COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Trasilvania Universitity of Brașov
1.2 Faculty	Matematics and Computer Science
1.3 Department	Matematics and Computer Science
1.4 Field of study[1)]	Computer Science
1.5 Study level[2)]	Master
1.6 Study programme/ Qualification	TIN

2. Data about the course

2.1 Name of course			Business Process Management					
2.2 Course convenor			Prof. Dr. Adrian Marius Deaconu					
2.3 Seminar/ laboratory/ project convenor			Prof. Dr. Adrian Marius Deaconu					
2.4 Study year	1	2.5 Semester	1	2.6 Evaluation type	E	2.7 Course status	Content[3)]	DF
							Attendance type[4)]	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	**3**	out of which: 3.2 lecture	**2**	3.3 seminar/ laboratory/ project	**0/1/0**
3.4 Total number of hours in the curriculum	42	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/14/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					20
Additional documentation in libraries, specialized electronic platforms, and field research					15
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					75
Tutorial					40
Examinations					5
Other activities.....					

3.7 Total number of individual study hours	108
3.8 Total number per semester	150
3.9 Number of credits[5)]	6

4. Prerequisites (if applicable)

4.1 curriculum-related	Highlights regarding the development of software applications and information systems
4.2 competences-related	General and specialized skills according to the completed Bachelor's degree program

5. Conditions (if applicable)

5.1 for course development	Classroom with 50 seats, blackboard, computer, video projector
5.2 for seminar/ laboratory/ project development	Laboratory room with specific educational and information resources – computers, network connection, internet

6. Specific competences

Professional competences	C1. Programming in a high-level language R.Î. 1.1. The graduate can write clear and well-structured code in specific programming languages. R.Î. 1.3. The graduate can develop complex applications with the requirements proposed by the users R.Î. 1.4. The graduate can apply the methods and principles using specific technologies
Transversal competences	CT3. Using effective methods and techniques for learning, information, research and development of knowledge capitalization capacities, adaptation to the requirements of a dynamic society and communication in Romanian and in an international language

7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Using the theoretical and applied foundations of computer science to transmit concepts specific to programming specific to currency trading
7.2 Specific objectives	Getting familiar with the MQL4 language

8. Content

8.1 Course	Teaching methods	Hours
Introduction to Internet Trading. Forex.		2h
MT4 platform – presentation		2h
MQL4 language – comparative presentation with C and C++		4h
Experți advisors. Ask, Bid, bars characteristics.		2h
Order types, volum, order send, order close		2h
Stop loss, take profit, magic number	Interactive course	2h
Open orders iteration, history orders iteration	Lecture	2h
Martingale	Dialogue	2h
Pending orders: send, delete	Discussion	2h
"Planter" expert advisor		2h
Standard indicators. Moving Average, Envelopes/Aligator, MACD, Awesome, ZigZag, Accelerator, Bears, Fractals etc.		2h
Custom indicators		2h
Using indicators in expert advisors		2h
Bibliography - https://docs.mql4.com/		
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Hours
Expert advisor based on querying the last bars and previously opened orders		2h
Expert advisor waiting for a new bar to take action	Problematization	2h
Expert advisor based on querying closed orders.	Projects	2h
Expert advisor based on profit/loss calculation.	Problem-based learning	2h
Writing Martingale-type expert advisors		2h
Writing "planter" type expert advisors (using pending orders)		2h
Writing expert advisors that use indicators		2h
Bibliography - https://docs.mql4.com/		

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The MQL4 language is very popular internationally, and there is a high demand for software in this language. Interested parties include: companies, brokers, and private clients.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course		exam on computer	50 %
10.5 Seminar/ laboratory/ project		evaluation of the programs throughout the semester	50 %
10.6 Minimal performance standard			
Obtaining a minimum grade of 5 in all types of assessment			

This course outline was certified in the Department Board meeting on 26/09/2024 and approved in the Faculty Board meeting on 26/09/2024

Assoc. conf.dr.Gabriel Stan Dean	Assoc. Prof. dr. Nicușor Minculete Head of Department
Prof. dr. Adrian Marius Deaconu Course holder	Prof. dr. Adrian Marius Deaconu Holder of seminar / laboratory / project

Note:

1) Field of study – select one of the following options: BA/MA/PhD. (to be filled in according to the forceful classification list for study programmes);

2) Study level – choose from among: BA/MA/PhD;

3) Course status (content) – for the BA level, select one of the following options: FC (fundamental course) / DC (course in the study domain)/ SC (speciality course)/ CC (complementary course); for the MA level, select one of the following options: PC (proficiency course)/ SC (synthesis course)/ AC (advanced course);

4) Course status (attendance type) – select one of the following options: CPC (compulsory course)/ EC (elective course)/ NCPC (non-compulsory course);

5) One credit is the equivalent of 25 – 30 study hours (teaching activities and individual study).