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University: P. J. Šafá	rik University in Koši	20
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ CHN/2014/15	Course name: 2D ch	émia a nanotechnológie
Course type, scope a Course type: Lectur Recommended cou Per week: 2 / 2 Per Course method: pre	re / Practice rse-load (hours): study period: 28 / 28	
Number of ECTS cr	edits: 10	
Recommended seme	ster/trimester of the	course:
Course level: III.		
Prerequisities:		
Conditions for cours Final examination.	se completion:	
Learning outcomes:		
		nanostructured substrates by quantum and computer f surface analysis.
Recommended litera Somorjai,G.A.: Intro		nistry and catalysis, Wiley, New York, 1994.
Course language:		
Notes:		
Course assessment Total number of asse	ssed students: 9	
	abs	n
	100.0	0.0
Provides: prof. RND	r. Andrej Oriňak, PhD	., prof. RNDr. Renáta Oriňaková, DrSc.
Date of last modifica	tion: 03.05.2015	
Approved: prof. RNI	Dr. Andrej Oriňak, Phl).

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ IG/04	Course name: Acquirem	ent of Internal Grant			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of ECTS cr					
	ster/trimester of the cour	se:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	course:				
Recommended litera	ature:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 175				
	abs n				
100.0 0.0					
Provides:					
Date of last modifica	ntion: 03.05.2015				
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ CZC/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	r se-load (hours): y period: esent			
Number of ECTS cr				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 37			
abs n				
100.0 0.0				
Provides:				
Date of last modifica	tion:			
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.			

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ CDC/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of ECTS cr				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 1			
abs n				
100.0 0.0				
Provides:				
Date of last modifica	tion:			
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.			

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ CM/04					
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of ECTS cr					
	ster/trimester of the cour	se:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	course:				
Recommended litera	ature:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 3				
	abs n				
100.0 0.0					
Provides:					
Date of last modifica	ition:				
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ SDPR/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	r se-load (hours): l y period: esent			
Number of ECTS cr				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 359			
abs n				
99.72 0.28				
Provides:				
Date of last modifica	tion:			
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ SMPR/04	5			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	r se-load (hours): y period: esent			
Number of ECTS cr				
	ster/trimester of the cours	2:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	ture:			
Course language:				
Notes:				
Course assessment Total number of asses	ssed students: 37			
abs n				
100.0 0.0				
Provides:	Provides:			
Date of last modifica	tion:			
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ PPC/04	Course name: Direct Pe	dagogical Activities			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of ECTS cr					
	ster/trimester of the cou	rse:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	course:				
Recommended litera	ature:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 358				
	abs n				
100.0 0.0					
Provides:		-			
Date of last modifica	ntion:				
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ PPC/04	Course name: Direct Pe	dagogical Activities			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of ECTS cr					
	ster/trimester of the cou	rse:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	course:				
Recommended litera	ature:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 358				
	abs n				
100.0 0.0					
Provides:		-			
Date of last modifica	ntion:				
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ DZS/15	Course name: Dissertati	on examination			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period:				
Number of ECTS cr	edits: 20				
Recommended seme	ster/trimester of the cou	rse:			
Course level: III.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the o	ourse:				
Recommended litera	iture:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 38				
	N P				
0.0 100.0					
Provides:		<u> </u>			
Date of last modifica	ition: 03.05.2015				
Approved: prof. RN	Dr. Andrej Oriňak, PhD.				

University: P. J. Ša	fárik Universi	ty in Košice			
Faculty: Faculty of	Science				
Course ID: CJP/ AJD1/07	Course na	me: English Lan	guage for PhD	Students 1	
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: p	tice ourse-load (ho tudy period:	ours):			
Number of ECTS					
Recommended sen	nester/trimes	ter of the course	e: 1.		
Course level: III.					
Prerequisities:					
Conditions for cou	rse completio	on:			
Learning outcome	s:				
Brief outline of the	course:				
Recommended lite	rature:				
Course language:					
Notes:					
Course assessment Total number of ass		s: 584			
N	Ne	Р	Pr	abs	neabs
0.0	0.0	56.85	0.0	43.15	0.0
Provides: PhDr. He	elena Petruňov	vá, CSc., Mgr. Zu	ızana Kolaříkov	á, PhD.	1
Date of last modifi	cation: 03.10	.2019			
Approved: prof. Rl	NDr. Andrej (Driňak, PhD.			

University: P. J. Ša	ıfárik Universi	ity in Košice			
Faculty: Faculty of	f Science				
Course ID: CJP/ AJD2/07	Course na	me: English Lar	guage for PhD S	Students 2	
Course type, scope Course type: Prace Recommended co Per week: 2 Per s Course method: p	ctice ourse-load (he study period: present	ours):			
Number of ECTS					
Recommended ser	nester/trimes	ter of the cours	e: 2.		
Course level: III.					
Prerequisities:					
Conditions for cou	irse completio	on:			
Learning outcome	S:				
Brief outline of the	e course:				
Recommended lite	erature:				
Course language:					
Notes:					
Course assessmen Total number of as	-	ts: 569			
N	Ne	Р	Pr	abs	neabs
0.0	0.0	92.44	1.41	6.15	0.0
Provides: PhDr. He	elena Petruňov	vá, CSc., Mgr. Zu	ızana Kolaříkova	á, PhD., Mgr. Ba	rbara Mitríková
Date of last modifi	ication: 26.02	.2020			
Approved: prof. R	NDr. Andrei (Driňak, PhD.			

Faculty: Fa			n Košice				
- acuity • 1 t	aculty of Scie	ence					
Course ID: EECH/03	ÚCHV/ C	ourse name:	: Environme	ntal Chemist	ry		
Course ty Recomme Per week:	pe: Lecture /	e-load (hours udy period: 2	s):				
	ECTS cred						
Recommen	ded semeste	er/trimester	of the cours	e:			
Course leve	el: II., III.						
Prerequisit	ties:						
Conditions Examination	for course on.	completion:					
Learning o	outcomes:						
T 1	1		-			-	cial cycles
atmosphere of greenhou and polluta cleaning pr	e. Atmospher use effects. P ants monitor rocesses. An	position, fur- ric photochen rinciples of a red. Classific alytical meth- ses. Acid rai	nctions of an nistry. Pollut ir quality con- cation of po- nods in envir	tmosphere. I ants in atmos ntrol. Energe llutants and ronmental ch	Physical and phere and gr tic Earth bala ways of el nemistry, app	chemical p eenhouse eff ince. Water e imination. V olications. So	rocesses in fect. Model environmen Vaste wate pil analysis
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw	e. Atmospher use effects. P ants monitor rocesses. An nical proces aded literature redt: The Ess	position, fur ric photochen rinciples of a red. Classific alytical meth ses. Acid rai	to Environment	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor	For the second s
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw	e. Atmospher use effects. P ants monitor rocesses. An nical proces ided literatu redt: The Ess eve, J.D. Bar	position, fun- ric photochen rinciples of a red. Classific alytical meth- ses. Acid rai	to Environment	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor	For the second s
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec	e. Atmospher use effects. P ants monitor rocesses. An nical proces ided literatu redt: The Ess eve, J.D. Bar	position, fun- ric photochen rinciples of a red. Classific alytical meth- ses. Acid rai	to Environment	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor	For the second s
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec Course lan Notes: Course ass	e. Atmospher use effects. P ants monitor rocesses. An nical proces aded literatur redt: The Ess eve, J.D. