

SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Electrical Engineering
1.3	Department	Electrical Power Systems and Management
1.4	Field of study	Electrical Engineering
1.5	Cycle of study	Master of Science
1.6	Program of study/Qualification	Modern Power Systems
1.7	Form of education	Full time
1.8	Subject code	14.00

2. Data about the subject

2.1	Subject name				Engineering Entrepreneurship			
2.2	Subject area							
2.3	Course responsible/lecturer				Lecturer Veronica Maier, PhD veronica.maier@enm.utcluj.ro			
2.4	Teachers in charge of seminars				Lecturer Veronica Maier, PhD			
2.5	Year of study	I	2.6 Semester	1	2.7 Assessment	Summative	2.8 Subject category	Compulsory

3. Estimated total time

3.1	Number of hours per week	2	3.2 of which, course:	1	3.3 applications:	1
3.4	Total hours in the curriculum	28	3.5 of which, course:	14	3.6 applications:	14
Individual study						hours
Manual, lecture material and notes, bibliography						6
Supplementary study in the library, online and in the field						6
Preparation for seminars/laboratory works, homework, reports, portfolios, essays						4
Tutoring						2
Exams and tests						2
Other activities						
3.7	Total hours of individual study		22			
3.8	Total hours per semester		50			
3.9	Number of credit points		4			

4. Pre-requisites (where appropriate)

4.1	Curriculum	Not the case
4.2	Competence	Not the case

5. Requirements (where appropriate)

5.1	For the course	The existence of multimedia equipment
5.2	For the applications	The deadline for submitting the seminar project is set by the course coordinator in agreement with the students. Requests for extensions are only accepted for objectively justified reasons.

		• Late submission of the seminar project will incur a penalty of 10% of the allocated value.
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6. Specific competences

Professional competences	• Students will acquire the ability to recognize opportunities to initiate new businesses, evaluate them, and transform them into efficient business models, while also identifying the most appropriate methods for their development and expansion.
Cross competences	Students will acquire: • oral and written communication skills; • synthesis skills; • problem-solving and decision-making abilities; • the ability to recognize diversity and show respect for it; • the capacity to take initiative in entrepreneurial activities; • the ability to identify business opportunities.

7. Expected learning outcomes

On completion of the discipline, the student will be able to demonstrate:

Knowledge	Holds highly specialised knowledge of the modelling, simulation and numerical analysis of power systems. Critically understands steady-state, dynamic and transient models, as well as their limits of applicability. Is acquainted with modern methods for analysing advanced energy transmission systems, including direct current.
Skills	Develops models and simulation scenarios for complex design and operation problems. Validates numerical results, compares technological variants and critically interprets the performance of the solutions obtained. Develops calculation procedures and analytical prototypes for investigating new engineering and research problems.
Responsibility and autonomy	Autonomously selects the methods, hypotheses and analysis tools appropriate to the context under investigation. Assumes responsibility for the accuracy of the models and for the quality of the technical argumentation. Can coordinate complex analytical activities and critically review results obtained by the team.

8. Discipline objectives (as results from the *key competences gained*)

8.1 General objective	Addressing theoretical and practical aspects of the entrepreneurial process and providing students with the opportunity to acquire the necessary competencies and develop practical skills to support them in launching their own business.
8.2 Specific objectives	• Understanding the role of change and identifying opportunities; • Knowing the specifics of entrepreneurship; • Understanding and identifying the characteristics of an entrepreneur; • Identifying business opportunities; • Developing successful business ideas based on the identified opportunities; • Creating an efficient business model.

9. Contents

9.1. Lecture (syllabus)		Teaching methods	Notes
1.	Introduction to Entrepreneurship	Interactive lectures	2h
2.	Entry Paths into a Business		2h
3.	Entrepreneurial Thinking: From Ideas to Reality		2h
4.	Choosing the Location and Layout Plan		2h
5.	Entrepreneurial Marketing		2h
6.	Building the Team for the New Business		2h
7.	Social Entrepreneurship & Intrapreneurship		2h
Bibliography			
1. Barringer, B., Ireland, D., 2010, Entrepreneurship. Successfully launching new ventures, Third edition, Pearson/Prentice Hall, New Jersey			

2. Bădulescu, D., 2014, Antreprenoriatul : cum, cine, când?, Presa Universitară Clujeană, Cluj-Napoca
3. Drucker, P. F., 1993, Inovatia si sistemul antreprenorial : practica si principii, Editura Enciclopedica, București,
4. Kaplan, J.M., Warren, A.C., 2007, Patterns of Entrepreneurship, Von Hoffmann Press, Inc., USA
5. Kauffman FASTTRAC., 2012, Planning the Entrepreneurial Venture, Erwing Marion Kaufmann Foundation, USA
6. Maier, V., 2016, Intraprenoriatul-Modalitate de stimulare a inovatiei in cadrul firmelor, Risoprint, Cluj-Napoca
7. Mariotti, S., Glackin, C. 2012, Antreprenoriat. Lansarea și administrarea unei afaceri, Bizzkit, Bucuresti (JAR)
8. Morse, E., Mitchell, R., 2006, Cases in entrepreneurship. The venture creation process, Sage Publications, USA

9.2.	Applications/Seminars	Teaching methods	Notes
1.	Identifying Opportunities / Needs Analysis	Examples, discussions, case studies, brainstorming, problem-solving, issues, and exercises	2h
2.	Market Segmentation / Target Segment / Persona Model		2h
3.	The Product and Value Proposition		2h
4.	Financial Aspects: Costs, Revenues, Profit, Break-even Point, etc.		2h
5.	Customer Discovery		2h
6.	The Importance of the Team and Preparing a Pitch		2h
8.	Recap and Evaluation Seminar		2h

Bibliography

1. Barringer, B., Ireland, D., 2010, Entrepreneurship. Successfully launching new ventures, Third edition, Pearson/Prentice Hall, New Jersey
2. Bădulescu, D., 2014, Antreprenoriatul : cum, cine, când?, Presa Universitară Clujeană, Cluj-Napoca
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4. Kaplan, J.M., Warren, A.C., 2007, Patterns of Entrepreneurship, Von Hoffmann Press, Inc., USA
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10. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The course is constantly updated with the latest developments in the field: new standards and practices in entrepreneurship. When designing the content and selecting teaching/learning methods, consideration will be given to the opportunities and challenges of the labor market.

10. Evaluation

Activity type	10.1 Assessment criteria	10.2 Assessment methods	11.3 Weight in the final grade
Course	Answering Closed and Open Questions	Written exam	70%
Applications/ Seminars	Seminar Activity Evaluation	Seminar Project	30%
11.4 Minimum standard of performance			
Requirement for the credits: N>5 To achieve a grade of 5, the student must understand the following: what entrepreneurship is and the skills an entrepreneur needs; ways to enter a business; the importance of creativity and innovation in the entrepreneurial process; entrepreneurial marketing, and the significance of the team.			

Date of filling in: September 2024	Titulari	Title/ Surname/ Name	Signature
	Course	Lecturer Veronica Maier, PhD	
	Applications/Seminars	Lecturer Veronica Maier, PhD	

Approval Date by the Department Council Electrical Power Systems and Management September 2024	Head of Department Electrical Power Systems and Management Assoc. Prof. Eng. Horia Beleiu, PhD
Approval Date by the Faculty of Electrical Engineering Council September 2024	Dean Assoc. Prof. Eng. Andrei Cziker, PhD