

SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babes-Bolyai University, Cluj-Napoca
1.2 Faculty	Mathematics and Informatics
1.3 Department	Mathematics
1.4 Field of study	Mathematics
1.5 Study cycle	Master degree
1.6 Study programme / Qualification	Advanced Mathematics

2. Information regarding the discipline

2.1 Name of the discipline		Methodology of Scientific Research in Mathematics					
2.2 Course coordinator		Chiorean Ioana					
2.3 Seminar coordinator		Chiorean Ioana					
2.4. Year of study	2	2.5 Semester	3	2.6. Type of evaluation	C	2.7 Type of discipline	compulsory

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	3	Of which: 3.2 course	2	3.3 seminar/laboratory	1
3.4 Total hours in the curriculum	42	Of which: 3.5 course	28	3.6 seminar/laboratory	14
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					100
Additional documentation (in libraries, on electronic platforms, field documentation)					20
Preparation for seminars/labs, homework, papers, portfolios and essays					20
Tutorship					8
Evaluations					10
Other activities:					
3.7 Total individual study hours					158
3.8 Total hours per semester					200
3.9 Number of ECTS credits					8

4. Prerequisites (if necessary)

4.1. curriculum	•
4.2. competencies	•

5. Conditions (if necessary)

5.1. for the course	•
5.2. for the seminar /lab activities	•

6. Specific competencies acquired

Professional competencies	<ul style="list-style-type: none"> • Classification of scientific topics. The fields of mathematics. Current Trends in Mathematics Development. Understanding math. Mathematics Communication: Publications in Mathematics. Their classification. [databases on the Internet] The book wearing mathematical news. Databases on mathematics. Documenting over the Internet. MR, ZM and ISI databases. The road to scientific research. Theme of research. • Organization of research activity. Scientific research tools. Where and how we publish mathematical novelty. Acceptance criteria. Evaluating a mathematical work. Evaluating the activity of mathematicians. National standards. International Standards. Case studies. Personalities. Romanian School of Mathematics.
Transversal competencies	The student is guided to make connections between the different disciplines of mathematics as well as mathematics and other positive sciences.

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	<ul style="list-style-type: none"> • It is intended that the student learns to write material, scientific or methodical work, to orientate in the generous databases made available on the internet, to evaluate scientifically a mathematical work and to appreciate its scientific value in compared to similar works in the same field. The student will have to learn from the experience of the great personalities of Romanian and international mathematics.
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> •

8. Contents

8.1 Course	Teaching methods	Remarks
Cursul 1. Problems of the Young resercher	Lecture, dialog	
Cursul 2. Clasifying scientific subjects.	Lecture, dialog	
Cursul 3. Types of mathematical Objects	Lecture, dialog	
Cursul 4. The dynamic of Math Developing	Lecture, dialog	
Cursul 5. Understanding Mathematics	Lecture, dialog	
Cursul 6. Mathematics and teaching	Lecture, dialog	
Cursul 7. Communication in Mathematics	Lecture, dialog	
Cursul 8. Researching Mathematics	Lecture, dialog	
Cursul 9. Data bases	Lecture, dialog	
Cursul 10. Tools for reserch in Mathematics	Lecture, dialog	
Cursul 11. Where and how we publish our new results?	Lecture, dialog	
Cursul 12. Evaluation of mathematicians activity	Lecture, dialog	
Cursul 13. Romanian Mathematical School	Lecture, dialog	

Cursul 14. Coloquium		
References 1. I.A. Rus, E. Muntean, Matematica si informatica. Trecut, prezent si viitor, Promedia plus, Cluj-Napoca, 1998. 2. S. Mac Lane, Mathematics. Form and Function, Springer, Berlin, 1986. 3. H.F. Moed, Citation Analysis in Research Evaluation, Springer, 2005. 4. P. Odifreddi, The Mathematical Century. The 30 greatest problems of the last 100 years, Princeton Univ. Press, 2004. 5. S. Ramon, Y. Cojal, Drumul spre stiinta, Editura Politica, Bucuresti, 1967. 6. J.P. Pier (ed), Development of mathematics: 1950-2000, Birkhauser, Basel, 2000. 7. R. Descartes, Reguli utile si clare pentru indrumarea mintii in cercetarea adevarului, Editura Stiintifica, Bucuresti, 1964.		
8.2 Seminar	Teching Methods	Remarks
Seminar 1. Problems of the young resercher	Dialog	
Seminar 2. Types of mathematical objects	Dialog	
Seminar 3. Understanding Mathematics	Dialog	
Seminar 4. Tools in Mathematics	Dialog	
Seminar 5. How to publish our research	Dialog	
Seminar 6. Romanian School in Mathematics	Dialog	
Seminar 7. Coloquium		
References 1. I.A. Rus, E. Muntean, Matematica si informatica. Trecut, prezent si viitor, Promedia plus, Cluj-Napoca, 1998. 2. S. Mac Lane, Mathematics. Form and Function, Springer, Berlin, 1986. 3. H.F. Moed, Citation Analysis in Research Evaluation, Springer, 2005. 4. P. Odifreddi, The Mathematical Century. The 30 greatest problems of the last 100 years, Princeton Univ. Press, 2004. 5. S. Ramon, Y. Cojal, Drumul spre stiinta, Editura Politica, Bucuresti, 1967. 6. J.P. Pier (ed), Development of mathematics: 1950-2000, Birkhauser, Basel, 2000. 7. G. Polya, Descoperirea in matematica. Editura Stiintifica, Bucuresti, 1971.		

9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

The content of this course is designed to meet the expectations of various expert groups with a recognized authority.

10.Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Methods of evaluation	10.3 Share in the grade
10.4 Course		Dialog	

Data completării

26 apr. 2020

Semnătura titularului de curs

conf.dr.Ioana Chiorean.....conf.dr.Ioana Chiorean

Semnătura titularului de seminar

Data avizării în departament

Semnătura directorului de departament

