Transilvania University of Brașov, Romania

Study program: Industrial Business Management

Faculty: Technological Engineering and Industrial Management
Study period: 2 years (master)

1st Year, 1st Semester

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Financial management and economic activity analysis	IT.M.1.01.I	5	2	1	-	1

Course description (Syllabus): Introduction to enterprise finance, Financial analysis based on the balance sheet, Analysis of enterprise results based on the profit and loss account, Dynamic analysis of enterprise results. Break even, Financial analysis with rate method, Financing of the enterprise in the short term, Medium and long-term financing of the enterprise, Distribution of profit, Financing of investments, Coin - evolution, role, functions, purchasing power. Monetary systems., Central banks. System banks. Banking operations, The capital market. Capital market instruments, Profitability and risk of securities, The market model of return on securities and the risk of securities. Profitability and risk of a portfolio of securities.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Strategies in investment management	IT.M.1.02.I	5	2	1	-	1

Course description (Syllabus): management of financial stability; cost of capital - the main element in financing and investing decision; strategies to identify and exploit sources of financing for economic activities.; decision making in investment; strategic decision: the need to link funding decisions to the investment; short-term operational financing; analysis of financial markets; international financial portfolio theory. international financing of investment projects; evaluating the financial performance of a company; analysis of financial results of the company. Profitability and risk.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Mathematical and statistical models for experimental data analysis	IT.M.1.03.I	4	2	-	1	-

Course description (Syllabus): Probabilistic distributions used in engineering; elements of error theory; statistical indicators; reliable intervals; data interpolation; applications of least squares method; regression and correlation analysis; numerical methods.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Strategies and policies of sustainable development in industry	IT.M.1.04.I	4	2	1	-	-

Course description (Syllabus): the concept of sustainable development; natural environment, social and economic; resources; industrial development and consumption of resources; industrial pollution, bearable consumption and environmental responsibility; models of development; eco-design; national and international legislation on

sustainable development and environmental protection; eco-attitude and eco-industrial business; sustainable development and business environment; methods and tools for business to sustainable development.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Academic Integrity and Ethics	IT.M.1.05.I	2	1	1	-	-

Course description (Syllabus): Introduction: Why study Academic Ethics and Integrity (AEI)? The concepts of AEI. Ethics. Deontology. Academic deontology Academic responsibility. Academic integrity. Intellectual Property. Lack of academic integrity and ethics. Academic dishonesty. Academic fraud, facilitating fraud in academic assessment. Academic corruption and attempted corruption. Plagiarism. Paraphrasing and Citing. Proving plagiarism. Assessment and punishment. Breach of intellectual property. Forms of plagiarism. Data management procedures. Data sharing. Identifying plagiarism. "Anti-plagiarism" software. Non-electronic methods for identifying plagiarism. Recommendations. Consequences. Citation rules. Devising References and Bibliography. Terms used in citations. Citation methods: Harvard, MLA, Vancouver (IEEE), Chicago, APA. Using word-processor facilities for references. Ethics in research and writing reports and dissertations. Ethical principles in quantitative and qualitative research. Questionnaires, observation and description. Interviews and focus groups.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 1	IT.MA.1.6.I	10	-	-	-	12

Course description (Syllabus): Identify and present the activities of an organization: Description of the field of activity, Identification of products / services, Drafting organizational scheme, Description of the level of information technology activities of the organization. Description of a representative product / service: Product / Service Characterization, Description of market conditions for the product / service, Overview of the manufacturing processes of the product / service delivery activities, Demand estimation (forecast) for the product / service analysed. Conclusions and directions of development.

1st Year, 2nd Semester

Optional pack: Industrial Business Management

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Intellectual property in industrial business	IT.M.2.01.O	4	2	-	-	1

Course description (Syllabus): Genesis, actuality and perspectives of inventics, Creative synthesis - a basic means for accelerating scientific and technical progress, Creative learning and inventics, Formulating creative themes, Techniques and methods used in the inventics, Conducting creative sessions, Patentability conditions, Structure of a description of the invention, Application and exploitation of inventions, National and international law on industrial property rights, Business with Intellectual Property.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Information systems for decision support	IT.M.2.02.O	5	2	-	1	1

Course description (Syllabus): necessity and opportunity; information systems in support of management decisions; information systems for group decision; designing and implementing to support decision systems; ERP definition,

architecture, functions and relationship with the of decisions support systems; management support systems for virtual enterprises; data mining; future direction for research and development in the field.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Maintenance management	IT.M.2.03.O	6	2	1	-	2

Course description (Syllabus): Fundamentals. Reliability, Maintainability, Maintenance systems, Maintenance. General aspects. Types of maintenance, Importance of maintenance activities in industrial companies. Perspectives, Maintenance systems, Maintenance activities planning, Maintenance activities organization, Methods to optimize the planning and organization of maintenance activities, Management and efficiency of maintenance. Costs of maintenance, Technical and efficiency indicators of maintenance activities.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Management of robust design	IT.M.2.04.O	5	2	1	-	1

