



# TECHNICAL UNIVERSITY OF CLUJ-NAPOCA, ROMANIA

**GENERAL PRESENTATION**

**2022-2023**



 /utcluj.ro

 /ut.cluj

 Universitatea Tehnică din Cluj-Napoca



# SUMMARY

- Introduction
- General Information
- Facts and Figures
- Faculties
- Internationalisation



## ROMANIA

# FACTS AND FIGURES



**Population** | approx. 20 million  
**Area** | (2020)\*  
**230,170 km<sup>2</sup>**

### *Ethnic groups\*\**

Romanian:  
89.5%

Hungarian:  
7.1%

German:  
0.5%

Other ethnic groups  
2.9%

### *Age structure\*\*\**

0-14 years: 15.52%

15-64 years: 65.25%

65 years +: 19.23%

### *Religion\*\*\*\**

Eastern Orthodox  
81.0%

Protestant  
5.8%

Roman Catholic  
4.3%

Other beliefs  
8.9%

\*\* <https://www.nationsencyclopedia.com/Europe/Romania-ETHNIC-GROUPS.html>

\*\*\* <https://www.statista.com/statistics/373125/age-structure-in-romania/>

\*\*\*\* <https://www.worldatlas.com/articles/religious-beliefs-in-romania.html>

\*<https://www.worldometers.info/demographics/romania-demographics/>



# CLUJ-NAPOCA

(Kolozsvár, Klausenburg)

- **500.000** inhabitants in the metropolitan area
- **6** public universities with a total of **80.000** students
- **Romania's leading** hub of technology & innovations
- Significant **city's workforce** employed in IT



# CLUJ-NAPOCA

## CULTURAL CENTERS

- French Cultural Center
- American Cultural Center „J.F. Kennedy”
- British Council Cluj
- Deutsches Kulturzentrum Klausenburg
- Italian Cultural Center
- Japanese Art and Cultural Center
- Confucius Institute
- Korean Cultural Center
- Russian Cultural Centre
- Centre for Polish Language and Culture
- Brazilian Cultural Center *Casa do Brasil*
- Center for African Studies



한국문화원  
Korean Cultural Center





# CLUJ-NAPOCA

## CULTURAL EVENTS

- Cluj-Napoca Days
- Sports Festival
- TIFF - Transylvania International Film Festival
- Jazz in the Park Festival
- UNTOLD
- ELECTRIC CASTLE
- Cluj Musical Autumn





# STATE UNIVERSITIES IN CLUJ-NAPOCA

*Babes Bolyai* University

★ **THE TECHNICAL UNIVERSITY OF CLUJ-NAPOCA**

*Iuliu Hațieganu* University of **Medicine and Pharmacy**

University of **Agriculture Science and Veterinary Medicine**

*Gheorghe Dima* Academy of **Music**

*Ion Andreescu* Academy of **Visual Arts**







# HISTORICAL BACKGROUND

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA



- 1920 *Industrial College established in Cluj-Napoca*
- 1948 *Mechanical Institute is established*
- 1953 *The college is renamed as **Polytechnic Institute***
- 1992 *The institute is renamed as **Technical University (TUCN)***
- 2012 *TUCN merges with the **North University Baia Mare***





# TUCN'S STRENGTHS

## Regional dimension

*TUCN is recognized as a highly qualified human resource provider for the Northwest region of Romania through its 2 main campuses and 4 subsidiaries, providing multiple links within the regional innovation and entrepreneurship ecosystem for a connected social and inclusive HE system.*

## Innovation and research

*TUCN is on the second position in terms of funds attracted through the Horizon 2020 program, among the 48 state universities from Romania.*

## Trust and reliability

*In 2018 the Romanian Agency for Quality Assurance in Higher Education, awarded the institution the "Highest Degree of Trust in HE". In 2019 TUCN received the status of international university of excellence (4 stars), following the external audit conducted by QS Stars Rating System (UK).*



# CURRENT MAIN ACTIONS

## Digital education

*Development of digital skills, as well as the promotion and widespread use of educational technologies in a way that facilitates collaborative learning, multi-campus education and broadens the international reach.*

## Internationalization

*Strengthening the international dimension to generate sustainable partnerships and increase cross-border exchanges of academics, students, administrative staff and knowledge in education, research, innovation and artistic creation, while promoting the European common values and spirit.*

## Research development

*Stimulating an open, collaborative, critical and committed institutional environment for all types of research in multidisciplinary key areas, by encouraging the members of the university to broaden their perspective and bring new innovative ideas in close collaboration with national/international partners from academia, industry and the public sector.*





# TUCN KEY FIGURES

19.000+ full time students (Bachelor/Master/PhD)

900+ academic staff

750+ non-academic staff

180+ study programs (Bachelor/Master/PhD)

12 faculties and 36 academic departments

80+ research units

2 main campuses  
(Cluj-Napoca  
and Baia Mare)

4 subsidiaries  
(Alba Iulia, Bistrița,  
Satu Mare and Zalău)

5.000+  
accommodation places

3 canteens

Sport Halls

Swimming Pool

Library and Bookstore

Publishing House

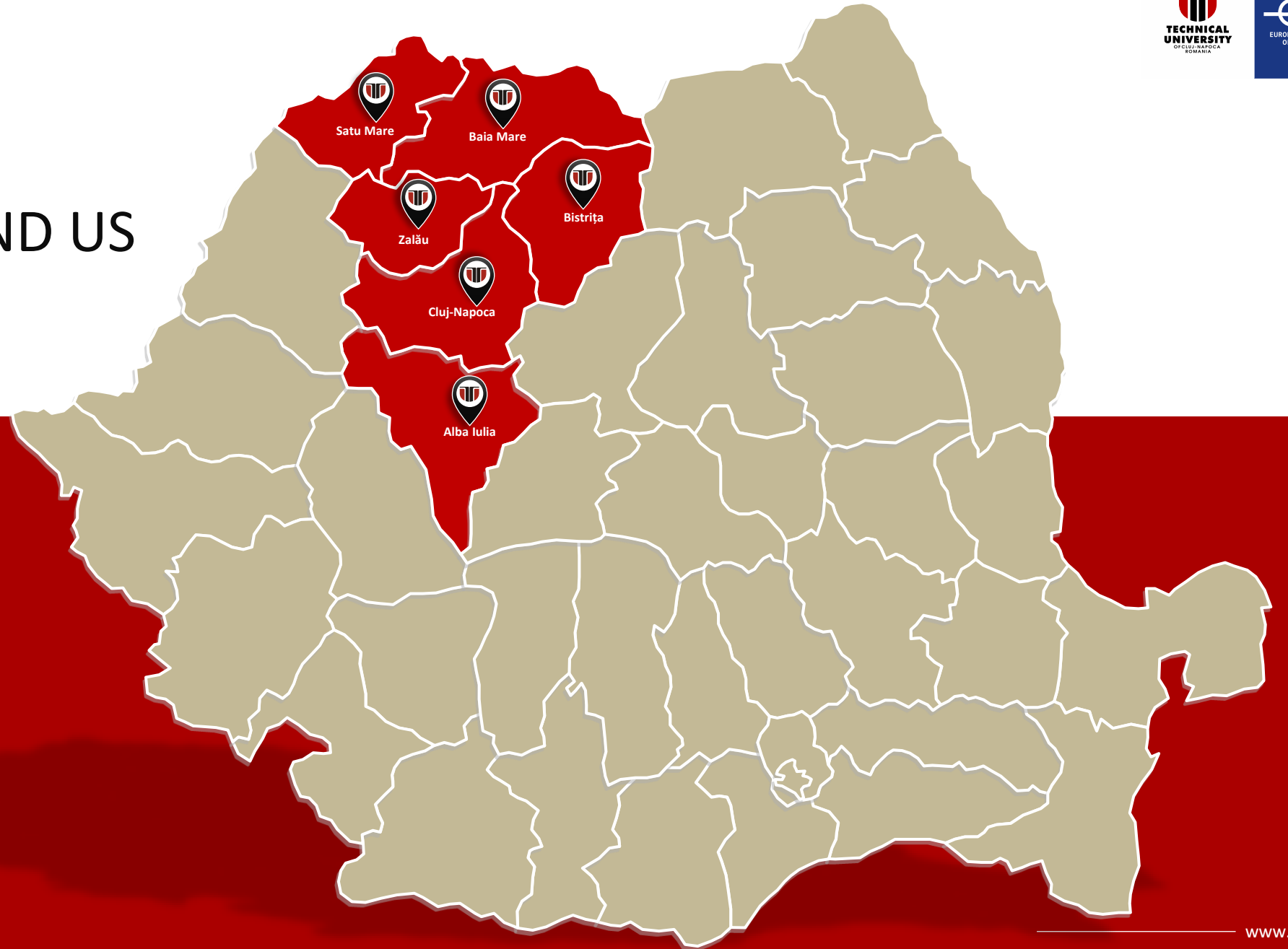
Printing House

66 000+ Alumni





WHERE  
YOU CAN FIND US







## QS TOP UNIVERSITIES

QS	QS-EECA	QS-Stars	QS-Engineering & Technology	QS-Computer Science	QS-Mechanical Engineering	QS-Electrical Engineering
1200-1400	<i>In March 2023</i>	4*	450-500 (2)	600-650 (4)	300-350 (1)	350-400 (2)



SCI
676 (11)



THE	THE Engineering & Technology	THE-Computer Science	THE-Electrical Engineering	THE-Physical Sciences	THE Mechanical Engineering
1500+	1000+	800-1000 (2)	1001+ (4)	1000+(2)	1001+(3)

# INTERNATIONAL RANKINGS

## LEGEND

 International place in ranking

 (National place in ranking)





URAP	
1793 (9)	



US-News	US-News Eng
1564 (9)	751 (3)



RUR	RUR-Technology	RUR-Natural Sciences
930 (12)	425 (1)	656(5)

# INTERNATIONAL RANKINGS

## LEGEND

- International place in ranking
- (National place in ranking)



# ACADEMIC STUDIES

## BOLOGNA PROCESS

### **B.Sc. (ENGINEERING, SCIENCES)**

4 years (240 credit points) / 3 years (180 credit points)

### **B.A.**

3 years (180 credit points)

### **M.Sc.**

2 years (120 credit points)

### **M.A**

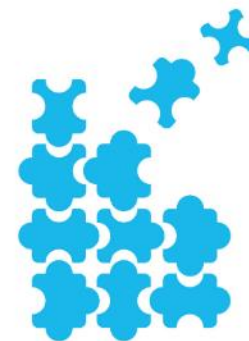
2 years (120 credit points)

### **B.Sc. + M.Sc. (ARCHITECTURE)**

6 years (360 credit points)

### **Ph.D.**

3 years



EUROPEAN  
Higher Education Area



### Bachelor degrees

83

According to the Government  
Decision 978/2022

### Master degrees

87

According to the Government  
Decision 979/2022

### Ph.D. degrees

14



## ORGANIZATIONAL STRUCTURE / FACILITIES



## ACADEMIC STAFF / POSITIONS



## EDUCATIONAL OFFER







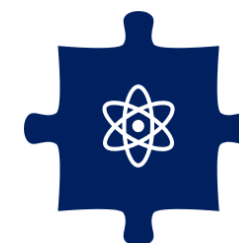
# RESEARCH

## IN TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

- Research is conducted at department level, in the 80+ accredited research structures.
- The research strategy aims at creating self- sustainable interdisciplinary and multidisciplinary structures capable of outstanding scientific achievements.
- Institutionally, the following multidisciplinary domains of research are supported:



**ENGINEERING**



**MATHEMATICS AND SCIENCES**



**HUMANITIES AND ARTS**

**MORE DETAILS**

<https://research.utcluj.ro/index.php/research-domains.html>



# RESEARCH 2022

## TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

### H2020 Grant

28 research projects

### Other International Grants

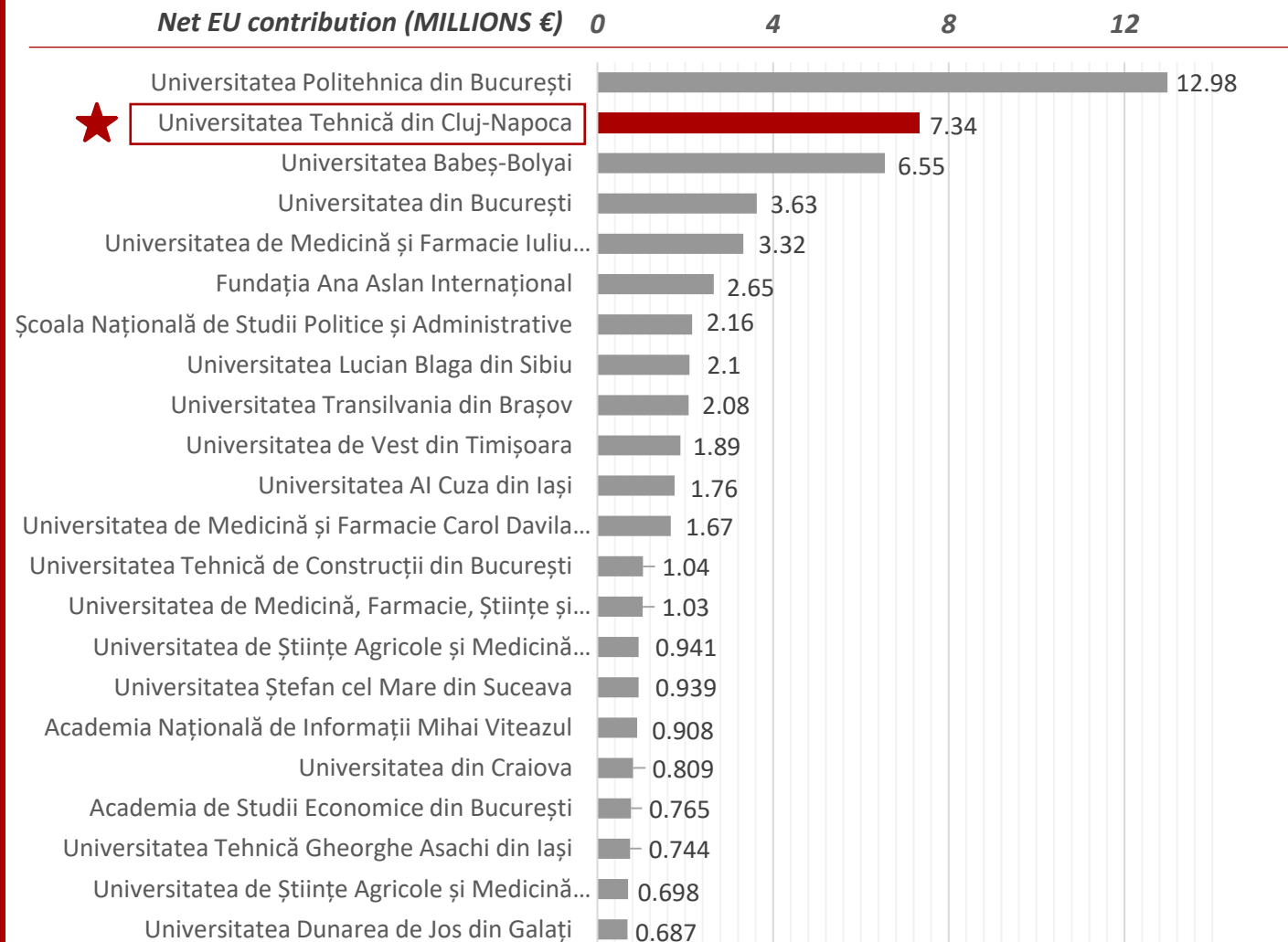
22 research projects

### National Grants

69 research projects

### Research projects with companies

133 research projects



2022-2023

# UNIVERSITY NUMBERS

STUDENTS	No.
B.Sc. (bachelor program)	14,034
M.Sc. (master program)	4,010
PhD	868
TOTAL	18,912 (oct 2022)

