# CONTENT

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3
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2
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5

University: P. J. Šaf	ärik Universi	ity in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rALGa/12	Course na	me: Algebra I			
Course type, scope Course type: Lect Recommended co Per week: Per stu Course method: p	ure urse-load (ho idy period: 3	ours):			
Number of ECTS <b>c</b>	redits: 11				
Recommended sem	ester/trimes	ter of the cours	<b>e:</b> 1.	_	
Course level: N					
Prerequisities:					
Conditions for cou	rse completio	on:			
Learning outcomes					
Brief outline of the	course:				
Recommended liter	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of ass	essed student	ts: 59			
A	В	С	D	Е	FX
8.47	6.78	18.64	18.64	22.03	25.42
Provides: prof. RNI	Dr. Danica St	udenovská, CSc			1
Date of last modific	cation: 14.04	.2022			
Approved:	,				

University: P. J. Šat	fárik Univers	ity in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rALGb/12	Course na	me: Algebra II			
Course type, scope Course type: Lect Recommended co Per week: Per stu Course method: p	ure urse-load (he idy period: 2	ours):			
Number of ECTS of	credits: 8				
Recommended sem	nester/trimes	ter of the cours	e: 2.		
Course level: N					
Prerequisities: ÚM	V/rALGa/12				
Conditions for cou	rse completi	on:			
Learning outcomes	5:				
Brief outline of the	course:				
Recommended lite	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of ass		ts: 41			
A	В	С	D	Е	FX
21.95	19.51	36.59	4.88	12.2	4.88
Provides: doc. RNI	Dr. Miroslav I	Ploščica, CSc.			
Date of last modified	cation: 15.04	.2022			
Approved:					

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚM rAIM/12	V/ Course na	me: Application	of ICT into mat	hematics teaching	g
Course type, sco Course type: P Recommended Per week: Per Course method	ractice course-load (h study period: 2 l: present	ours):			
Number of ECT	'S credits: 7				
Recommended s	semester/trimes	ster of the course	e <b>:</b> 5.		
Course level: N					
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcor	nes:				
•					
Brief outline of t	the course:				
Recommended I	iterature:				
<b>Course languag</b> Slovak	e:				
Notes:					
Course assessme Total number of		ts: 35			
A	В	С	D	E	FX
31.43	31.43	25.71	8.57	2.86	0.0
Provides: doc. R	NDr. Stanislav	Lukáč, PhD.		<u>.                                    </u>	
Date of last mod	lification: 12.01	.2022			
Approved:	,				

University: P. J. Šafárik	Iniversity in Košice
<b>Faculty:</b> Faculty of Scien	
	urse name: Didactics of mathematics I
Course type, scope and Course type: Lecture Recommended course- Per week: Per study per Course method: presen	load (hours): eriod: 39s
Number of ECTS credit	s: 11
Recommended semester	/trimester of the course: 3.
Course level: N	
Prerequisities:	
Conditions for course co Seminar paper - 20% of a Continuous assessment - Exam - 80%	assessment
Learning outcomes: Master the basic principle	es and methods of teaching mathematics in secondary and primary schools.
<ol> <li>2. The objectives and tast</li> <li>3. Planning in mathematiobjectives</li> <li>4 5. Didactic principles</li> <li>6 7. Assessment of lear</li> <li>8 9. Math problems, cr</li> <li>10. The content and scope of operations</li> </ol>	athematics, the development of mathematics and mathematics education ks of teaching mathematics ics, Logical and didactic curriculum analysis, Determining the learning s, methods and forms of teaching mathematics ming outcomes, creation of didactic tests eating systems tasks e of the concept, sorting and classification of terms, Statements, statements ents definition, Induction and deduction, analogy ces
[2] L.Frantíková,K.Honč [3] R.Fischer,G.Malle: Č	e: e vyučovania matematiky, SPN Blava 1989, arivová,O.Kopanev: Didaktika matematiky, UPJŠ 1982 lovek a matematika, SPN Bratislava 1992 ve it, Princeton University Press, 1957.
Course language:	
Notes:	

Course assessm Total number of	nent f assessed studen	ts: 37					
А	В	С	D	Е	FX		
13.51	27.03	35.14	21.62	2.7	0.0		
Provides: doc. 1	RNDr. Dušan Šve	eda, CSc.		<u>.                                    </u>			
Date of last mo	Date of last modification: 14.04.2022						
Approved:							

University: P. J. Š	afárik Univer	sity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚMV rDDMb/12	Course n	ame: Didactics of	f mathematics II		
Course type, scop Course type: Le Recommended o Per week: Per s Course method:	cture course-load (l tudy period:	hours):			
Number of ECTS	credits: 8				
Recommended se	mester/trime	ester of the cours	e: 4.		
Course level: N					
Prerequisities: Ú	MV/rDDMa/1	2			
<b>Conditions for co</b> Seminar paper - 2 DT - 20% Exam - 60%	-				
Learning outcom Acquire knowled		rent ways of teach	ing particular su	bjects of mathema	atics education.
Brief outline of th 1 4. Developing 5 8. Session, vie 9 12. Geometry	the concept of the co	ions in school mat			
Recommended lif [1] M.Hejný a ko [2] L.Frantíková,] [3] R.Fischer,G.M [4] Polya, G.: Ho [5] Hejný, M., Ku Portál, Praha 200	I.: Teorie vyuč K.Hončarivov Ialle: Človek a w to solve it, I iřina, F.: Dítě,	á,O.Kopanev: Dic a matematika, SPI Princeton Univers	laktika matemati N Bratislava 199 ity Press, 1957.	iky, UPJŠ 1982 2	vyučování.
Course language					
Notes:					
<b>Course assessme</b> Total number of a		nts: 35			
Α	В	C	D	Е	FX
8.57	25.71	28.57	22.86	14.29	0.0
Provides: doc. RN	NDr. Dušan Šv	/eda, CSc.		<u> </u>	
Date of last modi	fication: 14.0	4.2022			

University: P. J. Ša	fárik Universi	ty in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rDSM/12	Course na	me: Discrete m	athematics		
Course type, scope Course type: Lect Recommended co Per week: Per str Course method: p	ture ourse-load (ho udy period: 2	ours):			
Number of ECTS	credits: 8				
Recommended sen	nester/trimest	ter of the cours	se: 1.		
Course level: N					
Prerequisities:					
Conditions for cou	rse completio	on:			
Learning outcome	s:				
Brief outline of the	e course:				
Recommended lite	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of as		s: 58			
A	В	С	D	Е	FX
3.45	0.0	8.62	22.41	41.38	24.14
Provides: RNDr. Ig	or Fabrici, Dr	. rer. nat.			
Date of last modifi	cation: 28.10.	2021			
Approved:					

University: P. J. Šaf	ărik Univers	ity in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rGEOa/12	Course na	me: Geometry I			
Course type, scope Course type: Lect Recommended co Per week: Per stu Course method: p	ure urse-load (h Idy period: 2	ours):			
Number of ECTS c	redits: 8				
Recommended sem	ester/trimes	ter of the course	e: 2.		
Course level: N					
Prerequisities:					
Conditions for cou	rse completi	on:			
Learning outcomes	:				
Brief outline of the	course:				
Recommended liter	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of ass	essed studen	ts: 41			
A	В	С	D	Е	FX
4.88	7.32	26.83	21.95	36.59	2.44
Provides: RNDr. Ve	ronika Hube	ňáková, PhD.		·	
Date of last modific	cation: 14.04	.2022			
Approved:					

University: P. J. Šaf	árik Univers	ity in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rGEOb/12	Course na	me: Geometry I	Ι		
Course type, scope Course type: Lect Recommended co Per week: Per stu Course method: p	ure urse-load (h Idy period: 2	ours):			
Number of ECTS c	redits: 8				
Recommended sem	ester/trimes	ter of the cours	<b>e:</b> 3.		
Course level: N					
Prerequisities: ÚM	V/rGEOa/12				
Conditions for cou	rse completi	on:			
Learning outcomes	•				
Brief outline of the	course:				
Recommended lite	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of ass	essed studen	ts: 40			
A	В	С	D	Е	FX
10.0	7.5	12.5	22.5	37.5	10.0
Provides: RNDr. Ig	or Fabrici, D	r. rer. nat.			
Date of last modifie	cation: 14.04	.2022			
Approved:					

University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty of	of Science				
<b>Course ID:</b> ÚMV rLTM/12	Course na	me: Logic and s	et theory		
Course type, scop Course type: Lea Recommended c Per week: Per s Course method:	cture course-load (h tudy period: 2	ours):			
Number of ECTS	credits: 8				
Recommended se	mester/trimes	ster of the cours	e: 3.		
Course level: N					
Prerequisities:					
Conditions for co	urse completi	on:			
Learning outcom	es:				
Brief outline of th	e course:				
Recommended lit	erature:				
Course language:	;				
Notes:					
<b>Course assessmer</b> Total number of a		ts: 38			
A	В	С	D	Е	FX
5.26	13.16	18.42	23.68	39.47	0.0
Provides: RNDr. J	Jaroslav Šupina	a, PhD.		· I	
Date of last modi	fication: 14.04	.2022			
Approved:					

	Salarik Univers	sity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚM rMANa/12	V/ Course na	ame: Mathemati	cal analysis I		
Course type, sco Course type: L Recommended Per week: Per Course method	ecture course-load (h study period: 1	ours):			
Number of ECT	S credits: 11				
Recommended s	semester/trimes	ster of the cours	se: 1.		
Course level: N					
Prerequisities:					
<b>Conditions for c</b> Written exam.	course completi	on:			
-	rides an introdu		about real numl lation skills in th	· •	and functions of
<ol> <li>Real functions</li> <li>Infinite sequer</li> </ol>	s - basic propert nces - operation ontinuity of rea	ies (monotone, b s, boundedness,	, properties of su bounded, even/od monotonicity, co perties of contin	d, inverse. nvergence.	on the interval,
Recommended I					
1. Brannan, D.: A Cambridge 2006	A First Course i 5. M., Bruckner J. aalysis.com, 200	B., Thomson, B. 8.	Analysis, Cambri . S.: Real Analysi ger-Verlag 2002.	C J	
1. Brannan, D.: A Cambridge 2006 2. Bruckner, A. J ClassicalRealAn	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical A	B., Thomson, B. 8.	S.: Real Analys	C J	
1. Brannan, D.: 7 Cambridge 2006 2. Bruckner, A. 1 ClassicalRealAn 3. Zorich, V. A.: Course language	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical A	B., Thomson, B. 8.	S.: Real Analys	C J	
1. Brannan, D.: 7 Cambridge 2006 2. Bruckner, A. 1 ClassicalRealAn 3. Zorich, V. A.:	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical <i>A</i> e: ent	B., Thomson, B. 8. Analysis I, Spring	S.: Real Analys	C J	
1. Brannan, D.: 7 Cambridge 2006 2. Bruckner, A. I ClassicalRealAm 3. Zorich, V. A.: Course languag Notes: Course assessme	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical <i>A</i> e: ent	B., Thomson, B. 8. Analysis I, Spring	S.: Real Analys	C J	
1. Brannan, D.: 7 Cambridge 2006 2. Bruckner, A. 1 ClassicalRealAn 3. Zorich, V. A.: Course language Notes: Course assessme Total number of	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical <i>A</i> e: ent assessed studen	B., Thomson, B. 8. Analysis I, Spring tts: 52	. S.: Real Analysi ger-Verlag 2002.	is, Second Editio	n,
1. Brannan, D.: A Cambridge 2006 2. Bruckner, A. B ClassicalRealAn 3. Zorich, V. A.: Course language Notes: Course assessme Total number of A	A First Course i 5. M., Bruckner J. alysis.com, 200 Mathematical <i>A</i> e: ent assessed studen B 5.77	B., Thomson, B. 8. Analysis I, Spring tts: 52 C 23.08	D	E	n, FX

Approved:

University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty of	of Science				
<b>Course ID:</b> ÚMV rMANb/12	Course na	me: Mathematio	cal analysis II		
Course type, scop Course type: Lea Recommended c Per week: Per s Course method:	cture course-load (he tudy period: 3	ours):			
Number of ECTS	credits: 11				
Recommended se	mester/trimes	ster of the cours	e: 2.		
Course level: N					
Prerequisities: Ú	MV/rMANa/12	2			
<b>Conditions for co</b> Written exam.	urse completi	on:			
<b>Learning outcom</b> To obtain basic kr		fferential and int	egral calculus of	functions of one	real variable.
<ol> <li>Calculus of der</li> <li>L'Hospital's rule</li> <li>Primitive function</li> <li>Basic methods</li> <li>Rieman's definition</li> </ol>	es, Taylor's pol on, indefinite of computing i	lynomial. integral. ndefinite integra	ıls.	utation.	
Recommended lit 1. Brannan, D.: A Cambridge 2006. 2. Bruckner, A. M ClassicalRealAna 3. Zorich, V. A.: N	erature: First Course in , Bruckner J. lysis.com, 200	n Mathematical A B., Thomson, B. 8.	Analysis, Cambr S.: Real Analys	idge University P is, Second Editio	ŕ
<b>Course language:</b> Slovak					
Notes:					
Course assessmer Total number of a		ts: 39			
A	В	С	D	E	FX
	10.00	10.26	17.05	41.03	
12.82	12.82	10.26	17.95	41.05	5.13
12.82 Provides: doc. RN				41.05	5.13

Approved:

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
<b>Course ID:</b> ÚMV/ rMRUa/12	Course name: Mathematical problem solving strategies I
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	ce rse-load (hours): ly period: 13s
Number of ECTS cr	edits: 7
Recommended seme	ster/trimester of the course: 2.
Course level: N	
Prerequisities:	
problems in the thema Sequences, Financial strategies. Assessment is given	edge and skills from the use of standard methods in solving mathematical atic areas: Equations and inequalities and their systems, Elementary functions, mathematics. Developing the ability to explain different problem-solving on the basis of the results of written examinations carried out during the and active participation in exercises (3 points).

D: 61 % - 70 %, E: 51 % - 60 %, FX: 0 % - 50 %.

# Learning outcomes:

The student is able to explain the basic concepts and methods of solving mathematical problems selected from various areas of school mathematics. The student is able to apply the acquired knowledge in finding and using various strategies for solving problems. The student will get acquainted with typical and more demanding tasks in school mathematics and with specific problems and misconceptions that occur in their solution in the teaching of mathematics in primary and secondary school.

#### Brief outline of the course:

1. - 5. Solving equations, inequalities and systems of equations (equations and inequalities with absolute values, equations with parameters, irrational equations and inequalities, exponential and logarithmic equations and inequalities, trigonometric equations and inequalities).

6. - 9. Concept of function, properties of elementary functions, graphs of functions.

- 10. 11. Sequences, arithmetic and geometric sequences.
- 12. 13. Tasks of financial mathematics.

### **Recommended literature:**

Kubáček Z Č	ernek P Žabka.	a kol · Matema	ntika a svet okolo	nás, zbierka úlol	n FMFLUK		
Bratislava, 2008							
,		školské matemat	ice, Univerzita J.	E. Purkyně, Úst	í nad		
Labem,1999.				<b>2</b> · ·			
Lengyelfalusy,	T., Kochol, M., Z	lábojníková, N.:	Metódy riešenia	matematických ú	ıloh 2. Žilinská		
univerzita v Žil	ine, 2009.						
Učebnice a zbie	erky úloh z mater	natiky ZŠ a SŠ.					
<b>Course languag</b> Slovak	ge:						
Notes:							
Course assessm	nent						
Total number of	f assessed studen	ts: 39					
А	В	С	D	Е	FX		
23.08	23.08 17.95 30.77 10.26 17.95 0.0						
Provides: doc. 1	RNDr. Stanislav	Lukáč, PhD.	•	·			
Date of last mo	dification: 12.01	.2022					
Approved:							

University: P. J. Ša	fárik Univers	ity in Košice					
Faculty: Faculty of	Science						
<b>Course ID:</b> ÚMV/ rMRUb/12	Course na	me: Mathematic	al problem solvi	ng strategies II			
Course type, scope Course type: Prac Recommended co Per week: Per stu Course method: p	tice urse-load (h ıdy period: 2	ours):					
Number of ECTS of							
Recommended sem	nester/trimes	ster of the cours	e: 4.				
Course level: N							
Prerequisities:							
Conditions for cou	rse completi	on:					
Learning outcomes	5:						
Brief outline of the	course:						
Recommended lite	rature:						
Course language:							
Notes:							
<b>Course assessment</b> Total number of ass		ts: 35					
А	В	С	D	Е	FX		
48.57	48.57 11.43 11.43 17.14 11.43 0.0						
Provides: doc. RNI	Dr. Ingrid Ser	nanišinová, PhD.		<u> </u>			
Date of last modified	cation: 20.09	0.2022					
Approved:							

University: P. J. Ša	fárik Univers	ity in Košice					
Faculty: Faculty of	Science						
<b>Course ID:</b> ÚMV/ rMRUc/12	Course na	me: Mathematic	eal problem solvi	ng strategies III			
Course type, scope Course type: Prac Recommended co Per week: Per stu Course method: p	tice urse-load (ho Idy period: 1 resent	ours):					
Number of ECTS of							
Recommended sem	ester/trimes	ter of the cours	<b>e:</b> 5.				
Course level: N							
Prerequisities:							
Conditions for cou	rse completi	on:					
Learning outcomes	5:						
Brief outline of the	course:						
Recommended lite	rature:						
Course language:							
Notes:							
<b>Course assessment</b> Total number of ass		ts: 35					
А	В	С	D	Е	FX		
31.43	31.43 25.71 14.29 25.71 2.86 0.0						
Provides:				·J			
Date of last modified	cation:						
Approved:							

University: P. J.	Šafárik Universi	ity in Košice			
Faculty: Faculty	of Science				
<b>Course ID:</b> ÚMV rMDM/12	V/ Course na	me: Mathematio	es and didacties of	of mathematics	
Course type, sco Course type: Recommended Per week: Per Course method	course-load (he study period: : present				
Number of ECT					
Recommended s	emester/trimes	ter of the cours	e:		
Course level: N					
Prerequisities: Ú	JMV/rDDMb/12	2			
Conditions for co	ourse completi	on:			
Learning outcon	nes:				
Brief outline of t	the course:				
Recommended li	iterature:				
Course language	2:				
Notes:					
<b>Course assessme</b> Total number of		ts: 35			
A	В	С	D	Е	FX
14.29	14.29	40.0	11.43	20.0	0.0
Provides:				·	
Date of last mod	ification: 03.05	.2015			
Approved:					

University: P. J. Šat	fárik Univers	ity in Košice			
Faculty: Faculty of	Science				
<b>Course ID:</b> ÚMV/ rPST/12	Course na	me: Probability	and statistics		
Course type, scope Course type: Lect Recommended co Per week: Per stu Course method: p	ure urse-load (h ıdy period: 3	ours):			
Number of ECTS of	credits: 11				
Recommended sem	nester/trimes	ter of the cours	<b>e:</b> 4.		
Course level: N					
Prerequisities: ÚM	V/rMANb/12	2			
Conditions for cou	rse completi	on:			
Learning outcomes	5:				
Brief outline of the	course:				
Recommended lite	rature:				
Course language:					
Notes:					
<b>Course assessment</b> Total number of ass		ts: 35			
A	В	С	D	Е	FX
8.57	14.29	34.29	17.14	25.71	0.0
Provides: doc. RNI	Dr. Daniel Kle	ein, PhD.		·	
Date of last modified	cation: 14.04	.2022			
Approved:				-	

University: P. J. Ša	afárik Univers	ity in Košice			
Faculty: Faculty o	f Science				
<b>Course ID:</b> ÚMV/ rSDM/12	Course na	me: Seminar on	didactics of mat	hematics	
Course type, scop Course type: Pra Recommended co Per week: Per st Course method:	ctice ourse-load (h cudy period: 3 present	ours):			
Number of ECTS					
Recommended ser	mester/trimes	ster of the cours	e: 5.		
Course level: N					
Prerequisities:					
Conditions for con	urse completi	on:			
Learning outcome	es:				
Brief outline of th	e course:				
Recommended lite	erature:				
Course language:					
Notes:	,				
<b>Course assessmen</b> Total number of as	-	ts: 35			
А	В	С	D	Е	FX
40.0	25.71	14.29	17.14	2.86	0.0
Provides: doc. RN	Dr. Ingrid Sen	nanišinová, PhD.		<u> </u>	
Date of last modif	ication:				
Approved:	,			_	

University: P. J. Šaf	árik University in Košice			
Faculty: Faculty of	Science			
<b>Course ID:</b> ÚMV/ rPDP/12	<b>Course name:</b> Teaching p	actice		
Course type, scope Course type: Pract Recommended cou Per week: Per stu Course method: pr	ice <b>1rse-load (hours):</b> dy period: 20s			
Number of ECTS c	redits: 6			
Recommended sem	ester/trimester of the cours	e: 5.		
Course level: N				
Prerequisities:				
Conditions for cour	se completion:			
Learning outcomes	:			
Brief outline of the	course:			
Recommended liter	ature:			
Course language:				
Notes:				
Course assessment Total number of asse	essed students: 35			
abs n				
	100.0	0.0		
Provides: doc. RND	r. Dušan Šveda, CSc., doc. F	NDr. Ingrid Semanišinová, PhD.		
Date of last modific	ation:			
Approved:				

University: P. J. Šafa	árik University in Košice	2				
Faculty: Faculty of S	Science					
Course ID: ÚMV/ rZPM/12	Course name: Thesis					
Course type, scope Course type: Recommended cou Per week: Per stu Course method: pr	urse-load (hours): dy period: resent					
Number of ECTS c						
	ester/trimester of the co	ourse: 5.				
Course level: N						
Prerequisities:						
Conditions for cour	se completion:					
Learning outcomes	:					
Brief outline of the	course:					
Recommended liter	ature:					
Course language:						
Notes:						
<b>Course assessment</b> Total number of asse	essed students: 35					
	abs n					
	100.0	0.0				
Provides:						
Date of last modific	ation:					
Approved:						

University: P. J. Ša	afárik Universi	ity in Košice					
Faculty: Faculty o	f Science						
<b>Course ID:</b> ÚMV/ rOZP/12	Course na	me: Thesis defe	nce				
Course type, scop Course type: Recommended c Per week: Per st Course method:	ourse-load (he tudy period: present						
Number of ECTS							
Recommended set	mester/trimes	ter of the course	2:				
Course level: N							
Prerequisities:							
Conditions for co	urse completi	on:					
Learning outcome	es:						
Brief outline of th	e course:						
Recommended lit	erature:						
Course language:							
Notes:							
<b>Course assessmen</b> Total number of as	-	ts: 35					
A	В	С	D	Е	FX		
14.29	14.29 28.57 37.14 14.29 5.71 0.0						
Provides:					<u> </u>		
Date of last modif	fication:						
Approved:							