Course description (Syllabus): design of robust systems; introduction to the method of arrays of experiments; quality loss function; signal to noise ratio; Taguchi methods in robust design; ANOVA dispersions analysis; Taguchi arrays for products; simultaneous multi-criteria optimization; analysis of robust systems performance.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 2A	IT.M.2.05.O	10	-	-	-	12

Course description (Syllabus): Research on designing a product / service / process / business. Identifying design needs; Analysis and description of the product / process; Choose and define the methodology and design resources; Designing the chosen solution. Product / process implementation. Establishing Activity Chart (Gantt); Establish the resources needed for implementation; Highlighting the novelties / benefits of the product / design process. Conclusions and future directions of development.

1st Year, 2nd Semester

Optional pack: Entrepreneurship

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Fundamentals of Entrepreneurship	IT.M.2.06.O	4	2	-	-	1

Course description (Syllabus): managerial goals setting and planning; organizing; leading; controlling; corporate informational systems; production systems of corporations; managing corporate in a global environment.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Sales Management	IT.M.2.07.O	5	2	-	1	1

Course description (Syllabus): sales, as a distribution component; sales concept; market place; identifying and understanding the buyer; types of sales; strategic planning in the field of sales; sales personnel management; sales and negotiation techniques; sales forecasting; price and sales; promotional activity and sales; sales on the international market.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Organizational communication	IT.M.2.08.O	6	2	1	-	2

Course description (Syllabus): Communication: structure and process; Organisational communication models; Organizational communication and hierarchy. Vertical and horizontal communication; Communication techniques and instruments in meeting and work discussions; Systemic discussions management in conflict mediation and counselling; NLP (neuro-linguistic programming) based communication techniques in personnel management, conflict management, job interviews; Leading group activities by subject oriented interaction (training sessions, problem solving sessions); Presentation types and techniques in organisations. Rhetoric, argumentation, teaching methods; Written communication within organisations.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Company recovery	IT.M.2.09.O	5	2	1	-	1

Course description (Syllabus): legal assessment of recovery; strategic and organizational assessment; financial diagnosis of firms in difficulty; personnel management in enterprises in difficulty; writing a relevant recovery plan.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 2B	IT.M.2.10.O	10	-	-	-	12

Course description (Syllabus): Research on designing a product / service / process / business. Identifying design needs; Analysis and description of the product / process; Choose and define the methodology and design resources; Designing the chosen solution; Product / process implementation; Establishing Activity Chart (Gantt); Establish the resources needed for implementation; Highlighting the novelties / benefits of the product / design process. Conclusions and future directions of development.

2nd Year, 1st Semester

Optional pack: Industrial Business Management

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Industrial business management	IT.M.3.01.O	6	2	2	-	1

Course description (Syllabus): structure, methods and means in industrial business; types, stages and strategies in industrial business; managerial decisions; identification of competitive technological advantage; management and business development; industrial enterprises business; business management in services; methods for optimizing business processes; business process simulation; dynamic processes in industrial business.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Managerial Accounting	IT.M.3.02.O	4	2	1	-	-

Course description (Syllabus): conceptual-theoretical and organizational aspects of managerial accounting; the ratio between financial accounting and managerial accounting; the role of managerial accounting in achieving managerial functions; managing managerial accounting. managerial decision, profile and role of technical training specialist in decision-making; costs and expenses in substantiating managerial decisions. principles of organizing managerial accounting and costing; the principles of budgeting modeling. accounting modeling for cost-based decisions; financial planning and business budgeting. income and expense Budget; exercise management control based on cost information. management control tools.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Communication and negotiation in business	IT.M.3.03.O	5	2	-	1	1

Course description (Syllabus): Communication: structure and process; Negotiation communication models; Negotiation techniques. Mutually favourable decisional variants. Impartial assessment criteria. Opposition management; Argumentation techniques. The method of 5-step argumentation; Negotiation communication within the organisation. Negotiating the initiation/termination of employment. Negotiation of promotion and reassignment of tasks; Negotiation communication within the organisation. Communication and negotiation in meetings and conferences; Negotiation communication within the organisation. Communication and negotiation in mediation and problem solving; Negotiation communication between organisations. Personnel training for sales negotiation. Systemic approach, neuro-linguistic approach, topic-based group work approach. Communication and negotiation in with clients. Order management; Negotiation communication between organisations. Communication and negotiation in with suppliers, credit institutions, state authorities, sponsors and NGOs. Communication in accessing EU funds.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
International economic relations	IT.M.3.04.O	5	2	2	-	-

Course description (Syllabus): International economic relations - specific framework; Cooperation - modern form of international economic relations; Forms of competitive alliances. Forms of industrial cooperation; International commercial transactions. Company in international transactions. Joint ventures; Consulting and engineering assistance; Inter-organizational structures. Economic integration. Common European space; International monetary relations. International Financial Relations; Place and role of international tourism in international economic relations; Development trends in international economic relations.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 3A	IT.M.3.05.O	10	-	-	-	12

Course description (Syllabus): Research on the current state in the dissertation thesis topic. Identification of significant works specific to the dissertation thesis theme; Identification of research directions and trends in the field; Synthesis of significant works; Identification of possible applications to be addressed in the dissertation thesis.

2nd Year, 2nd Semester

Optional pack: Industrial Business Management

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Informatics for managers	IT.M.4.01.I	5	2	-	2	

Course description (Syllabus): information technology for managers; information system and decision-making; computers and software; data management and database; Office automation.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Digital data acquisition and processing systems	IT.M.4.02.I	5	2	2	-	-

Course description (Syllabus): Boolean logic and logic circuits; Sensors and transducers; Designing the input data in an experiment; Identification and validation of the input data in an experiment; Designing a random experiment; Experimental data processing: signal processing; Simulation of experiments.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities and scientific research for Thesis elaboration	IT.M.4.03.I	10	-	-	-	8

Course description (Syllabus): The master students will have to complete the dissertation work in accordance with the work plan agreed with the thesis advisor.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 4A	IT.M.4.04.O	10	-	-	-	12

Course description (Syllabus): The project coordinator, according to the theme of the dissertation, determines specific content.

2nd Year, 1st Semester

Optional pack: Entrepreneurship

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Development of industrial business	IT.M.3.06.O	6	2	2	-	1

Course description (Syllabus): Industrial business. Present and future. Analyses and diagnose of existing situation from industrial business; adopting the decision from the development of industrial firm. Methods and instruments. Functional development strategies. Human resources strategy. Knowledge strategy. Financial strategy. Supply-production strategy. Industrial businesses all over the world.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Property valuation for sale and divestiture	IT.M.3.07.O	4	2	1	-	-

Course description (Syllabus): Types of Industrial Business and their identification as subsystems . Criterions of cession and/or sell of Industrial Business. Evaluation of Industrial Business for cession and/or sell. Methods of comparison: methods of evaluations of enterprises quoted to bourse; methods of evaluation of enterprises that are not quoted in comparison with the ones that are quoted. The choice of evaluation methods; reconciliation of values and evaluator's opinion. The analysis of Industrial Business Market. Methods and information sources.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Risk management in industrial business	IT.M.3.08.O	5	2	-	1	1

Course description (Syllabus): Business risk concepts and types. Main business risk-types. General classification principles of business risks. Risk types in different economic activity fields. Risk – as economic concept. Losses caused by risk in business. Synthesizing risk management methods (risk management), stages and procedures of this process. Mathematical methods and instruments used by the identifying and estimating process of risks. Analysing risks within companies. Development of risk answering strategies. Business risk reducing methods. Decision making under conditions of risk and incertitude.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Legislation in industrial business	IT.M.3.09.O	5	2	2	-	-

Course description (Syllabus): Intellectual property. Industrial property. Inventions. The inventions protection. Patrimonial rights in inventions field. Modalities to transmit the Mark right. Mark. History. Economic role and functions of Mark. Mark classification. Internal protection of mark. The right of mark. International protection of mark. Penal liability in mark field.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 3B	IT.M.3.10.O	10	-	-	-	12

Course description (Syllabus): Research on the current state in the dissertation thesis topic. Identification of significant works specific to the dissertation thesis theme; Identification of research directions and trends in the field; Synthesis of significant works; Identification of possible applications to be addressed in the dissertation thesis.

2nd Year, 2nd Semester

Optional pack: Entrepreneurship

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Informatics for managers	IT.MA.04.01.I	5	2	-	2	

Course description (Syllabus): information technology for managers; information system and decision-making; computers and software; data management and database; Office automation;

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Digital data acquisition and processing systems	IT.M.4.02.I	5	2	2	-	-

Course description (Syllabus): Boolean logic and logic circuits; Sensors and transducers; Designing the input data in an experiment; Identification and validation of the input data in an experiment; Designing a random experiment; Experimental data processing: signal processing; Simulation of experiments.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities and scientific research for Thesis elaboration	IT.M.4.03.I	10	-	-	-	8

Course description (Syllabus): The master students will have to complete the dissertation work in accordance with the work plan agreed with the thesis advisor.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical activities for Research and Design 4B	IT.M.4.05.O	10	-	-	-	12

Course description (Syllabus): The project coordinator, according to the theme of the dissertation, determines specific content.