STAFF	No.
Academic & Research	905
Administrative	762
TOTAL	1,667



# UNIVERSITY NUMBERS

## GRADUATES 2022

FACULTY	Bachelor	Master	Total
Architecture	86		86
Civil Engineering	221	150	371
Building Services Engineering	88	40	128
Automation and Computer Sciences	599	221	820
Electronics, Telecommunications and Information Technology	234	100	334
Electrical Engineering	247	133	380
Industrial Engineering, Robotics and Production Management	448	244	692
Automotive, Mechatronics and Mechanical Engineering	185	92	277
Materials and Environmental Engineering	49	80	129
Sciences (BM)	174	91	265
Humanities (BM)	285	221	506
Engineering (BM)	247	193	440
<b>TOTAL</b>			<b>4,428</b>







# UNIVERSITY NUMBERS

## *PhD Students 2021*

FIELD OF STUDY	Total
Architecture	35
Computers and Information Technology	57
Civil Engineering and Building Services	88
Electrical Engineering	113
Electronics, Telecommunications and Information Technology	65
Industrial Engineering	65
Engineering and Management	99
Materials Engineering	18
Mechanical Engineering	83
Environmental Engineering	49
Systems Engineering	73
Philology	55
Philosophy	41
Mathematics	27
<b>TOTAL</b>	<b>868</b>



# BACHELOR PROGRAMS

OFFERED IN  
ENGLISH | GERMAN

Applied Electronics B.Sc. | EN

Automation and Applied Informatics B.Sc. | EN

Civil, Industrial and Agricultural Buildings B.Sc. | EN

Computer Science B.Sc. | EN

Industrial Economic Engineering B.Sc. | EN

Manufacturing Engineering B.Sc. | DE

Manufacturing Engineering B.Sc. | EN

Robotics B.Sc. | EN

Telecommunications Technologies and Systems B.Sc. | EN



# MASTER PROGRAMS

OFFERED IN  
ENGLISH | GERMAN | FRENCH

## FIGURES

29 DOMAINS

97 STUDY PROGRAMS IN ROMANIAN

6 STUDY PROGRAMS IN FOREIGN LANGUAGES

- 4 in ENGLISH
- 1 in GERMAN
- 1 in FRENCH

Advanced Techniques in Automotive Engineering M.Sc. | EN

Image and Signal Processing M.Sc. | FR

Innovative Production Process and Technological Management M.Sc. | DE

Robotics M.Sc. | EN

Virtual Engineering for Competitive Manufacturing M.Sc. | EN

Building Services for Regenerative Cities M.Sc | EN



# MASTER PROGRAMS

IN COLLABORATION WITH COMPANIES



**BOSCH**  
Invented for life

Advanced Electrical Systems and Structures



**BOSCH**  
Invented for life

Vehicle Management and Control Systems



**ASOCIATIA ROMANA CALITATE PENTRU CALITATE**  
REPREZENTANT AL ROMANIEI IN ORGANIZATIA EUROPEANA PENTRU CALITATE - EQG

compania +  
servicii +  
membri +  
contact +

EUROPEAN ORGANIZATION FOR QUALITY

:// NOUTATI

Quality Management and Engineering



ACADEMIA DE INGINERIA MATERIALELOR SI A MEDIULUI

In colaborare cu:  
ASOCIATIA DE CONSTRUCTII DE MASINI SI ASOCIATIA DE SUDURA DIN ROMANIA

**ASR**

ORGANIZEAZA

**ADMITERE**  
MASTER PROFESIONAL

SUDAREA SI ASIGURAREA CALITATII MATERIALELOR

Welding and Material Quality Assurance



**EMERSON**

Technical Project Management



Tehnici Avansate in Ingineria Autovehiculelor  
Programul de Masterat in Ingineria  
**Porsche Engineering**  
Cluj-Napoca

Advanced Techniques in Automotive Engineering



TOWARDS AN

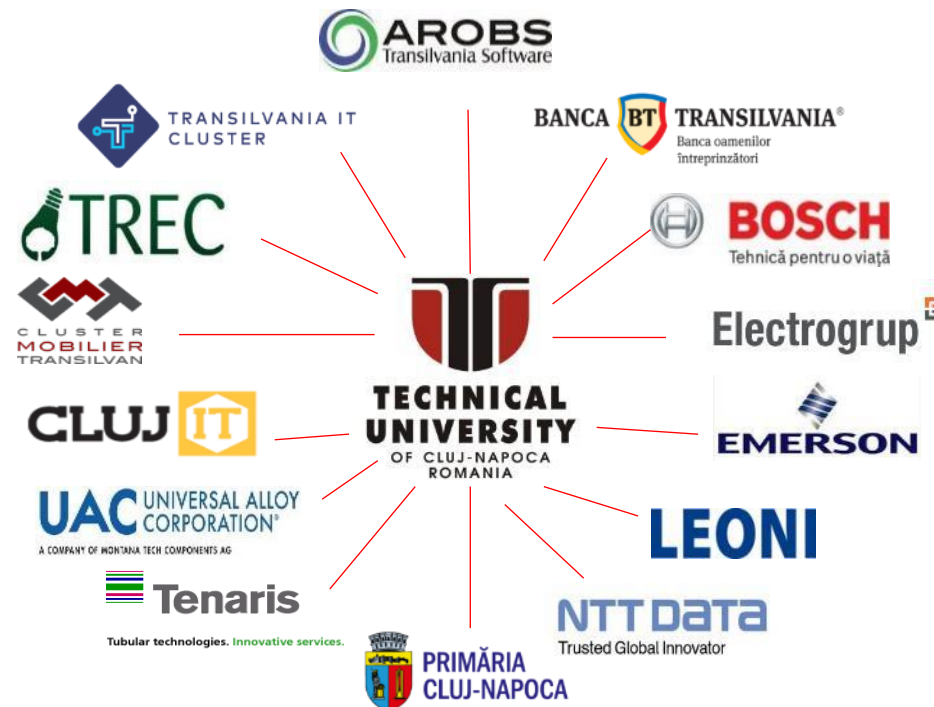
# ENTREPRENEURIAL UNIVERSITY

IN A DYNAMIC ECO-SYSTEM

**DEPARTMENT FOR RELATIONS**  
WITH THE SOCIO-ECONOMIC ENVIRONMENT

- More than 300 partnerships contracts
- Participation in projects together with regional Cluster type associations (15)
- Involvement of the socio-economic environment, through representative personalities, within the institutional development projects of UTCN
- Project cooperation in the eco-system

## RECTOR'S ADVISORY COMMITTEE





# FACULTIES

*The Technical University has 12 faculties grouped in two university centers, Cluj-Napoca and Baia Mare, plus the extensions to major cities of the region. The study programs are conducted in Romanian and in three international languages: English, German and French.*

## CLUJ-NAPOCA

- Faculty of Architecture and Urban Planning
- Faculty of Automation and Computer Science
- Faculty of Automotive, Mechatronics and Mechanical Engineering
- Faculty of Building Services Engineering
- Faculty of Civil Engineering
- Faculty of Electrical Engineering
- Faculty of Electronics, Telecommunications and Information Technology
- Faculty of Industrial Engineering, Robotics and Production Management
- Faculty of Materials and Environmental Engineering



## BAIA MARE

- Faculty of Engineering
- Faculty of Humanities
- Faculty of Sciences

## SUBSIDIARIES

- Alba Iulia
- Bistrița
- Satu Mare
- Zalău

# FACULTY OF ARCHITECTURE AND URBAN PLANNING

[fau.utcluj.ro](http://fau.utcluj.ro)

## DEPARTMENTS

Architecture  
*(18 academic staff)*

Urban Planning and Technical Sciences  
*(15 academic staff)*

**B.Sc. + M.Sc.  
integrated**

(6 years of study): 360 credit points

34-36 Observatorului Street, 400489, Cluj-Napoca, Romania  
Dean's Office - Room 107 | Phone: +40 264 401 844  
Secretary | Phone/Fax: +40 264 590 255, 401 847





# FACULTY OF ARCHITECTURE AND URBAN PLANNING



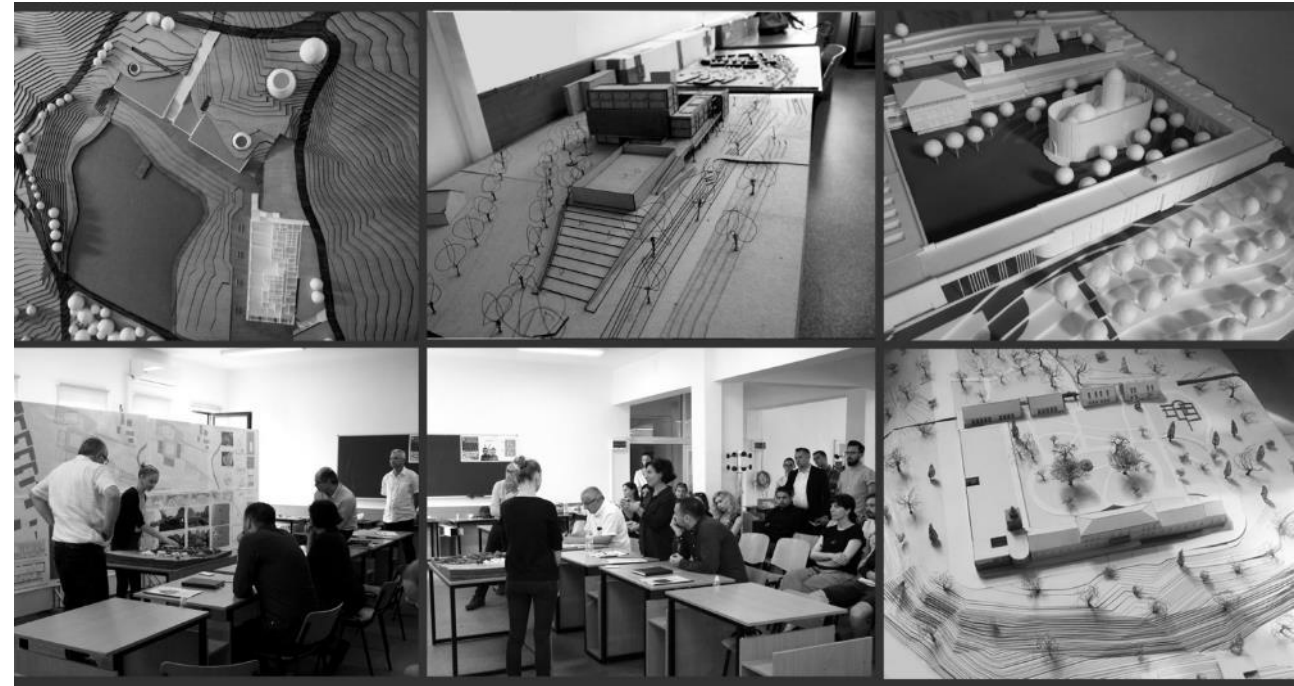
fau.utcluj.ro

**B.Sc.+  
M.Sc.**

- Field of study : Architecture and Urban planning

**PhD**

- History of urban space
- Investigation and understanding of the way of building / evolution of the architectural and urban space
- Architecture theory - Contemporary concepts, architectural creation
- Heritage and conservation
- History of architecture in Transylvania
- History of Modern Architecture in Romania
- Dwelling and housing theory
- Margins, margins and peripheries: social architecture, public space and urban activism





# FACULTY OF ARCHITECTURE AND URBAN PLANNING



fau.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023



B.Sc. + M.Sc.	Number of students
TOTAL	586

Out of which		
International full-time students	Number of international full-time students	Countries:
Bachelor & Master	15	Republic of Moldova, Maroc, Afghanistan, Hashemite Kingdom of Jordan, Bulgaria, Albania, Yemen, Nepal

Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)		
Program	Number of international full-time students	Countries
Bachelor & Master	5	France, Poland, Italy







FACULTY OF  
**ARCHITECTURE AND URBAN PLANNING**



fau.utcluj.ro

DEPARTMENT OF  
**ARCHITECTURE**

*Main Research Topics*

Designed Space / Product Space / Perceived Space

Architecture. Time. Habits

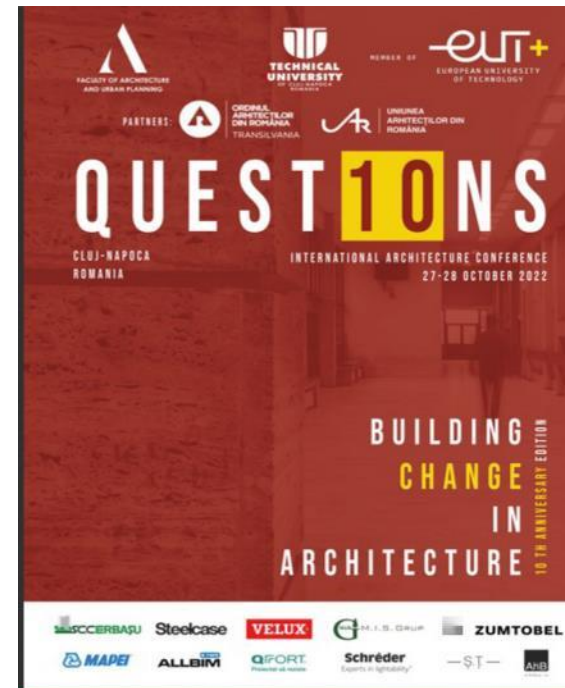
Inventarium.

Arts – Culture – Design - Sustainability

DEPARTMENT OF  
**URBAN PLANNING AND TECHNICAL SCIENCES**

*Research Labs*

C.P.U – Urban Planning Research and Design Group



TECHNICAL UNIVERSITY OF CLUJ-NAPOCA | ROMANIA





# FACULTY OF AUTOMATION AND COMPUTER SCIENCES

[ac.utcluj.ro](http://ac.utcluj.ro)

## DEPARTMENTS

Department of Computer Science  
(62 *academic staff*)

Department of Automation  
(53 *academic staff*)

Department of Mathematics  
(29 *academic staff*)

26-28 No, Baritiu St. , 400027, Cluj-Napoca, Romania  
Phone : +40 264 201 218 Secretary  
Dean's office – Room 48 | Phone: +40 264 201 219



FACULTY OF

# AUTOMATION AND COMPUTER SCIENCES

ac.utcluj.ro

B.Sc.

## Computer Science and Information Technology

- Computer Science - RO & EN
- Information Technology

## System Engineering

- Automation and Applied Informatics - RO & EN (Cluj-Napoca) ; RO (Satu-Mare)

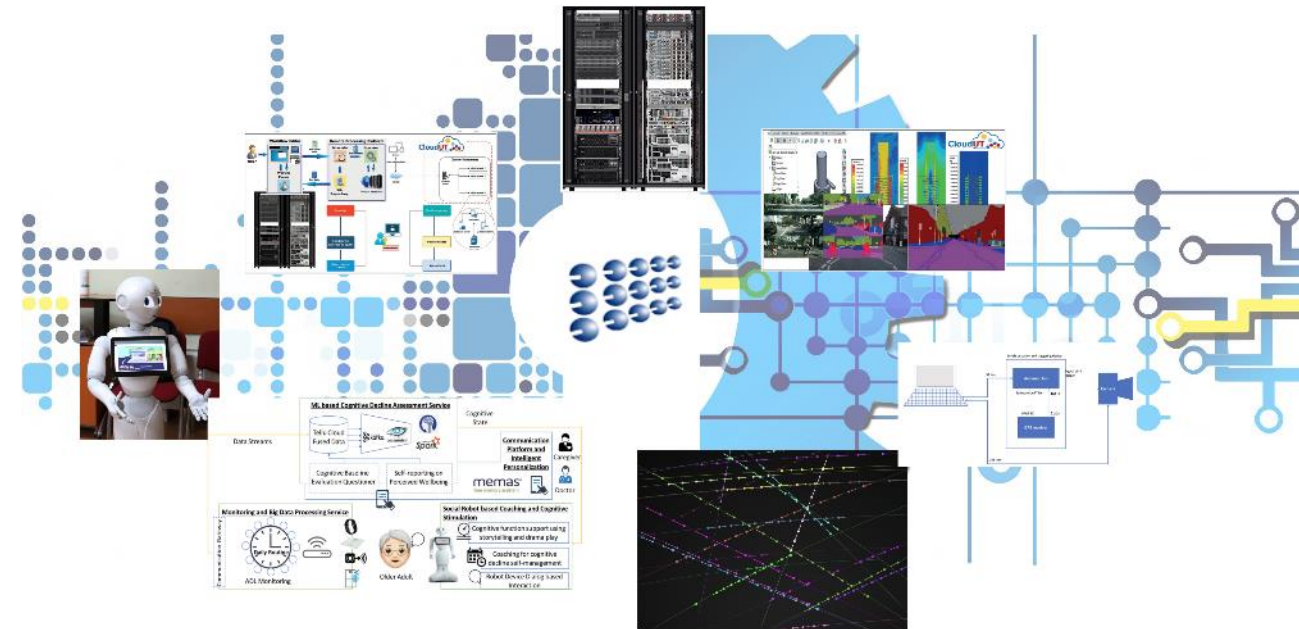
M.Sc.

## Computer Science and Information Technology

- Communication Networks and Distributed Systems
- Artificial Intelligence and Vision (Eng., pending approval)
- Software Engineering
- Information Technology in Economy
- Cybersecurity Engineering (Eng., pending approval)
- Complementary Master in Computer Science
- Data Science (Eng., pending approval)

## System Engineering

- Advanced Process Control
- Applied Informatics in Complex System Engineering
- Advanced Control of Manufacturing Processes
- Applied Informatics.
- Cyber Physical Systems (Eng., pending approval)





# FACULTY OF AUTOMATION AND COMPUTER SCIENCES

ac.utcluj.ro

## PhD

- Computer Science and Information Technology
- System Engineering
- Mathematics

## Extracurricular Courses

- CISCO Networking Academy;
- Software Testing;
- Advanced Programming.



# FACULTY OF AUTOMATION AND COMPUTER SCIENCES

ac.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023

Out of which

B.Sc.	Number of students
TOTAL	2773

International full-time students	Number of international full-time students	Countries
Bachelor	48	Cameroon, Greece, Jordan, Haiti, Israel, Moldova, Mongolia, Morocco, Nigeria, Syria, Turkey, Turkmenistan, U.S.A.
Master	7	Yemen, Republic of Moldova, Nigeria, Turkmenistan

M.Sc.	Number of students
TOTAL	584

### Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)

Program	Number of international full-time students	Countries
Bachelor	38	Czech Republic, Hungary, Ireland, Luxemburg, Netherlands, Poland, Spain
Master	2	Belgium, Hungary


FACULTY OF  
**AUTOMATION AND COMPUTER SCIENCES**

[ac.utcluj.ro](http://ac.utcluj.ro)

## DEPARTMENT OF COMPUTER SCIENCE

### *Main Research Topics*

Image processing and pattern recognition  
Advanced driving assistance and Autonomous mobile systems  
Green Computing; Bio-inspired Distributed Systems  
High performance graphical processing and visualization  
Spatial data processing and visualization  
Embedded systems, Digital systems and FPGA-based systems  
Real random number generators and Cryptography  
Data Mining; Business Intelligence application  
Computer and communication networks, Communication protocols  
Smart vehicular ad hoc networks, Smart Energy Grids  
Software Solutions for Smart City  
Intelligent sensors devices, adaptive interfaces with hardware implemented artificial neural networks

## DEPARTMENT OF COMPUTER SCIENCE

### *Research Labs*

Image Processing and Pattern Recognition Research Center  
Distributed Systems Research Laboratory  
Computer Graphics and Interactive Systems Laboratory  
Intelligent Systems Group  
Embedded and Dedicated Computer Systems  
Knowledge Engineering Group  
Communications Networks and Protocols Research Lab  
Foundations and Applications of Advanced Software Technology  
Intelligent Embedded Systems






FACULTY OF  
**AUTOMATION AND COMPUTER SCIENCES**

ac.utcluj.ro

## DEPARTMENT OF **AUTOMATION**

### *Main Research Topics*

Real-time operating systems, real-time applications, distributed and intelligent systems  
Distributed control systems, Internet of Things, Home automation in IoT context  
Embedded systems for intelligent environment and cities, Embedded system design, Tracking system  
Embedded systems-microcontrollers, Digital systems and FPGA-based systems  
Data acquisition interfaces, Industrial communications  
Dependability, Security, Cyber-Physical Systems (CPSs)  
Automotive control  
Artificial Intelligence, Evolutionary algorithms  
Energy systems, Medical systems  
Mobile robotics applications, Robot modeling and low-level programming  
Complex process modeling and simulation  
Control solutions and algorithms such as predictive, fractional or robust control  
Optimal nonlinear control with AI techniques

## DEPARTMENT OF **AUTOMATION**

### *Research Labs*

Robotics and Nonlinear Control  
Process and Energy Systems Engineering  
Distributed Control Systems  
Dependable Systems  
Industrial Processes Control Systems And Instrumentation  
Rapid Prototyping in Control Systems for Electrical Drives  
Advanced Process Control Methods  
Wireless Sensor Networks Technologies  
Advanced Sensing Technology Group



FACULTY OF  
**AUTOMATION AND COMPUTER SCIENCES**

ac.utcluj.ro

**DEPARTMENT OF MATHEMATICS**

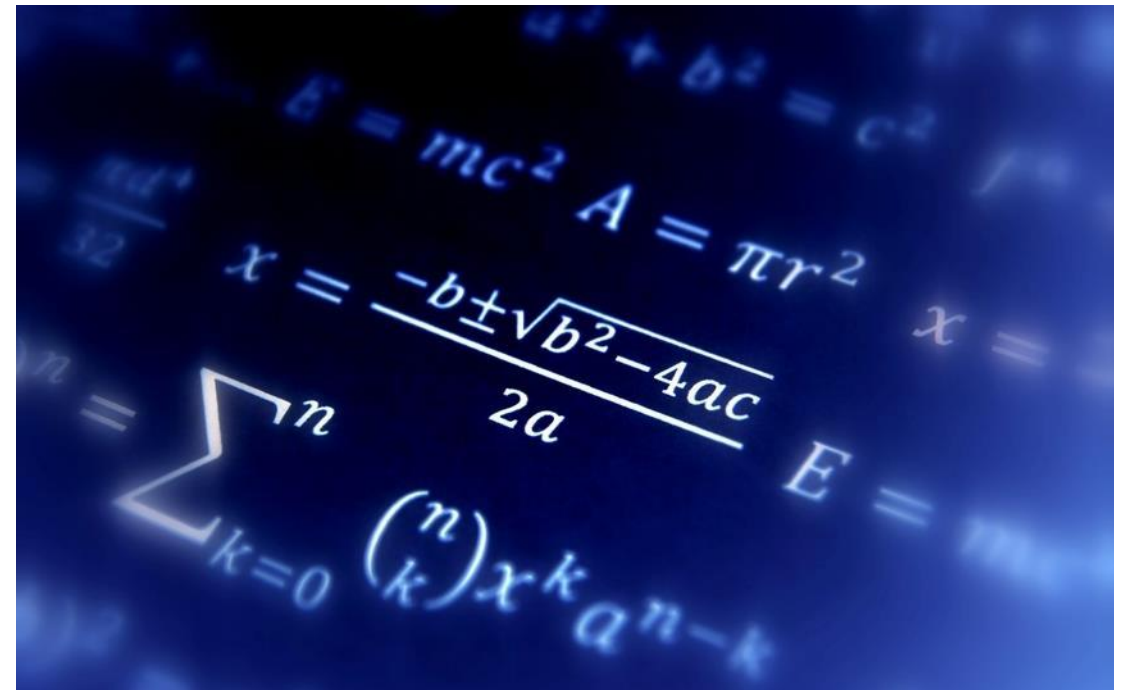
*Main Research Topics*

Algebraic Structures, Linear Algebra, Homological Algebra;  
Applied Mathematics (Fluid Mechanics; Wavelets);  
Approximation Theory and Numerical Analysis  
Complex Analysis and Geometric Theory of Functions;  
Differential and Integral Equations;  
Fixed Point Theory;  
Functional Analysis and Multi-Valued Analysis;  
Functional Equations and Inequalities.  
Operational Research  
Optimization Theory and Equilibrium Problems;  
Differential Geometry; Mathematical Biology; Networks.

**DEPARTMENT OF MATHEMATICS**

*Research Labs*

Research Center for Applied Mathematics in Engineering Sciences  
Approximation methods and calculus of variations in deformable models applied in Image Processing and Computer Assisted Medicine – Research Laboratory



# FACULTY OF AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

[armm.utcluj.ro](http://armm.utcluj.ro)

## DEPARTMENTS

Automotive Engineering and Transports

*(33 academic staff)*

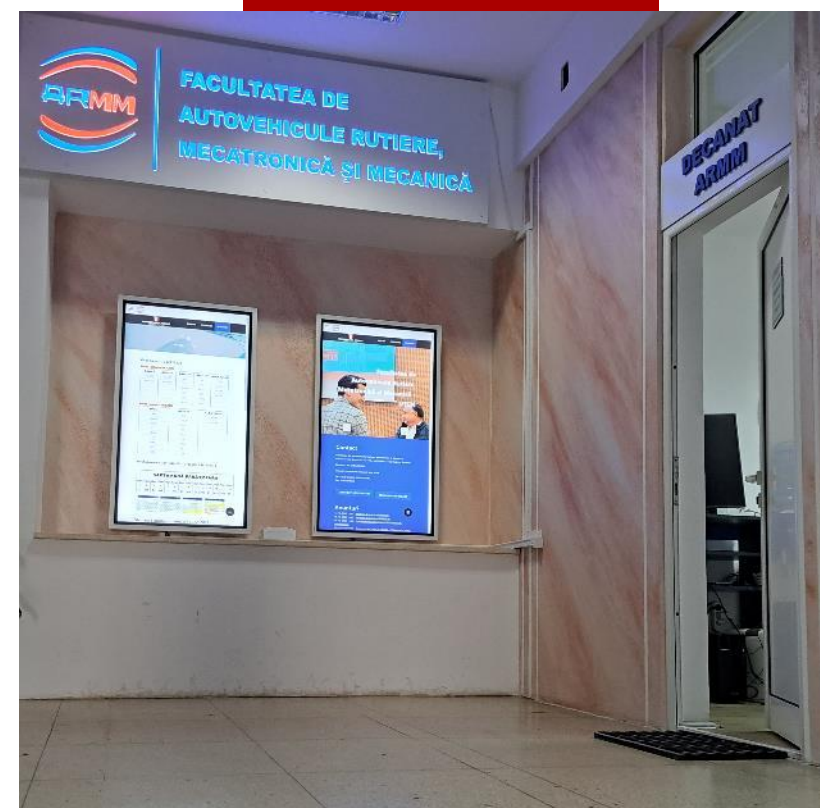
Mechanical Engineering

*(20 academic staff)*

Mechatronics and Machine Dynamics

*(20 academic staff)*

103 – 105 Muncii Bld., 400641, Cluj-Napoca, Romania  
Dean's office – Room A014/A | Phone: +40 264 401 604  
Secretary | +40 264 401 603, +40 264 401 787



FACULTY OF

# AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

[armm.utcluj.ro](http://armm.utcluj.ro)

B.Sc.

## Automotive Engineering

- Automotive Engineering

## Mechanical Engineering

- Machines and Equipment for Agriculture and Food Industry
- Precision Mechanics and Nanotechnologies
- Thermal Systems and Equipment

## Mechatronics and Robotics

- Mechatronics

## Transportation Engineering

- Transport and Traffic Engineering





# FACULTY OF AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

[armm.utcluj.ro](http://armm.utcluj.ro)

## M.Sc.

- Vehicle and Environment
- Advanced Techniques in Automotive Engineering
- Automotive Management and Control Systems
- Transport Logistics and Safety
- Biosystems Engineering in Agriculture and Food Industry
- Precision Engineering and Quality Management
- Mechatronic Systems Engineering
- Renewable Energy
- Reliability and Maintenance of Mechanical Systems

## Ph.D.

- Mechanical Engineering
- Industrial Engineering





FACULTY OF  
**AUTOMOTIVE, MECHATRONICS  
AND MECHANICAL ENGINEERING**



**NUMBER OF STUDENTS**  
*academic year 2022/2023*

B.Sc.	Number of students
TOTAL	1276

M.Sc.	Number of students
TOTAL	370

**Out of which**

International full-time students	Number of international full-time students	Countries:
Bachelor	18	Albania, Bangladesh, Hashemite Kingdom of Jordan, Morocco, Mongolia, State of Palestine, Republic of Moldova, Ukraine, Turkmenistan
Master	11	Algeria, Brazil, South Korea, Hashemite Kingdom of Jordan, Pakistan, State of Palestine, Republic of Moldova, Sudan

**Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)**

Program	Number of international full-time students	Countries
Bachelor	11	Spain
Master	10	Italy, France, Portugal



# FACULTY OF AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

## DEPARTMENT OF **AUTOMOTIVE ENGINEERING AND TRANSPORTS**

*Main Research Topics*

Bio-fuels (“TESTECOCEL” Testing laboratory of internal combustion engines running on bio-fuels);

Dynamic Performance of Road Vehicles;

Road Vehicle Pollution Degree and Diagnosis;

Legal Expert Reports for Road Vehicles;

Optimization of Internal Combustion Engines and Equipment for Decreasing Fuel Consumption and Pollution;

Technical Representations and Automotive Design.

Traffic Engineering and Sustainable Urban Mobility



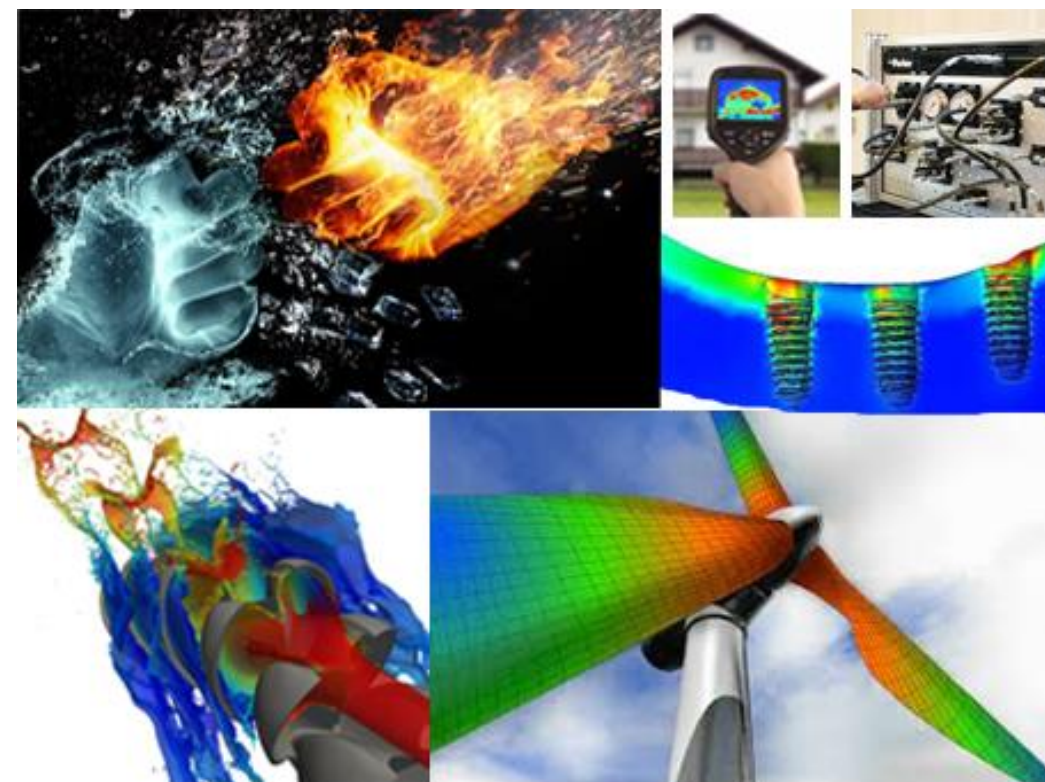
FACULTY OF

# AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

## DEPARTMENT OF MECHANICAL ENGINEERING

*Main Research Topics*

- Renewable Energy Solutions
- Thermodynamics and design of burners
- Internal Combustion Engines
  - Frost and HVAC
- Fluid Mechanics and Fluid power
  - Proportional Hydraulics
- Stress - Strain Calculations in machine parts
- Experimental Methods for Stress Analysis
- Numerical Methods in Engineering (FEA – Structural and CFD)
  - Thermal Stresses



FACULTY OF

# AUTOMOTIVE, MECHATRONICS AND MECHANICAL ENGINEERING

[armm.utcluj.ro](http://armm.utcluj.ro)

## DEPARTMENT OF MECHATRONICS AND MACHINE DYNAMICS

*Main Research Topics*

Design and Control of Complex Mechatronic Systems

Robotics and High Precision Microrobotics

Continuum and Soft Robotics

Drones and Mobile Robots

Mechanisms and Machine Dynamics

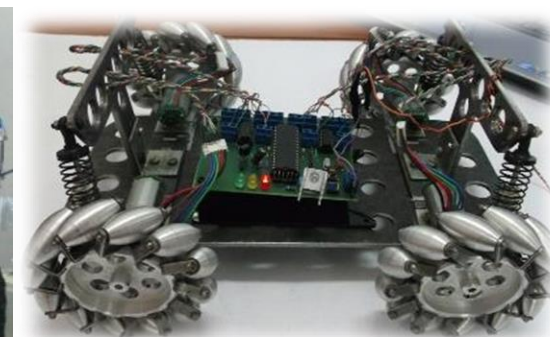
Applied Metrology and Measurement Systems

Embedded Systems

Motion and Force Control

Bio-mechatronics and Biomedical Equipment

Embedded Systems and Industrial Automated Systems Design







FACULTY OF  
**BUILDING SERVICES ENGINEERING**

[instalatii.utcluj.ro](http://instalatii.utcluj.ro)

**DEPARTMENT**

Building Services  
*(28 academic staff)*

128-130, 21<sup>st</sup> of December 1989 Boulevard, 400604, Cluj-Napoca, Romania  
Secretary phone: +40 264 202509; Fax: +40 264 410179  
Dean's office – Room I-104 | Dean's phone: +40 264 202502







# FACULTY OF BUILDING SERVICES ENGINEERING

[instalatii.utcluj.ro](http://instalatii.utcluj.ro)

**B.Sc.**

- Building Services

**M.Sc.**

- Building Services Engineering
- Building Services for Regenerative Cities – in English

**PhD**

- Civil and Building Services Engineering

**Extracurricular  
Courses**

- Energy Audit for Buildings
- ANRE certified electricians



# FACULTY OF BUILDING SERVICES ENGINEERING

instalatii.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023

B.Sc.	Number of students
TOTAL	386

### Out of which

International full-time students	Number of international full-time students	Countries:
Bachelor	9	Republic of Moldova, Democratic Republic of the Congo
Master	2	Republic of Moldova

M.Sc.	Number of students
TOTAL	109

### Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)

Program	Number of international full-time students	Countries
Bachelor	-	-
Master	-	-



FACULTY OF  
**BUILDING SERVICES ENGINEERING**

[instalatii.utcluj.ro](http://instalatii.utcluj.ro)



DEPARTMENT OF  
**BUILDING SERVICES**

*Main Research Topics*

***BUILDING ENERGY SYSTEMS***

HVAC Engineering;  
Renewable Energies;  
Energy Efficiency;  
Passive and Smart Buildings;  
Nearly Zero Energy Buildings;  
Lighting Engineering;  
Electrical Distribution Networks.

***SANITARY AND WATER SYSTEMS ENGINEERING***

Water Supply Engineering;  
Water Treatment Engineering;  
Trenchless Pipeline Rehabilitation Technologies;  
Environmental Management and Sustainability.





# FACULTY OF CIVIL ENGINEERING

[constructii.utcluj.ro](http://constructii.utcluj.ro)

## DEPARTMENTS

Buildings and Management  
*(26 academic staff)*

Structures  
*(29 academic staff)*

Structural Mechanics  
*(26 academic staff)*

Railways, Roads and Bridges  
*(20 academic staff)*

Land Measurements and Cadastre  
*(14 academic staff)*

15, C. Daicoviciu Street, 400027 Cluj-Napoca, Romania  
Dean's office - Room 470 | Phone: +40 264 401249, Fax: +40 264 594 967  
Secretary - Room 471 | Phone: +40 264 401 250







# FACULTY OF CIVIL ENGINEERING

[constructii.utcluj.ro](http://constructii.utcluj.ro)

## B.Sc.

### Civil Engineering

- Civil, Industrial and Agricultural Buildings - RO|EN
- Railways, Roads and Bridges
- Hyrotechnical Facilities and Buildings
- Urban Engineering and Regional Development

### Engineering and Management

- Economical Engineering in Civil Engineering

### Geodesic Engineering

- Land Measurements and Cadastre







# FACULTY OF CIVIL ENGINEERING

[constructii.utcluj.ro](http://constructii.utcluj.ro)

## M.Sc.

### **Civil Engineering and Building Services**

- Structural Engineering (double diploma with the University of Bologna)
- Transport Infrastructure Engineering
- Sustainable Concrete Constructions
- Geotechnics Engineering
- Green Buildings
- Advanced Design of Timber and Steel Structures (Baia Mare)

### **Engineering and Management**

- Project Management and Real Estate Evaluation

## PhD

- Civil Engineering





# FACULTY OF CIVIL ENGINEERING



constructii.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023



B.Sc.	Number of students
TOTAL	1869

M.Sc.	Number of students
TOTAL	363

Out of which		
International full-time students	Number of international full-time students	Countries:
Bachelor	30	Germany, France, Cyprus, Poland, Austria, Canada, Palestine, Republic of Moldova, Ukraine, Democratic Republic of the Congo, Chile, Israel, Turkmenistan, Syria
Master	9	Germany, France, Italy, Cyprus, Denmark, Iran, Republic of Moldova, Peru, Zimbabwe

Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)		
Program	Number of international full-time students	Countries
Bachelor	7	Germany, France, Italy, Cyprus, Spain
Master		




FACULTY OF  
**CIVIL ENGINEERING**

**DEPARTMENT OF  
CIVIL ENGINEERING AND MANAGEMENT**

*Main Research Topics*

Building Materials;  
Thermal Performance and Acoustic Insulation of Buildings;  
Enclosure Fire Dynamics;  
Design of masonry, reinforced concrete and wood structures;  
Structural and thermal rehabilitation of buildings;  
Sustainable development of construction through efficient management;  
Building rehabilitation technologies.

**DEPARTMENT OF  
STRUCTURES**

*Main Research Topics*

Seismic protection and rehabilitation of earthquake damaged buildings;  
Precast hybrid structural systems having self-centering capabilities;  
Adaptation of the displacement-based analysis methods to single-story structures and risk analysis of excessive displacements of single-story structures;  
Deformation of reinforced and prestressed concrete floors - numerical and experimental tests;  
Research on semi-rigid joints, cold formed steel structures and composite structures;  
In situ and laboratory determination of soil properties;  
Correlation of FE models with the site measured soil behavior;  
Geo-energy structures behavior.



[constructii.utcluj.ro](http://constructii.utcluj.ro)

# FACULTY OF CIVIL ENGINEERING

## DEPARTMENT OF STRUCTURAL MECHANICS

### *Main Research Topics*

- Steel structures with semi-rigid connections;
- Nonlinear analysis of structures subjected to static and dynamic loading;
- Behavior of cable-membrane structures;
- Behavior of reticulated structural systems;
- Earthquake protection of buildings through seismic isolation and energy dissipation;
- Nonlinear analysis of reticulated structures using finite strain method;
- Computer programs for linear and nonlinear analysis of 3D structures;
- Advanced analysis of concrete slabs using finite element method;
- Ductility of punching shear zones in concrete slabs.

[constructii.utcluj.ro](http://constructii.utcluj.ro)

## DEPARTMENT OF RAILWAYS, ROADS AND BRIDGES

### *Main Research Topics*

- Advanced materials for Transport infrastructures;
- Calculation and Design of rigid and flexible road systems;
- Environmental protection and sustainable development in transport activity;
- Urban mobility and accessibility;
- Advanced structures for bridges and artworks;
- Composite steel-concrete bridges, steel bridge, concrete bridge;
- High speed railway tracks;
- Tunnels and metro lines.



# FACULTY OF CIVIL ENGINEERING

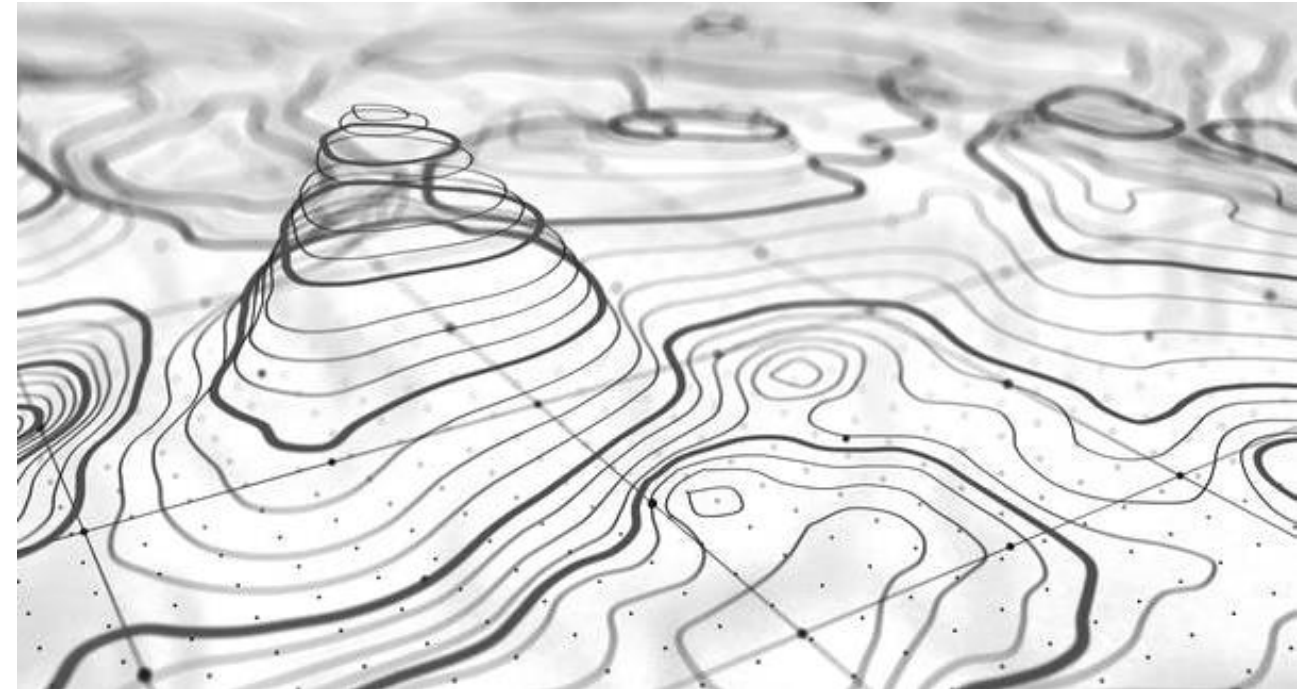


[constructii.utcluj.ro](http://constructii.utcluj.ro)

## DEPARTMENT OF **LAND MEASUREMENT AND CADASTRE**

### *Main Research Topics*

- Topographic measurements;
- Cadastral documentation;
- Construction layout;
- GIS applications and mapping;
- Photogrammetry, Remote Sensing and Geospatial engineering
- Monitoring the behavior of land and buildings over time;
- Evaluation of properties.







# FACULTY OF ELECTRICAL ENGINEERING



[ie.utcluj.ro](http://ie.utcluj.ro)

## DEPARTMENTS

Department of Electrotechnics and Measurement  
*(39 academic staff)*

Department of Electrical Machines and Drives  
*(34 academic staff)*

Department of Energetics and Management  
*(23 academic staff)*

26 – 28 G. Baritiu Street, 400027, Cluj-Napoca, Romania  
Dean's Office - Room 47 | Phone: +40 264 401228  
Secretary - Room 42 | Phone: +40 264 401229





# FACULTY OF ELECTRICAL ENGINEERING

[ie.utcluj.ro](http://ie.utcluj.ro)

**B.Sc.**

## **Electrical Engineering**

- Electrotechnics
- Instrumentation and Data Acquisitions
- Power Electronics and Electric Drives
- Electromechanical
- Electrical Systems (in Bistrita)

## **Power Engineering**

- Power Systems Engineering

## **Engineering Applied Sciences**

- Medical Engineering (in Cluj-Napoca and Bistrita)

## **Engineering and Management**

- Economic Engineering in Electric, Electronic Engineering and Power Systems





# FACULTY OF ELECTRICAL ENGINEERING

[ie.utcluj.ro](http://ie.utcluj.ro)

## M.Sc.

- CAD in Electrical Engineering;
- Monitoring and Control Systems in Electrical Engineering;
- Advanced Electrical Structures and Systems;
- Modern Power Systems Management;
- Applied Engineering Sciences in Medicine.

## PhD

- Electrical Engineering;
- Power Engineering.



# FACULTY OF ELECTRICAL ENGINEERING

ie.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023

B.Sc.	Number of students
TOTAL	1023

M.Sc.	Number of students
TOTAL	317

### Out of which

International full-time students	Number of international full-time students	Countries:
Bachelor	16	Republic of Moldova, Syria, Cameroun, Spain, Turkmenistan
Master	10	Republic of Moldova, Hashemite Kingdom of Jordan, Turkmenistan, Sudan

### Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)

Program	Number of international full-time students	Countries
Bachelor	4	Italy, Turkisk, Germany, France
Master	3	Spain, Syria, Portugal


FACULTY OF  
**ELECTRICAL ENGINEERING**

**DEPARTMENT OF  
ELECTROTECHNICS AND MEASUREMENT**

*Main Research Topics*

CAD in Electromagnetism and Electrical Circuits;  
Optimal Design of Electromagnetic Devices;  
Electro-technologies;  
Biomedical Engineering;  
Electromagnetic Compatibility;  
CAD of Measurement Systems and Sensors;  
Virtual Tooling and Modern Measurement Techniques;  
Intelligent and Integrated Sensors  
Signal Processing.

**DEPARTMENT OF  
ELECTRICAL MACHINES AND DRIVES**

*Main Research Topics*

Model-based fault diagnosis of induction machines;  
Electrical machines and drives rapid-prototyping, testing and diagnosis platform;  
New automotive electric actuator technologies;  
Automotive low-noise electrical machines and drives optimal design and development;  
Advanced reluctance motors for electric vehicle applications;  
Vector controlled drive systems;  
Digital control;  
Electric vehicles control.



[ie.utcluj.ro](http://ie.utcluj.ro)





# FACULTY OF ELECTRICAL ENGINEERING

## DEPARTMENT OF ELECTRIC POWER SYSTEMS AND MANAGEMENT

*Main Research Topics*

- Applications of artificial intelligence in power engineering;
- Automation and protection in power systems;
- Power Quality in electrical networks;
- Indoor and outdoor lighting: design, measurements and maintenance;
- Production of energy from renewable sources;
- Integration of wind and photovoltaic plants in the national energy system;
- Fuel cells;
- Electrical energy management;
- Power systems modeling;
- Electrical energy market and Green Certificates Market;
- Smart grids;
- FACTS;
- Energy conversion;
- Electrical Audit;



[etti.utcluj.ro](http://etti.utcluj.ro)

# FACULTY OF ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

## DEPARTMENTS

Department of Applied Electronics  
(22 academic staff)

Department of Basis of Electronics  
(24 academic staff)

Department of Communications  
(36 academic staff)

26 – 28 G. Baritiu Street, 400027, Cluj-Napoca, Romania  
Dean's office - Room 358 | Phone: +40 264 401 223, Fax: +40 264 591 689  
Secretary - Room 357 | Phone: +40 264 401 224



# FACULTY OF ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

[etti.utcluj.ro](http://etti.utcluj.ro)

**B.Sc.**

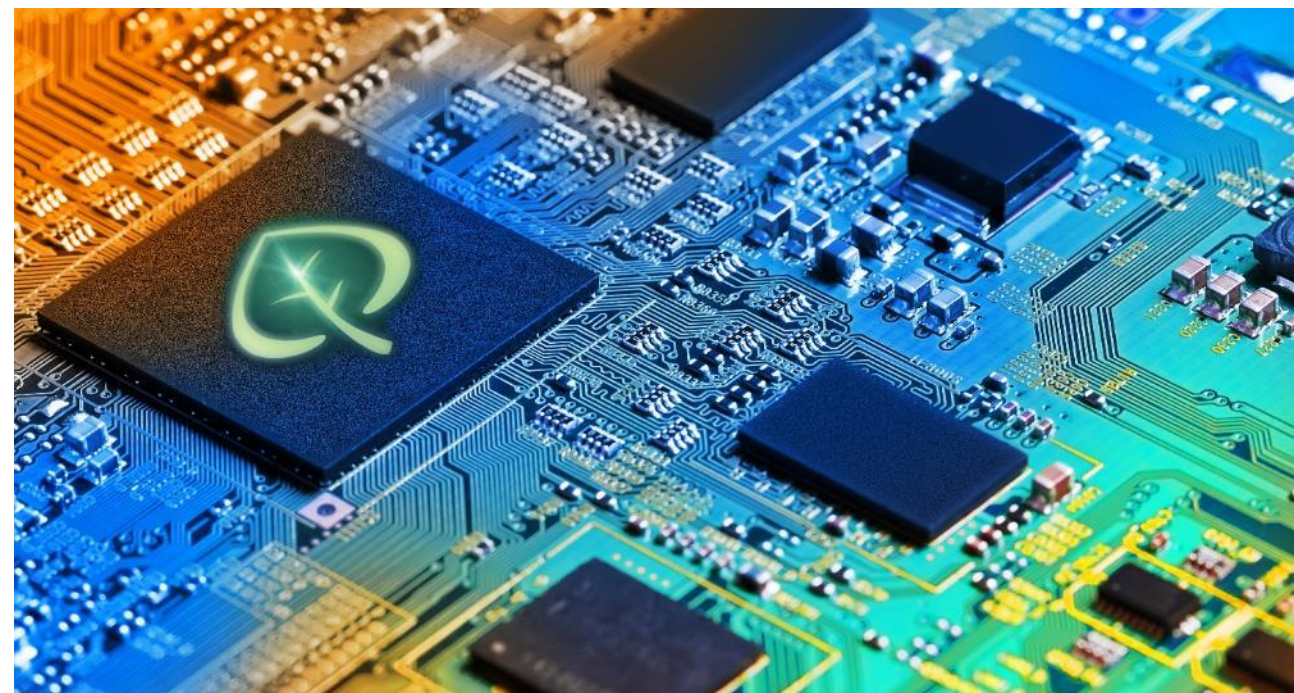
- Applied Electronics - RO|EN
- Telecommunications Technologies and Systems - RO|EN
- Economic Engineering in Electrical, Electronic and Energetic Domain

**M.Sc.**

- Integrated Circuits and Systems
- Electronics Engineering
- Telecommunications
- Multimedia Technologies
- Image and Signal Processing - FR
- Communications Integrated Systems with Special Applications
- Technologies, Systems and Applications for eActivities

**PhD**

- Electronic Engineering, Telecommunications and Information Technologies





# FACULTY OF ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY



etti.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023

B.Sc.	Number of students
TOTAL	1404

M.Sc.	Number of students
TOTAL	272

### Out of which

International full-time students	Number of international full-time students	Countries:
Bachelor	23	Republic of Moldova, Turkmenistan, Sudan, Afghanistan
Master	10	Republic of Moldova, Republic of the Congo, Syria, Cameroon, Algeria

### Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)

Program	Number of international full-time students	Countries
Bachelor	4	Turkey, Spain, Portugal
Master	-	-





[etti.utcluj.ro](http://etti.utcluj.ro)

FACULTY OF

# ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

## DEPARTMENT OF **APPLIED ELECTRONICS**

*Main Research Topics*

- Data Acquisition and Processing Systems;
  - Intelligent Sensors;
- Electromagnetic Compatibility in Electronic Systems;
  - Embedded Systems;
- Modeling of Electronic Devices and Circuits;
  - Renewable Energy.

## DEPARTMENT OF **BASES OF ELECTRONICS**

*Main Research Topics*

- Analysis and Synthesis of High-Complexity Electronic Circuits;
- Microelectronics, Analog and Digital VLSI Circuits;
  - Modern Techniques for Signal Processing;
  - Artificial Intelligence Techniques;
- Optoelectronics and Optical Communications.







FACULTY OF

# ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY



[etti.utcluj.ro](http://etti.utcluj.ro)



## DEPARTMENT OF **COMMUNICATIONS**

*Main Research Topics*

- Multimedia systems and applications;
- Satellite image processing and remote sensing;
- Unified communications in cloud;
- Ionospheric propagation and broadband communication;
- Speech analysis and synthesis;
- Cooperative communications;
- Applications in biometrics and biomedicine;
- Cognitive communications.





# FACULTY OF INDUSTRIAL ENGINEERING, ROBOTICS AND PRODUCTION MANAGEMENT



[iirmp.utcluj.ro](http://iirmp.utcluj.ro)

## DEPARTMENTS

Design Engineering and Robotics  
*(37 academic staff)*

Manufacturing Engineering  
*(32 academic staff)*

Mechanical System Engineering  
*(23 academic staff)*

Management and Economic Engineering  
*(19 academic staff)*

Modern Languages and Communication  
*(16 academic staff)*

103 – 105 Muncii Bld., 400641, Cluj-Napoca, Romania  
Dean's Office - Room A103 | Phone: +40 264 401 611  
Secretary | Phone: +40 264 401 782; +40 264 401 612



# FACULTY OF INDUSTRIAL ENGINEERING, ROBOTICS AND PRODUCTION MANAGEMENT

[iirmp.utcluj.ro](http://iirmp.utcluj.ro)

## B.Sc.

### **Industrial Engineering**

Manufacturing Engineering in Cluj-Napoca - RO | EN | DE

Industrial Design in Cluj-Napoca

Digital Production Systems in Bistrița

Manufacturing Engineering in Alba Iulia, Satu Mare, Zalău

### **Mechatronics and Robotics**

Robotics in Cluj-Napoca - RO | EN

Robotics in Bistrița

### **Engineering and Management**

Industrial Economic Engineering in Cluj-Napoca - RO | EN

Industrial Economic Engineering in Alba Iulia, Bistrița, Satu Mare





# FACULTY OF INDUSTRIAL ENGINEERING, ROBOTICS AND PRODUCTION MANAGEMENT

[iirmp.utcluj.ro](http://iirmp.utcluj.ro)

## M.Sc.

- Virtual Engineering and Competitive Manufacturing - RO | EN
- Virtual Engineering and Competitive Manufacturing in Zalău
- Industrial Design
- Quality Engineering and Management in Cluj-Napoca and Bistrița
- Computer Aided Design of Manufacturing Systems
- Innovative Production Processes and Technological Management - DE
- Robotics in Cluj-Napoca - EN
- Robotics in Bistrița
- Entrepreneurship
- Management of Logistic Systems
- Management and Engineering in Business
- Advanced Manufacturing Technologies in Alba Iulia
- Engineering and Manag. of Technol. Resources in Industry in Satu Mare
- Technical Project Management

## PhD

- Industrial Engineering
- Engineering and Management
- Mechanical Engineering



FACULTY OF  
**INDUSTRIAL ENGINEERING, ROBOTICS  
AND PRODUCTION MANAGEMENT**



**NUMBER OF STUDENTS**  
*academic year 2022/2023*

B.Sc.	Number of students
TOTAL	<b>1713</b>

M.Sc.	Number of students
TOTAL	<b>607</b>

*Out of which*

International full-time students	Number of international full-time students	Countries:
Bachelor	23	Republic of Moldova, Cuba, Turkmenistan
Master	3	Republic of Moldova, Russia

*Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)*

Program	Number of international full-time students	Countries
Bachelor	8	Spain
Master	1	Germany





[iirmp.utcluj.ro](http://iirmp.utcluj.ro)



FACULTY OF  
**INDUSTRIAL ENGINEERING, ROBOTICS  
AND PRODUCTION MANAGEMENT**

**DEPARTMENT OF  
DESIGN ENGINEERING AND ROBOTICS**

*Main Research Topics*

Design and development of industrial products;  
Design of equipment and manufacturing systems;  
Computer aided design and virtual reality;  
Design and development of hydro-pneumatic equipment;  
Industrial design;  
Robotization of manufacturing;  
Industrial metrology;  
Quality engineering and management;  
Innovation engineering and management;  
Information management in industrial robotic systems;  
Design of low-carbon products and processes.

**DEPARTMENT OF  
MANUFACTURING ENGINEERING**

*Main Research Topics*

Computer aided manufacturing;  
Rapid prototyping;  
Unconventional technologies;  
Microfabrication and precise cutting of hard metals by wire EDM;  
Medical applications for the manufacture of customized medical implants from biocompatible materials, using models manufactured by RP;  
Assisted fabrication of parts bounded by complex surfaces;  
Research on improving measurement technologies using CMM;  
Optimizing the processes for manufacturing plastics and composites;  
Research on cutting tool wear;  
Development of algorithms for linear and nonlinear optimization.



FACULTY OF

# INDUSTRIAL ENGINEERING, ROBOTICS AND PRODUCTION MANAGEMENT

DEPARTMENT OF

## MECHANICAL SYSTEM ENGINEERING

*Main Research Topics*

Advances in Applied Mechanics  
 Robot Modeling and Simulation  
 Advances in Medical Robotics  
 Innovative Development of Parallel Robots  
 Vibro-mechanics and Vibro-acoustics  
 Numerical Computation Methods  
 Computer Science in Mechanical Engineering  
 Micro and Nano Systems  
 Tribology, Mechanisms and Machine Parts  
 Mechanical Transmissions  
 Optimizations

DEPARTMENT OF

## MODERN LANGUAGES AND COMMUNICATION

*Main Research Topics*

Communication and cultural studies  
 Applied linguistics  
 Language teaching and Interculturality  
 Romanian language for international students

[iirmp.utcluj.ro](http://iirmp.utcluj.ro)

DEPARTMENT OF

## MANAGEMENT AND ECONOMIC ENGINEERING

*Main Research Topics*

General and strategic management  
 Marketing, market research  
 Flexible manufacturing systems  
 Management of production and service operations  
 Simulation optimization of complex systems  
 Economic analysis of production systems  
 Information systems design  
 Managerial communication  
 Human Resources  
 Ergonomic design of systems and products  
 Entrepreneurship  
 Design and analysis of logistics systems  
 Ecomanagement, sustainable development  
 Simulated enterprises

[imm.utcluj.ro](http://imm.utcluj.ro)

# FACULTY OF MATERIALS AND ENVIRONMENTAL ENGINEERING

## DEPARTMENTS

Materials Science and Engineering  
(17 academic staff)

Environmental Engineering and Sustainable  
Development Entrepreneurship  
(14 academic staff)

Physics and Chemistry  
(19 academic staff)

103 – 105 Muncii Bld., 400641, Cluj-Napoca, Romania  
Dean's Office | Phone: +40 264 401 621  
Secretary | Phone: +40 264 401 622, Fax: +40 264 415 054



# FACULTY OF MATERIALS AND ENVIRONMENTAL ENGINEERING

[imm.utcluj.ro](http://imm.utcluj.ro)

B.Sc.

## Materials Engineering

- Materials Science
- Materials Processing Engineering

## Environmental Engineering

- Engineering and Protection of Industrial Environment

M.Sc.

- Materials Engineering
- Environmental Engineering
- Applied Engineering Sciences

PhD

- Materials Engineering
- Environmental Engineering

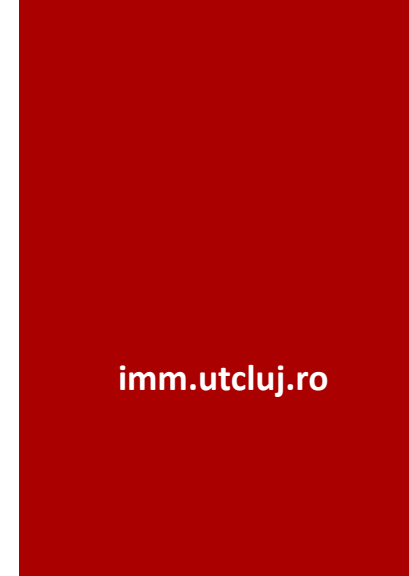


# FACULTY OF MATERIALS AND ENVIRONMENTAL ENGINEERING

**NUMBER OF STUDENTS**  
academic year 2022/2023

B.Sc.	Number of students
TOTAL	201

M.Sc.	Number of students
TOTAL	247



**Out of which**

International full-time students	Number of international full-time students	Countries:
Bachelor	10	Santa Lucia, Republic of Moldova, Turkmenistan
Master	3	Costa Rica, Republic of Moldova, Turkmenistan

**Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)**

Program	Number of international full-time students	Countries
Bachelor	2	Turkey
Postdoc	2	Algeria





  
  
FACULTY OF

# MATERIALS AND ENVIRONMENTAL ENGINEERING

## DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING

*Main Research Topics*

Functional Materials: Magnetic Materials, Membranes, Biomaterials;

Powder Metallurgy and Advanced Materials;

Alloys, Ceramics, Polymers and Composites

Nanocrystalline and Nanostructured Materials;

Materials Processing and Advanced Technologies;

Advanced Forming Technologies;

Physical, Mechanical and Structural Analyses of Materials;

Simulation and CAD in Materials Processing;

Advanced Heat Treatments and Surface Engineering Technologies;

Surface Treatment and Cladding Layers;

Destructive and Nondestructive Testing of Materials.

  
[imm.utcluj.ro](http://imm.utcluj.ro)

## DEPARTMENT OF ENVIRONMENTAL ENGINEERING AND SUSTAINABLE DEVELOPMENT ENTREPRENEURSHIP

*Main Research Topics*

Monitoring and Control of Environmental Pollution;

Advanced Technologies and Equipment for Environmental Rehabilitation and  
Protection;

Recovery and Recycling of Materials and Products;

Innovative Technologies for Sustainable Resources and Management;

Promoting the Sustainable Energy Systems and Technology;

Development of New Technologies in Materials Process Engineering: Clean  
Technologies.

# FACULTY OF MATERIALS AND ENVIRONMENTAL ENGINEERING

[imm.utcluj.ro](http://imm.utcluj.ro)

## DEPARTMENT OF **PHYSICS AND CHEMISTRY**

### *Main Research Topics*

- Applied Superconductivity, Spintronic Devices, Magnetic and Superconducting Thin Films, Diluted Magnetic Materials, Precursor Chemistry;
- Physical Properties of Amorphous Materials, Rare Earth Vitreous Materials with Applications in Nanophotonics, Optoelectronics and Communications;
- Modelling of Molecular Structures, Advanced Spectroscopy Techniques;
- Advanced Electrochemistry, Electrochemical Sensors, Corrosion Assessment, Electrochemical Protection;
- Influence of Environmental Pollutants, Recycling of Plastic Waste;
- Obtaining, Characterization and Testing of Fuels from Plastic Waste;
- Synthesis and Characterization of Nanocomposites (elastomers, PEMs, (micro)gels, mortars with polymers and fillers, biomaterials, hybrid materials);
- Synthesis of Special Ceramic Films/Particles by CBD and/or Spray Pyrolysis;
- Development of new measurement techniques in NMR relaxometry;
- Development of specific measurement and monitoring devices based on electric sensors and microcontrollers;
- Developing of new cement-based materials;
- NMR investigations of molecular.





NORTH UNIVERSITY CENTER – BAI A MARE

# FACULTY OF ENGINEERING

[inginerie.utcluj.ro](http://inginerie.utcluj.ro)

## DEPARTMENTS

Department of Engineering and Technologic Management  
*(19 academic staff)*

Department of Electrical Engineering, Electronics and Computers  
*(20 academic staff)*

Department of Mineral Resources Engineering, Materials and Environment  
*(13 academic staff)*

62A Dr. V. Babes Street, 430083, Baia Mare, Romania  
Dean's Office | Phone: +40 264 202976  
Secretary | Phone: +40 264 202975





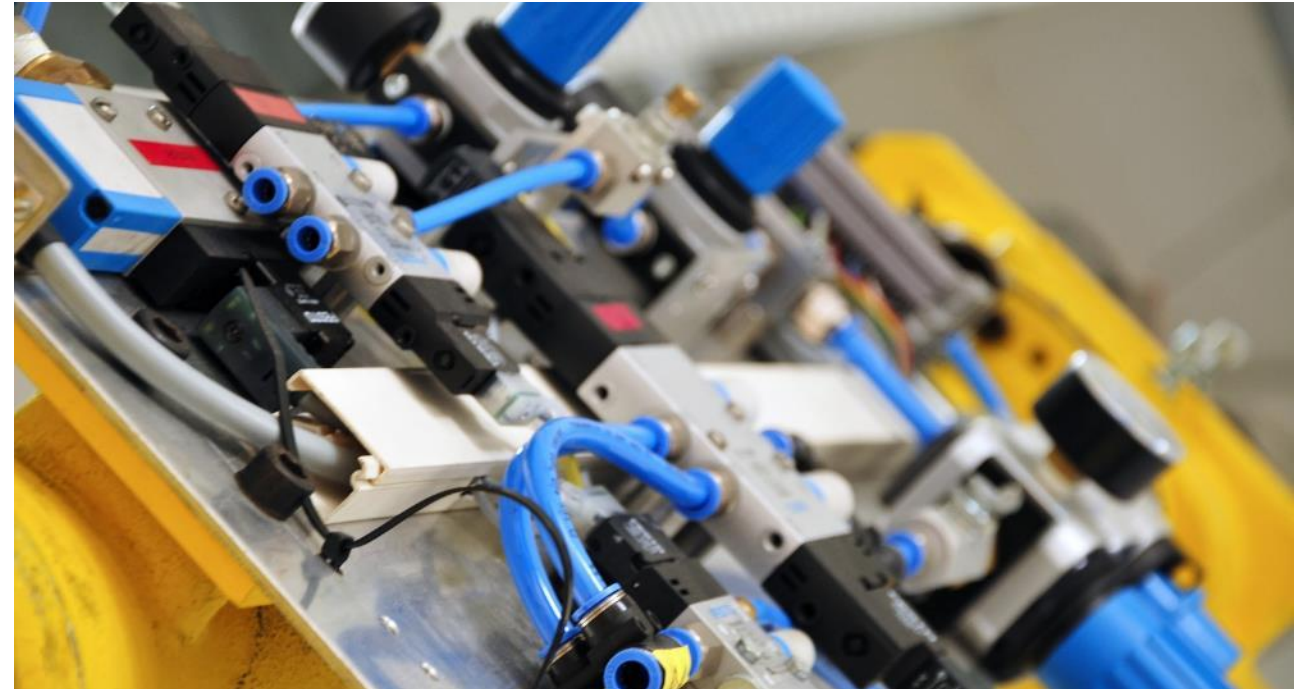
NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF ENGINEERING

[inginerie.utcluj.ro](http://inginerie.utcluj.ro)

## B.Sc.

- Machine Building Technology
- Electro-mechanics
- Engineering of Power Systems
- Economic Engineering in the Field of Mechanics
- Computers
- Applied electronics
- Environment Protection Engineering in Industry
- Materials Processing Engineering







NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF ENGINEERING

[inginerie.utcluj.ro](http://inginerie.utcluj.ro)

## M.Sc.

- Engineering of Flexible Manufacturing Systems
- Innovation and Technology Development Management
- Engineering and Management in the Electric Field
- Engineering and Management in Power Engineering
- Environmental Impact and Risk Assessment

## PhD

- Mechanical Engineering
- Engineering and Management
- Computers and Information Technology
- Engineering Electronics, Telecommunications and Information Technologies







NORTH UNIVERSITY CENTER – BAIA MARE

FACULTY OF

# ENGINEERING



inginerie.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023



B.Sc.	Number of students
TOTAL	756

Out of which		
International full-time students	Number of international full-time students	Countries:
Bachelor	3	Ucraina
Master	1	Ucraina

M.Sc.	Number of students
TOTAL	247

Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)		
Program	Number of international full-time students	Countries
Bachelor	-	-
Master	-	-





NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF ENGINEERING



inginerie.utcluj.ro



TECHNICAL UNIVERSITY OF CLUJ-NAPOCA | ROMANIA



## DEPARTMENT OF

### ENGINEERING AND TECHNOLOGICAL MANAGEMENT

*Fields of expertise*

- Research applied in industrial engineering. Development of applications for manufacturing processes, in mechanical systems and in technology management;
  - Pre-competitive and competitive research in technological equipment, manufacturing technologies for equipment and machines, in special technological processes, in optimization of technological manufacturing systems, in monitoring of technological equipment and systems, in integrating IT into production systems (PDM, PLM etc.);
- Product innovation and technological innovation in engineering and their impact on technology management;
- Valorizing and disseminating knowledge acquired during research activities.

## DEPARTMENT OF

### ELECTRICAL ENGINEERING, ELECTRONICS AND COMPUTERS

*Fields of expertise*

- Computer Aided Design;
- Energy Auditing, Efficiency and Integration of Renewable Energies;
  - Improvement of the Quality of Electric Power;
- Measurements, Testing and Diagnosis of Electric Installations;
  - Automations, Supervision, Emergency Systems;
- Hardware Implementation of Artificial Neuronal Networks in FPGA Circuits;
  - Robots for Assistance, Smart Houses;
  - Intelligent Devices Based on Neuronal Networks;
  - Intelligent Data Acquisition Systems;
- Representation of Information. Data Encoding and Compressing Techniques.



NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF ENGINEERING

[inginerie.utcluj.ro](http://inginerie.utcluj.ro)

## DEPARTMENT OF MINERAL RESOURCES ENGINEERING, MATERIALS AND ENVIRONMENT

*Fields of expertise*

- Environment Risks and Impact Assessment
  - Stability & Rehabilitation of Mining Area
- Engineering and Environmental Protection in Industry
  - Engineering of Waste Recovery
- Analytical and Numerical modeling of rock stability in open pits, underground mines & tunneling
- Mineral Processing of metalliferous and non-metalliferous ores





NORTH UNIVERSITY CENTER – BAIJA MARE

# FACULTY OF HUMANITIES



[litere.utcluj.ro](http://litere.utcluj.ro)

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA | ROMANIA

## DEPARTMENTS

Philology and Cultural Studies  
*(25 academic staff)*

Social and Humanistic Sciences, Theology, and Arts  
*(23 academic staff)*

76 Victoriei Street, 430122, Baia Mare, Romania  
Dean's Office – Room 3 | Phone: +40 264 202 973  
Secretary – Room 3





NORTH UNIVERSITY CENTER – BAIA MARE

## FACULTY OF HUMANITIES

[litere.utcluj.ro](http://litere.utcluj.ro)

BA

**3 / 4 YEARS**

- Romanian Language and Literature – English Language and Literature
- Romanian Language and Literature – French Language and Literature
- Romanian Language and Literature
- Applied Modern Languages (English – French / English – German)
- Ethnology
- Journalism
- Philosophy
- Communication and Public Relations
- Social Work
- Pastoral Orthodox Theology
- Painting
- Pedagogy of the Primary and Secondary Education







NORTH UNIVERSITY CENTER – BAIA MARE

## FACULTY OF HUMANITIES



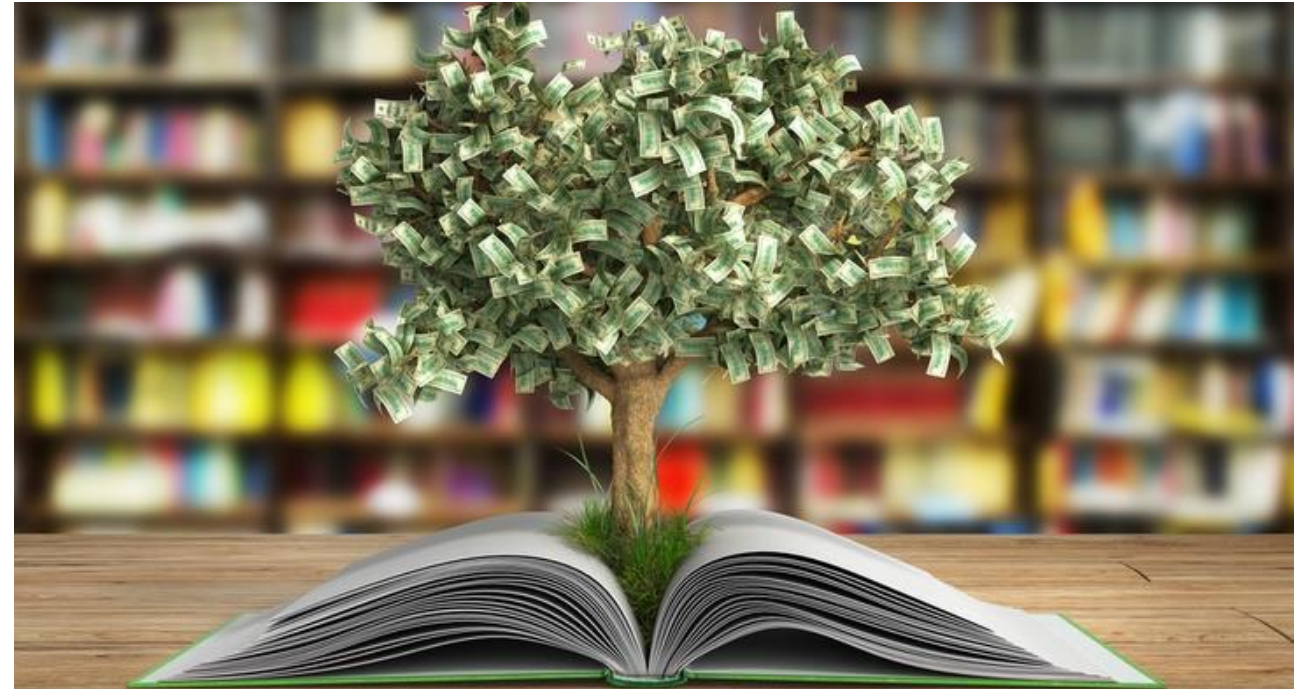
litere.utcluj.ro

### MA

- Romanian Literature and European Modernism
- The Romanian Language in European Context (Space, Culture, Communication)
- Ethno-Tourism/Ethnology and Cultural Tourism
- Theology and European Spirituality
- English Literature for Children and Youth
- French in Specialized Translations
- Human Rights
- Social Assistance and Inclusion of the Elderly and the Disabled
- Plastic and Reflective Values of the Image in Contemporary Painting

### PhD

- Philology
- Philosophy





NORTH UNIVERSITY CENTER – BAIA MARE

FACULTY OF

# HUMANITIES

## NUMBER OF STUDENTS

academic year 2022/2023



litere.utcluj.ro



B.Sc.	Number of students
TOTAL	1008

Out of which		
International full-time students	Number of international full-time students	Countries:
Bachelor	6	Republic of Moldova, Ukraine, Republic of the Congo
Master	12	Ukraine, Albania

M.Sc.	Number of students
TOTAL	473

Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)		
Program	Number of international full-time students	Countries
Bachelor	-	-
Master	-	-





NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF HUMANITIES

## DEPARTMENT OF PHILOLOGY AND CULTURAL STUDIES

*Main Research Topics*

- Theoretical and applicative, intra-, inter- and cross- disciplinary exploratory approaches of social, verbal/non-verbal, literary studies.
- Individual multilingualism and multilingual/multicultural communities within the European area; globalization and identity.
- Belletristic literature from the perspective of social, cultural, economic, political, historical information and its transmissibility.
  - Globalization, national identity, ethno-linguistic identity
- Mobility and migration, adaptation and stability, tradition and changing societies
- Accelerated social and professional integration and lifelong learning; methods and means of reducing the temporal gap by reforming social and professional programs.

## DEPARTMENT OF SOCIAL AND HUMANISTIC SCIENCES, THEOLOGY AND ARTS

*Main Research Topics*

- Theoretical and applicative, intra-, inter- and cross- disciplinary exploratory approaches artistic, religious, media, communication, etc.
  - Communicative skills as factors of social inclusion/exclusion
  - Mobility and migration, adaptation and stability, tradition and changing societies
- Social and spiritual assistance in traditional communities and changing societies
- Accelerated social and professional integration and lifelong learning; methods and means of reducing the temporal gap by reforming social and professional programs.



litere.utcluj.ro





NORTH UNIVERSITY CENTER – BAIJA MARE

# FACULTY OF SCIENCES



[stiinte.utcluj.ro](http://stiinte.utcluj.ro)

## DEPARTMENTS

Department of Mathematics and Computer Science  
*(15 academic staff)*

Department of Chemistry and Biology  
*(19 academic staff)*

Department of Economics and Physics  
*(20 academic staff)*

76 Victoriei Street, 430122, Baia Mare, Romania  
Dean's Office | Phone: : +40 264 202 977, +40 264 202 967  
Secretary | Phone: +40 264 202 977, +40 264 202 967







NORTH UNIVERSITY CENTER – BAIA MARE

## FACULTY OF SCIENCES

[stiinte.utcluj.ro](http://stiinte.utcluj.ro)

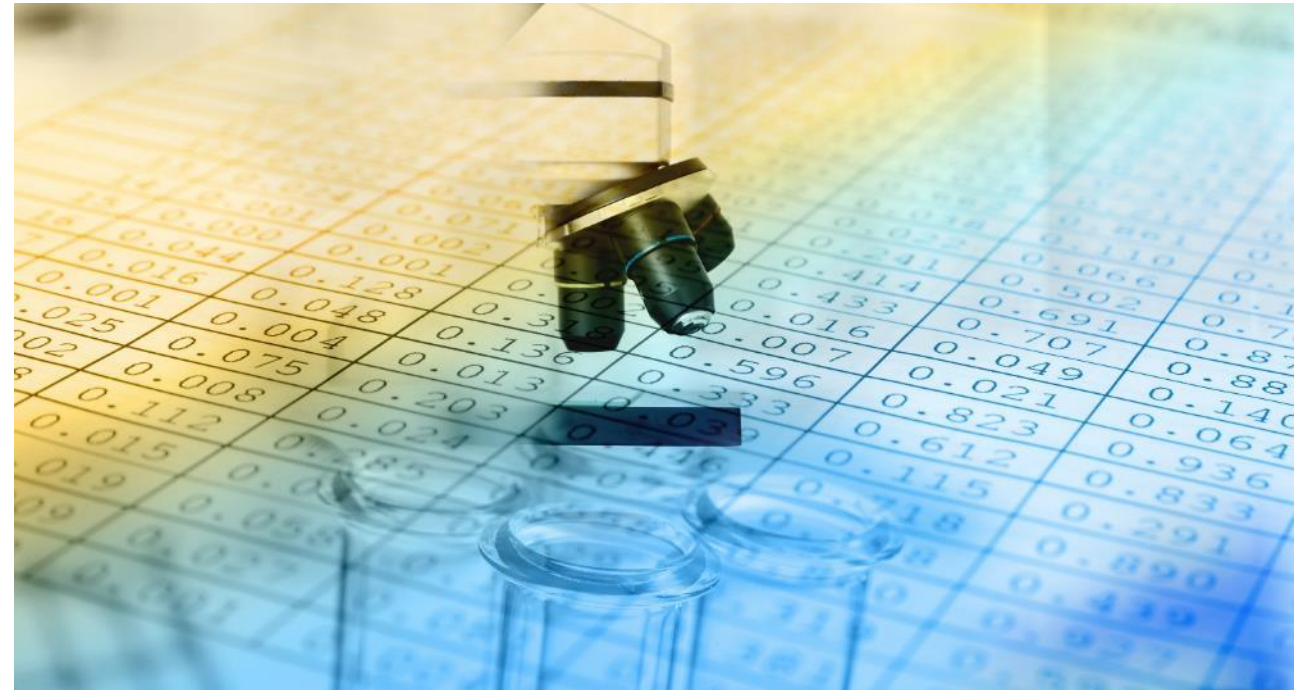
**B.Sc.**

### 3 YEARS

- Informatics
- Mathematics Informatics
- Economic Informatics
- Management
- Management – part time
- Business Economics
- Medical Chemistry
- Biology

### 4 YEARS

- Food Engineering
- Control and Expertise of Food Products







NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF SCIENCES



stiinte.utcluj.ro

## M.Sc.

- Applied Biochemistry
- Didactic Chemistry
- Informatics and Software Engineering
- Didactics of Mathematics
- Business Management
- European Project Management
- Food Science and Safety

## PhD

- Mathematics





NORTH UNIVERSITY CENTER – BAIA MARE

# FACULTY OF SCIENCES



stiinte.utcluj.ro

## NUMBER OF STUDENTS academic year 2022/2023



B.Sc.	Number of students
TOTAL	1015

**Out of which**

International full-time students	Number of international full-time students	Countries:
Bachelor	1	Republic of Moldova
Master	1	-

M.Sc.	Number of students
TOTAL	418

**Additional incoming mobility students (Erasmus, Eugen Ionescu, etc.)**

Program	Number of international full-time students	Countries
Bachelor	1	Uzbekistan
Master	-	-





NORTH UNIVERSITY CENTER – BAIA MARE

## FACULTY OF SCIENCES

### DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

*Main Research Topics*

- Nonlinear Analysis. Fixed Point Theory
- Iterative Methods for Fixed Points Approximation;
- Numerical Analysis. Approximation by Linear Operators;
  - Semigroups Theory. Semirings Theory;
    - Combinatorial Optimization;
    - Natural Speech Recognition;
- Graph Theory in Connection with Computer Science;
  - Image Processing;
  - Software Quality Models;

### DEPARTMENT OF CHEMISTRY AND BIOLOGY

*Main Research Topics*

- Assessment of biodiversity in natural and human ecosystems;
- Smart functions of packages containing nano-structured materials in food preservation;
- Molecular Topology - new invariants in molecular graphs. , we matrices topological (DEP CEP), new topological indices (EPA, RZ, SD)
  - Directed Magnetic Nanomaterials Properties;
    - Organic and Inorganic Compounds;
- Food Traceability, identification of Contaminants in the Food Chain, Food Technology Improvements;



[stiinte.utcluj.ro](http://stiinte.utcluj.ro)





NORTH UNIVERSITY CENTER – BAIA MARE

## FACULTY OF SCIENCES

[stiinte.utcluj.ro](http://stiinte.utcluj.ro)

### DEPARTMENT OF **ECONOMICS AND PHYSICS**

*Main Research Topics*

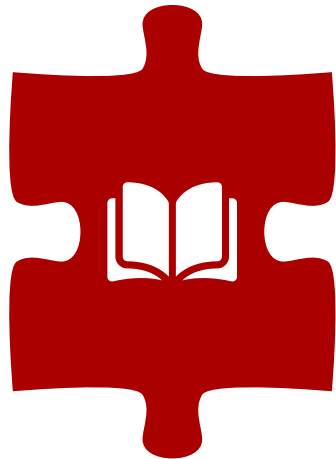
- The impact of blockchain technology on financial services
- Analysis of consumer trust in the use of chatbot IT systems
- Current trends in digital marketing and the use of artificial intelligence
  - Economic models of sustainable development
    - Economic models for cluster analysis
  - Integrated reporting – the future of financial reporting
- International accounting convergence in the field of fair value measurement
- Emotional intelligence and its role in increasing the need for leaders in organizations
  - Green supply chain management



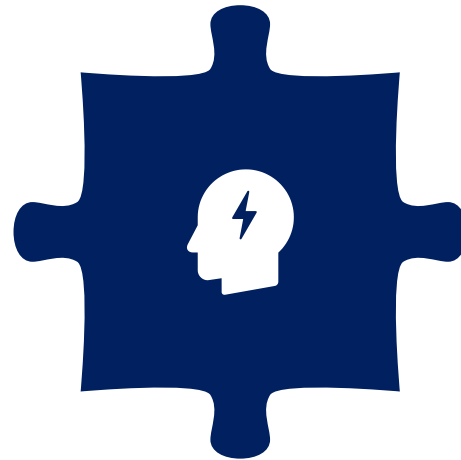


# INTERNATIONALIZATION DIRECTIONS

Transversal approach to internationalization across all university structures



INTERNATIONALIZATION  
OF **STUDY PROGRAMS**



INTERNATIONALIZATION  
OF **THE RESEARCH**



INTERNATIONALIZATION OF  
**SERVICES & STRUCTURE**





# INTERNATIONALIZATION DIRECTIONS

Transversal approach to internationalization across all university structures

Supporting and encouraging faculties to develop and diversify the **study offer in English/French/German** ensuring the necessary linguistic competences for all categories of staff involved

Supporting departments and faculties participating and/or **applying for educational projects** with national/European/non-European funding and contributing to strengthening the international dimension of the university

Promoting student and teaching staff mobility through the Erasmus+ program, as a key factor in **establishing direct inter-university contacts** for the development of future collaborations at international standards

Development and implementation of mechanisms for enhancing students, teaching and research staff exchange with foreign universities other than through the traditional training mobility programs **Erasmus+, EECUS, AUF, SEE, Eugen Ionescu**, etc.

Increasing the quality, performance, attractiveness and international competitiveness by strengthening the strategic partnership **European University of Technology - EUT+** and the integration of the University in the network of European universities





# INTERNATIONALIZATION ACTIONS

Accreditation of new bachelor's, master's and doctoral programs in English/French/German in order to diversify the university's educational offer for international students

Organization of free courses to increase the language skills of teachers and administrative staff

Promotion of the university's educational offer for international students through online campaigns, fairs and educational conferences, embassies, consulates, candidate recruitment agencies, social media etc.

Development of a digital platform specifically designed specifically for international students to ensure information on the online admission and registration, on the curricula and syllabus information in English, etc.

Tutoring actions specifically designed for reducing the international students dropout rate





# INTERNATIONALIZATION ACTIONS

Improvement of the services (restoration, accommodation) offered to incoming students and teaching staff

Grant funding of departments and faculties promoting proposals for educational projects with an impact on the international dimension of the university

The establishment of a line of study abroad, for establishing bridges to provide the basis for future extended collaborations on all levels, education, research and innovation

Supporting through own funding the students involved in international mobility, prior to and during mobility, according to the standard of living of the country where the mobility takes place

Grant funding for promoting the international mobility of the teaching staff, of the research and of the students





## International Relations Office

**International Relations Office** - key structure under the supervision of a dedicated vice-rectorate within the university to support internationalization actions through:

Student Recruitment Fairs Participation

Events for international students:

- International Students Days
- Student for One Day

Study in Romania platform

Other specific events

IRO link > [bri.utcluj.ro/en/index.php](http://bri.utcluj.ro/en/index.php)



- 140+ bilateral agreements
- Recruitment of international students
- Buddy Network
- Centre de Reussite Universitaire
- Mobility: Eugen Ionescu, Free mover and more

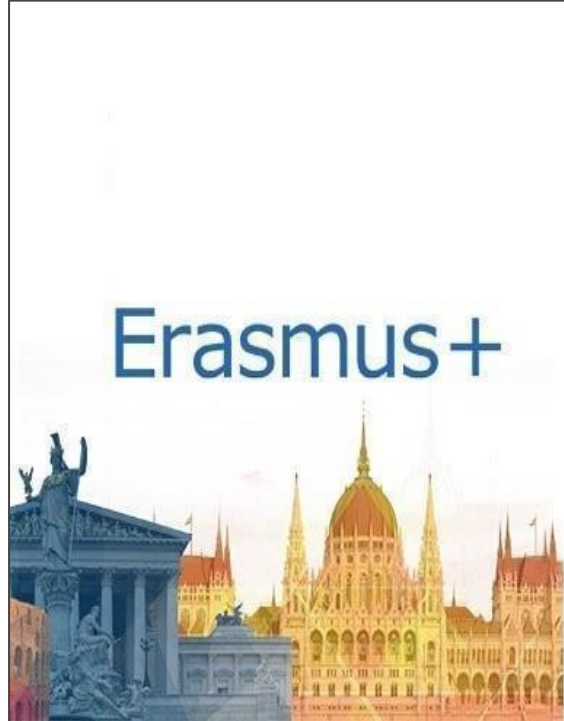




## Erasmus+ Office

**Erasmus+ Office** - dedicated key structure having as main goals the management and implementation of the educational and vocational programs supported by the European Commission (ERASMUS+).

Erasmus+ Office link > [bri.utcluj.ro/en/eplus.php](http://bri.utcluj.ro/en/eplus.php)



more than 400 Erasmus Agreements  
more than 50 Erasmus KA2 programs  
20 CEEPUS networks  
more than 130 in-coming students each year  
more than 150 out-going students each year





# AFFILIATIONS



EUA Council for Doctoral Education (EUA-CDE)



Danube Rectors' Conference



The Silk-road Universities Network

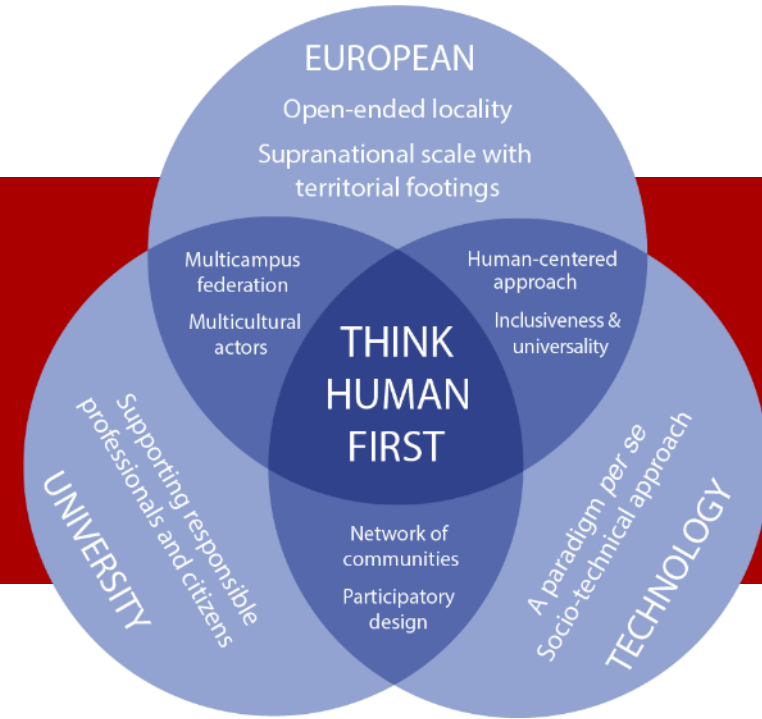


Black Sea Universities Network

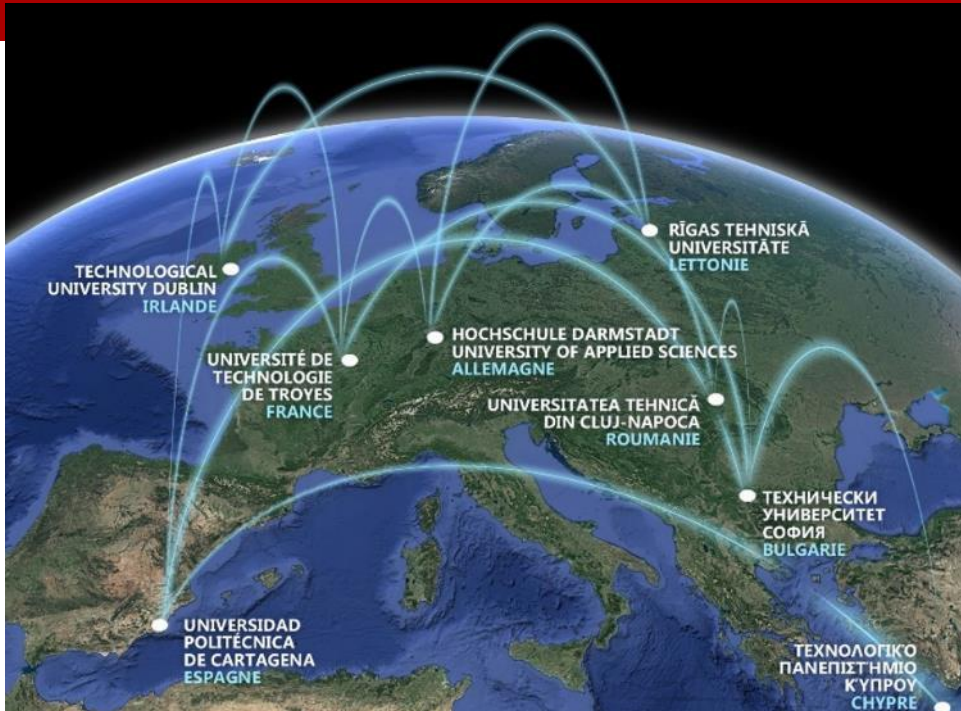




# EUT+ CONSORTIUM



TECHNICAL UNIVERSITY OF CLUJ-NAPOCA | ROMANIA



# CULTURAL CLUBS



## In Cluj-Napoca and Baia Mare

- Românașul student folk ensemble
- Gaudeamus student theatre (classic, experimental, musical, revue)
- Brigada BUM comedy group
- Honoris music group
- Infinet Skills dance ensemble
- Nova modern and social dance group
- Observator folk cenacle of interpretation and idea sharing
- Pasărea Ibis folk group
- Nord student folk ensemble
- Students' ensemble of traditional Romanian dances
- Vocal group of traditional Romanian music
- Sf. Ioan Damaschinul Men's Choir
- The vocal group of the Ep. Dr. Alexandru Rusu seminary





# STUDENT ORGANISATIONS



Organizația Studenților din Universitatea Tehnică Cluj-Napoca

[www.osut.org](http://www.osut.org)



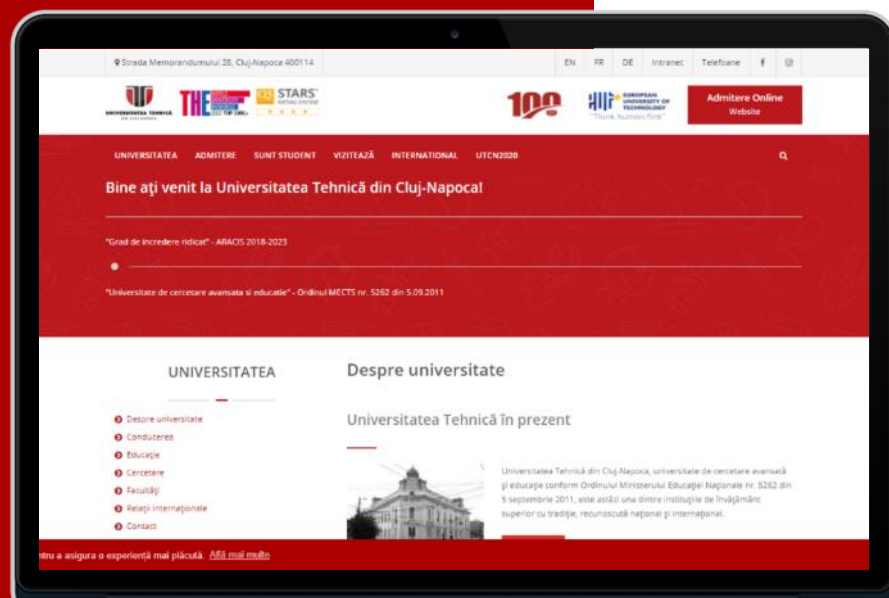
Board of European Students of Technology Cluj-Napoca

[www.bestcj.ro](http://www.bestcj.ro)



- League of Students of the Technical University of Cluj-Napoca - [facebook.com/LSUTCN](https://facebook.com/LSUTCN)
- AStA Association of Students of Architecture
- OSSIMM Organization of Students of Materials and Environment Engineering
- ASFIC Association of Students of the Faculty of Building Services Engineering
- ASIEM Association of Students of Economic Engineering and Management
- ASCUT | ESN | EUROAVIA
- Liga Studenților "Pintea Viteazul" - [www.lspv.ro](http://www.lspv.ro)





# CONTACT US

[www.utcluj.ro](http://www.utcluj.ro)

[international@staff.utcluj.ro](mailto:international@staff.utcluj.ro)

 /utcluj.ro

 /ut.cluj

 Universitatea Tehnică din Cluj-Napoca