CONTENS

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ DIF/15	**Name:** Differential Equations
Types, range and methods of educational activities: **Form of study:** Lecture / Seminar / Practical **Recommended extent of course (in hours):** **Per week:** 0 / 2 / 0 **For the study period:** 0 / 26 / 0 **Methods of study:** present	
Number of credits: 3	
Recommended semester/trimester of study: 3.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject: During the semester, students write two written tests, each worth 20 points. Following that, the exam consists of a written part, worth 40 points, and an oral part, worth 20 points. After adding up the results, the minimum and maximum scores required to earn for the individual grades are the following: minimum 91 points for A, 81-90 points for B, 71-80 points for C, 61-70 points for D and 51-60 points for E.	
Results of education: The student is able to model elementary processes of natural sciences with ordinary differential equations. He recognizes typical solvable differential equations and can find their solutions. Besides, he knows and is able to apply theorems related to the existence and uniqueness of solutions for general, first-order ordinary differential equations.	
Brief syllabus: Interpretation of the differential equation and its solution. Practical tasks in the areas of physics, chemistry and biology, the processes of which can be described by primary or secondary differential equations. Basic methods of solving ordinary differential equations in the class of explicit first order, homogeneous, exact and linear differential equations with separable variable. Solving method of the Bernoulli, Ricatti, Lagrange and Clairaut differential equations. Solving method of second order, linear differential equations with constant coefficients. Euler's second order differential equation with variable coefficients. Theorems related to the existence of local solutions for general, first-order differential equations and the uniqueness of their solution.	
Literature: I. N. Bronstejn, K.A. Szemengyajev, G. Musiol, H. Mühlig: Matematikai kézikönyv, Typotex, 2002. 1210s. ISBN 963 9326 53 4. G. B. Thomas: Thomas-féle KALKULUS II. kötet, Typotex, 2010. 360 s. ISBN 978 963 279 159 3.	
Language, knowledge of which is necessary to complete a course: hungarian	
Notes:	

Evaluation of subjects Total number of evaluated students: 41					
A	B	C	D	E	FX
26.83	14.63	12.2	24.39	19.51	2.44
Teacher:					
Date of last update: 30.04.2021					
Approved by:					

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ DM1/15	**Name:** Didactics of Mathematics 1

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 1 / 2 / 0 **For the study period:** 13 / 26 / 0
Methods of study: present

Number of credits: 5

Recommended semester/trimester of study: 1.

Level of study: II.

Prerequisites:

Conditions for passing the subject:
During the semester the student is actively involved in the learning process. The condition for passing the course is to develop and realize the teaching outputs according to the instructions the teacher and passing an oral examination.

Results of education:
The students will obtain an overview of the basic aims of mathematics education and educational goals of teaching mathematics. They have an opportunity to present their own vision of introducing selected concepts of mathematics.

Brief syllabus:
Cognitive process, its stages and deformation.
Child development and learning process.
Parallel of phylogeny and ontogeny of mathematical thinking.
Language of mathematics as a methodological problem, the volume concept.
Didactic analysis of thematic units: algebraic expressions, number theory, mathematical analysis, functions, infinitesimal analysis. The development of the basic concepts in these thematic units.
Objectives of Mathematics, current status and topics of research. The objectives of the learning process in mathematics. The concept of mathematical education. Learning process in mathematics. Constructivism in mathematics taught. Motivation. Language of mathematics, its historical development and didactic meaning. The concept of number and the volume concept (integers, fractions, decimals, operations at the appropriate set of numbers). Classification in teaching mathematics.

Literature:
Hejný a kol.: Teória vyučovania matematiky 2, SPN, Bratislava, 1990. 560 s. ISBN 80-08-01344-3.
Učebnice matematiky pre 2. stupeň ZŠ a stredné školy
Szendrei J.: Gondolod, hogy egyre megy?, Typotex Kiadó, Budapest, 2005. 471 s. ISBN 963 9548 52 9.
Ambrus, A.: Bevezetés a matematikadidaktikába, ELTE, Budapest, 1995. 200 s. ISBN 0005023.
Richard Skemp: A matematikatanulás pszichológiája, Budapest: Gondolat, 1975. 410 s. ISBN 963 280 218 7.

Časopisy: A matematika tanítása, Polygon

Language, knowledge of which is necessary to complete a course:
hungarian, slovak

Notes:

Evaluation of subjects
Total number of evaluated students: 125

A	B	C	D	E	FX
24.0	25.6	32.0	16.0	2.4	0.0

Teacher: Dr. habil. RNDr. Peter Csiba, PhD.

Date of last update: 30.04.2021

Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ DM2/15	**Name:** Didactics of Mathematics 2

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 1 / 2 / 0 **For the study period:** 13 / 26 / 0
Methods of study: present

Number of credits: 5

Recommended semester/trimester of study: 2.

Level of study: II.

Prerequisites:

Conditions for passing the subject:
During the semester the student is actively involved in the learning process. The condition for passing the course is to develop and realize the teaching outputs according to the instructions the teacher and passing an oral examination.

Results of education:
Students will be prepared for situations that are experiencing the reality of school teaching in high school maths. They will be familiar with the various teaching techniques, methods of interpretation, they will work with textbooks and supplementary materials, testing various forms of written and oral exams. They learn to distinguish between expressions which help to students and which are harmful for teaching.

Brief syllabus:
Didactic analysis of specific thematic units: planimetry and stereometry, combinatorics, statistics and probability. Within these thematic units diagnostic analysis of student work and possible strategies of teachers' work. Motivation in teaching mathematics.
Error in mathematics. Textbook as a guide of teacher and as a assist of pupils. Evaluation and classification. Preparing, analyzing and correcting of written clearance and tests.

Literature:
Hejný a kol.: Teória vyučovania matematiky 2, SPN, Bratislava, 1990. 560 s. ISBN 80-08-01344-3.
Učebnice matematiky pre 2. stupeň ZŠ a stredné školy
Szendrei J.: Gondolod, hogy egyre megy?, Typotex Kiadó, Budapest, 2005. 471 s. ISBN 963 9548 52 9.
Ambrus, A.: Bevezetés a matematikadidaktikába, ELTE, Budapest, 1995. 200 s. ISBN 0005023.
Richard Skemp: A matematikatanulás pszichológiája, Budapest: Gondolat, 1975. 410 s. ISBN 963 280 218 7.
Časopisy: A matematika tanítása, Polygon

Language, knowledge of which is necessary to complete a course:
hungarian, slovak

Notes:

Evaluation of subjects Total number of evaluated students: 119					
A	B	C	D	E	FX
22.69	33.61	21.85	15.97	5.88	0.0
Teacher: Dr. habil. RNDr. Peter Csiba, PhD.					
Date of last update: 30.04.2021					
Approved by:					

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ DM3/15	**Name:** Didactics of Mathematics 3

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 2 / 2 / 0 **For the study period:** 26 / 26 / 0
Methods of study: present

Number of credits: 5

Recommended semester/trimester of study: 3.

Level of study: II.

Prerequisites:

Conditions for passing the subject:

Results of education:

Brief syllabus:

Literature:

Language, knowledge of which is necessary to complete a course:

Notes:

Evaluation of subjects
Total number of evaluated students: 125

A	B	C	D	E	FX
36.0	13.6	25.6	12.8	10.4	1.6

Teacher: Dr. habil. RNDr. Peter Csiba, PhD.

