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# Computing Innovation for Technology Entrepreneurship CITE

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**Name of the project:** Computing Innovation for Technology Entrepreneurship – CITE

**Financing program:** The Education, Scholarships, Apprenticeships and Youth Entrepreneurship Programme (ESAYEP), 2014-2021

**Reference number:** 18-COOP12

**Period:** October 2019 - September 2021

Initial date

**Partners:** University POLITEHNICA of Bucharest, Romania  
Østfold University College, Norway

## Relevance towards the objectives of the EEA Grants Programme

- The enhancement of the quality and relevance of education and training
- Higher education student and staff learning mobility between donor and beneficiary countries
- Cooperation and partnerships between education and the world of work
- Professional development of teachers

## Beneficiaries

- Master Students from the FILS programs in **Engineering and Management:**
  - Business Administration and Engineering - **BAE**
  - Geschäfts- und Industrieverwaltung - **GIVE**
  - Nachhaltige Geschäftsexzellenz und Leadership in der Industrie - **NGELI**
- Master Students from the FILS programs in **Computers and Information Technology:**
  - Software Engineering - **SE**
  - Management, innovation et technologies des systèmes collaboratifs - **MITSC**

## Beneficiaries

### Curriculum - Business Administration and Engineering

Sem.1	Sem. 2	Sem. 3	Sem. 4
Industrial Marketing	Strategic Management	Technology Entrepreneurship	Etics
Financial Management	Numerical Methods for Economic Systems	Project Management	Dissertation
Management of Information Systems	Data and Signal Processing for Business	Prediction of System Evolution	
Event Driven Dynamic Systems	Business Cultural Models and Diversity Management	Modeling of Complex Systems	
International Trade and Transactions			
Scientific Research 1	Scientific Research 2	Scientific Research 3	Scientific Research 4

Color code - Economics, Engineering, Hybrid

## Beneficiaries

### Curriculum - Software Engineering

Sem.1	Sem. 2	Sem. 3	Sem. 4
Advanced Concepts in Software Engineering	Model Driven Software Engineering	Software Architectures	Etics
Game and Interactive Simulation Systems	Distributed Software Engineering	Software Project Management	Dissertation
Programming Paradigms	Software Methodologies	Agent-Oriented Software Engineering	
Formal Models in Software Engineering	Computing in the Semantic Web	Special Topics in Software Engineering	
Technologies for Big Data Analysis	Advanced Topics in Computer Network	Software Testing	
Scientific Research 1	Scientific Research 2	Scientific Research 3	Scientific Research 4

## **Obj1. Develop the ICTE domain at UPB.**

- O1. Develop the curriculum, including teaching materials for the “Information and Communications Technology Entrepreneurship” discipline to be included in the curricula of FILS, to be included in the Engineering and management master programs BAE, GIVE and NGELI
- O2. Develop the curriculum, including teaching materials for the “Information and Communications Technology based Innovation”, to be included in the Computer science master programs SE and MITSC. For the O2 activity, use experience of OUC which has it as a discipline.



## Common Subjects for Information and Communications Technology based Innovation Information and Communications Technology Entrepreneurship

Common 1	Technology, Innovation and Entrepreneurship – Instruments for Growth and Wealth
Common 2	Technology-driven vs. Market-driven Innovation
Common 3	Innovation and Knowledge Driven Entrepreneurship
Common 4	Innovation and Technology Transfer for Business Development

## Specific Subjects for Information and Communications Technology based Innovation

Innovation 5	Types of Innovation
Innovation 6	Methods for Innovation
Innovation 7	Innovative Trends: Internet of Things - Fog Computing
Innovation 8	Innovative Trends: Blockchain
Innovation 9	Innovative Trends: Cloud Computing (Serverless, Microservices)
Innovation 10	Innovative Trends: AI for Software Engineering
Innovation 11	Innovative Trends: Autonomous Vehicles
Innovation 12	Innovative Trends: Robotic Process Automation/ Communications
Innovation 13	Innovative Trends: Chatbots
Innovation 14	Innovative Trends: VR/AR

## Specific Subjects for Information and Communications Technology Entrepreneurship

Entrepreneurship 5	Entrepreneurial Initiatives (Star-ups, Spin-offs, MSMEs)
Entrepreneurship 6	Entrepreneurial Discovery Process
Entrepreneurship 7	Target Market Selection/ Business Plans / Strategy in Technology Entrepreneurship
Entrepreneurship 8	Financing for Entrepreneurial Projects
Entrepreneurship 9	Product management
Entrepreneurship 10	Risk Management
Entrepreneurship 11	Intellectual Property and Legal Framework
Entrepreneurship 12	Industry 4.0 Integration
Entrepreneurship 13	Digital Entrepreneurship
Entrepreneurship 14	Case studies – Guidance from Digital Entrepreneurs

- O3. Prepare materials for the Entrepreneurship HUB at FILS. They will include case studies and business models in ICTE. Former students will participate at the creation and at the assessment of the materials. Practical results from the ended projects will be included. This represents a lifelong learning strategy, reinforcing the link between higher education and the working force.
- O4. Prepare web portal with learning materials, included in the website of the project. Include also success stories.
- E1. Multiplier Event - Presentation of the project at the partner institution, Østfold University College
- E2. Multiplier Event - Completion symposium for the project, organized at the applicant institution

## **Obj2. Strengthen the relationships between the Department of Engineering in Foreign Languages from FILS and the Faculty of Computer Science Department from OUC**

- C2. Training Romanian academic staff at the partner university. Five persons from FILS will spend 10 days each at Østfold in order to learn from the experience and the organization of Norway partners.
- O5. Create jointly research papers in ICT and look for ideas that can be transformed in practice. There will be proposed jointly at least 5 joint papers to prestigious journals or conferences.

### **Obj3. Prepare the Romanian students in an established and competitive environment.**

- A1. At the first project management meeting in Romania, start the procedures for an Erasmus+ agreement between UPB and OUC.
- C1. Three short lectures given by the Norway partners in the period of Project meeting A1 and the starting symposium of the project in hot ICT domains.
- C3. Short term mobility of master students or undergraduate students in Norway, for the subjects which are given in English at UOC or for Research subjects from the master students. There will be 8 mobilities of 30 days each.

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- O4. Constant training using the web portal
- O5. Involve the students to create jointly research papers in ICT and look for ideas that can be transformed in practice..

PROJECT TIMETABLE

Project activity*	MONTHS	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
A1	A1																								
A2													A2												
A3																									A3
O1					O1												O1								
O2					O2												O2								
O3					O3												O3								
O4														O4											
O5					O5												O5								
E1													E1												
E2																									E2
C1	C1																								
C2			C2										C2												
C3								C3													C3				

- A1, A2, A3 – Project meetings
- O1, O2 – Curriculum development
- O3 – Materials for HUB
- O4 – Web portal
- O5 – Joint research papers

- E1, E3 – Multiplier Events
- C1 – Three short lectures
- C2 – Three Romanian academic staff in Norway
- C3 – Eight Romanian students in Norway



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Due to the Coronavirus Pandemics, the duration of the project was extended with one year, until September 2022, by the Addendum no. 1.

Project Website  
<http://www.cite.upb.ro/>

CITE 
Home Presentation Activities ▾

### CITE - Computing Innovation for Technology Entrepreneurship

The objectives of this project will enhance the human capital and the entrepreneurship initiatives. The primary targets are the master programs (curricula, students and academic staff) which train students in the domain Management and Engineering and in the domain of Computer Science. Increasing the quality and quantity of Romanian information-technology driven business initiatives focusses directly the first two priority sectors of the EEA grants: Innovation, Research, Education and Competitiveness, as well as Social Inclusion, Youth Employment and Poverty Reduction. The Romanian students will benefit from mobilities in the partner University and the development of teachers is aimed by direct involvement between the professors from both parties and the direct implication of students. Former students which created successful start-ups will participate from the world of work in the creation of case-studies and of the lecture materials as evaluators. There is a clear recognition of the need for the uplifting the role universities in the Romanian entrepreneurial ecosystem and the project aims directly this target.




#### Latest News

**Mobility**  
Mobilities for the CITE project

**Scholarships**  
Short-term student mobility

The Cooperation Project in Higher Education 18-COP-0012 CITE

**Project Partners**





**Universitatea Politehnica din Bucuresti**



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CITE 2019 - 2022  
Computing Innovation for Technology Entrepreneurship

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