at Ph.D. studies;

- **For students and graduates**
  - the recognition by the European employers of the education in the engineering field;
  - facilities to do master and doctoral studies in different universities from Europa;
  - in case of regulated engineering profession it is offered the possibility to integrate in European professional associations;
  - to do practical activities in companies with a high level of technology;

- **For employers**
  - they are part of the educational process;
  - it is offered the possibility to employ engineers with a standard of education that was „modeled" with their help;
  - to do a transfer of knowledge direct to the students.

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SWOT Analysis

Strenghts:

- A long tradition in high level education
- A strong infrastructure for teaching and research
- A long time collaboration with the companies
- A large number of graduates that are employed in companies and work in their field of competences
- A strong collaboration with the companies in practical activities of the students
- An Advisory Board developed at the level of University done with the companies around Brașov

Weaknesses

- The results of the formative process are not proportionate to the value of teachers
- Sometimes the dialogue with economic partners is not strong enough
- The proposed changes have some delays in implementation
- An insufficiently active activity focused on ALUMNI

Oportunities

- A large number of graduates employed in major companies
- A large number of multinational companies operating in the field of engineering that activate in Brasov
- An insufficiently active activity focused on ALUMNI
- Students participating in internships in leading companies in the country or abroad

Threats

- Decreasing the number of high school graduates
- Continuing decline in interest and quality of youth for higher education
- Quality of high school graduates and their orientation towards non-technical areas
- Lower industrial activities in some domains

THANK YOU FOR YOUR ATTENTION

QUESTIONS ?