Date of last update: 30.04.2021

Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/MS/15	**Name:** Mathematical softwares
Types, range and methods of educational activities: **Form of study:** Lecture / Seminar / Practical **Recommended extent of course (in hours):** **Per week:** 0 / 2 / 0 **For the study period:** 0 / 26 / 0 **Methods of study:** present	
Number of credits: 3	
Recommended semester/trimester of study: 3.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject: .	
Results of education: .	
Brief syllabus: .	
Literature: GeoGebra v praxi [elektronický zdroj] / zost. Peter Csiba. - Komárno : Univerzita J. Selyeho v Komárne, 2012. - 1 elektronický optický disk (CD-ROM). - Elektronický zborník. - ISBN 978-80-8122-067-8.	
Language, knowledge of which is necessary to complete a course:	
Notes:	

Evaluation of subjects

Total number of evaluated students: 32

A	B	C	D	E	FX
25.0	25.0	18.75	15.63	12.5	3.13

Teacher: Dr. habil. RNDr. Peter Csiba, PhD.	
Date of last update: 30.04.2021	
Approved by:	

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ PPX2/15	**Name:** Pedagogical Practice 2
Types, range and methods of educational activities: **Form of study:** Seminar **Recommended extent of course (in hours):** **Per week: For the study period:** 20s **Methods of study:** present	
Number of credits: 4	
Recommended semester/trimester of study: 2.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject:	
Results of education:	
Brief syllabus:	
Literature:	
Language, knowledge of which is necessary to complete a course:	
Notes:	

Evaluation of subjects
Total number of evaluated students: 82

A	B	C	D	E	FX
92.68	1.22	0.0	0.0	6.1	0.0

Teacher: doc. RNDr. Ferdinánd Filip, PhD., RNDr. Zuzana Árki, PhD.
Date of last update: 30.04.2021
Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ PPX4/15	**Name:** Pedagogical Practice 4
Types, range and methods of educational activities: **Form of study:** Seminar **Recommended extent of course (in hours):** **Per week: For the study period:** 40s **Methods of study:** present	
Number of credits: 4	
Recommended semester/trimester of study: 4.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject:	
Results of education:	
Brief syllabus:	
Literature:	
Language, knowledge of which is necessary to complete a course:	
Notes:	

Evaluation of subjects

Total number of evaluated students: 113

A	B	C	D	E	FX
98.23	1.77	0.0	0.0	0.0	0.0

Teacher: doc. RNDr. Ferdinánd Filip, PhD., RNDr. Zuzana Árki, PhD.
Date of last update: 30.04.2021
Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ PST/15	**Name:** Probability Theory and Basics of Statistics

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 1 / 2 / 0 **For the study period:** 13 / 26 / 0
Methods of study: present

Number of credits: 5

Recommended semester/trimester of study: 1.

Level of study: II.

Prerequisites:

Conditions for passing the subject:
The course is finished by a written exam.
For assessment A should be obtained at least 90 points, for assessment B at least 80 points, for assessment C at least 70 points, for assessment D at least 60 points, for assessment E at least 50 points.
The assessment will count points earned by individual work (20%).

Results of education:
The successful completion of the course gives basic knowledge from probability theory and an overview of descriptive statistics methods. The student understands the basic concepts and know about the different formulas for calculating probability. Using random variables the student describes random events and calculate its numerical characteristics. Students master the basic methods of descriptive statistics to analyze the results of random experiments.

Brief syllabus:
1. Random events. Operations with random events. 2. Probability of random events. Definition of the probability. The Kolmogorovs field of probability. 3. Conditional and total probability. Bayes theorem. 4. Independence of events. Bernoulli scheme. 5. Random variable. Probability distribution, probability density function. 6. Characteristics of random variable. 7. Discrete distributions. Expected value and standard deviation. Calculations of probability. 8. Continuous distributions. Probability density function, expected value and standard deviation. Calculations of probability. 9. Laws of large numbers. Central limit theorem. 10. Introduction to descriptive statistics. Statistical methods of the analysis of random experiment. 11. Frequency analysis and graphical display of data. 12. Measures of central tendency and variability. 13. Statistical relationship between data.

Literature:
Bukor J., Árki Z., Fehér Z.: Valószínűségszámítás. 1. vyd. Komárom : Selye János Egyetem Gazdaságtudományi Kara, 2010. - 120s. - ISBN 978-80-89234-94-3. Obádovics, Gy.: Valószínűségszámítás és matematikai statisztika, SCOLAR, Budapest, 2003. 302 s. ISBN 963 9534 005. Nemetz T., Wintshe G.: Valószínűségszámítás és statisztika mindenkinek. - Szeged : Bolyai Intézet POLYGON, 1999. - 243 s. ISSN 1218-4071. Nemetz T.: Valószínűségszámítás : Speciális matematika tankönyvek. - 4., változatlan utánnyomás. - Budapest : Typotex kiadó,

2010. - 292 s. - ISBN 978 963 279 164 7. Nagy-György J., Oszténynié Krauczi É., Székely L.: Valószínűségszámítás és statisztika példatár. - 3. vyd. - Szeged : Szegedi Egyetemi Kiadó POLYGON, 2010. - 111 s. ISSN 1417-0590.

Language, knowledge of which is necessary to complete a course:
hungarian

Notes:

Evaluation of subjects
Total number of evaluated students: 131

A	B	C	D	E	FX
9.92	16.79	24.43	21.37	24.43	3.05

Teacher: doc. RNDr. Ferdinánd Filip, PhD.

Date of last update: 30.04.2021

Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ STC/15	**Name:** Seminar from Number Theory

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 0 / 2 / 0 **For the study period:** 0 / 26 / 0
Methods of study: present

Number of credits: 3

Recommended semester/trimester of study: 2.

Level of study: II.

Prerequisites:

Conditions for passing the subject:
The exam consists of a written part worth 80 points and an oral part worth 20 points. After adding up the results, the minimum and maximum scores required to earn for the individual grades are the following: minimum 91 points for A, 81-90 points for B, 71-80 points for C, 61-70 points for D and 51-60 points for E.

Results of education:
The course is designed to introduce the basic arithmetic function
and show the existing relationships between them. The most important theorems related to the distribution of number theory functions are also presented as well as the most important formulas regarding the distribution of prime numbers.

Brief syllabus:
Arithmetic functionc. Multiplicative arithmetic functions. Dirichlet multiplication. Möbius inversion formula. Mean value and distribution of number theory functions. Distribution of prime numbers, divergence of the reciprocal sum of prime numbers, asymptotic density of the set of prime numbers.

Literature:
Šalát a kol.: Algebra a teoretická aritmetika 2, Bratislava, Alfa 1986
Znám: Teória čísel, Alfa, Bratislava, 1977
László, B. - Tóth, J.: Bevezetés a számelméletbe, Lilium Aurum, 1999
Erdős, P. - Surányi, J.: Válogatott fejezetek a számelméletből, Polygon, Szeged, 1996 Freud, R. a kol.: Számelmélet, Nemzeti Tankönyvkiadó, Budapest, 2000. ISBN 9631907848
Bege, A. a kol.: Számelméleti feladatgyujtemény, Scientia Kiadó, Kolozsvár, 2002. ISBN 0991493

Language, knowledge of which is necessary to complete a course:
hungarian, slovak

Notes:

Evaluation of subjects
Total number of evaluated students: 48

A	B	C	D	E	FX
25.0	14.58	14.58	25.0	20.83	0.0
Teacher:					
Date of last update: 30.04.2021					
Approved by:					

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ TC/15	**Name:** Number Theory

Types, range and methods of educational activities:
Form of study: Lecture / Seminar / Practical
Recommended extent of course (in hours):
Per week: 2 / 1 / 0 **For the study period:** 26 / 13 / 0
Methods of study: present

Number of credits: 5

Recommended semester/trimester of study: 2.

Level of study: II.

Prerequisites:

Conditions for passing the subject:
The exam consists of a written part worth 80 points and an oral part worth 20 points. After adding up the results, the minimum and maximum scores required to earn for the individual grades are the following: minimum 91 points for A, 81-90 points for B, 71-80 points for C, 61-70 points for D and 51-60 points for E.

Results of education:
The student understands the Cantor series development of real numbers and is able to determine the g-adic form of rational numbers. He is able to define the continued fraction form of rational and second-degree algebraic numbers. The student gains an insight into the theory of Diophantine approximation. He knows the concepts of asymptotic and logarithmic density and the relationship between them, and is able to define the asymptotic density of some specific sets.

Brief syllabus:
Real numbers in the Cantor series, conditions of rationality and irrationality. Continued fractions. Algebraic and transcendental numbers, the transcendence of e. Diophantine approximation, Dirichlet theorem, approximality of algebraic numbers. Liouville numbers. Asymptotic and logarithmic density of sets.

Literature:
Šalát a kol.: Algebra a teoretická aritmetika 2, Bratislava, Alfa 1986
Znám: Teória čísel, Alfa, Bratislava, 1977
László, B. - Tóth, J.: Bevezetés a számelméletbe, Lilium Aurum, 1999
Erdős, P. - Surányi, J.: Válogatott fejezetek a számelméletből, Polygon, Szeged, 2004. 327s.
Freud, R. a kol.: Számelmélet, Nemzeti Tankönyvkiadó, Budapest, 2000. ISBN 9631907848
Bege, A. a kol.: Számelméleti feladatgyujtemény, Scientia Kiadó, Kolozsvár, 2002. ISBN 0991493

Language, knowledge of which is necessary to complete a course:
hungarian, slovak

Notes:

Evaluation of subjects

Total number of evaluated students: 137

A	B	C	D	E	FX
18.25	24.09	18.98	16.06	21.17	1.46

Teacher: prof. László Szalay, DSc.

Date of last update: 30.04.2021

Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/UMS/15	**Name:** Mathematical Competition Tasks Solving
Types, range and methods of educational activities: **Form of study:** Lecture / Seminar / Practical **Recommended extent of course (in hours):** **Per week:** 0 / 2 / 0 **For the study period:** 0 / 26 / 0 **Methods of study:** present	
Number of credits: 3	
Recommended semester/trimester of study: 1.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject:	
Results of education:	
Brief syllabus:	
Literature:	
Language, knowledge of which is necessary to complete a course:	
Notes:	
Evaluation of subjects Total number of evaluated students: 53	

a	n
100.0	0.0

Teacher: RNDr. Alexander Maťašovský, PhD.
Date of last update: 30.04.2021
Approved by:

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/Mdm/ŠSMgr/15	**Name:** Mathematics
Types, range and methods of educational activities: **Form of study:** **Recommended extent of course (in hours):** **Per week: For the study period:** **Methods of study:** present	
Number of credits: 2	
Recommended semester/trimester of study:	
Level of study: II.	
Prerequisites: KMI/Mdm/DM1/15 and KMI/Mdm/PST/15 and KMI/Mdm/DM2/15 and KMI/Mdm/TC/15 and KMI/Mdm/DM3/15 and KMI/Mdm/PPX4/15	
Conditions for passing the subject:	
Results of education:	
Brief syllabus:	
Literature:	
Language, knowledge of which is necessary to complete a course:	
Notes:	

Evaluation of subjects

Total number of evaluated students: 38

A	B	C	D	E	FX
23.68	26.32	21.05	15.79	10.53	2.63

Teacher:	
Date of last update: 30.04.2021	
Approved by:	

INFORMATION SHEET

Name of the university: J. Selye University	
Name of the faculty: Faculty of Education	
Code: KMI/ MdmPPX3/15	**Name:** Pedagogical Practice 3
Types, range and methods of educational activities: **Form of study:** Seminar **Recommended extent of course (in hours):** **Per week: For the study period:** 20s **Methods of study:** present	
Number of credits: 4	
Recommended semester/trimester of study: 3.	
Level of study: II.	
Prerequisites:	
Conditions for passing the subject:	
Results of education:	
Brief syllabus:	
Literature:	
Language, knowledge of which is necessary to complete a course:	
Notes:	

Evaluation of subjects
Total number of evaluated students: 29

A	B	C	D	E	FX
96.55	3.45	0.0	0.0	0.0	0.0

Teacher: doc. RNDr. Ferdinánd Filip, PhD., RNDr. Zuzana Árki, PhD.
Date of last update: 30.04.2021
Approved by: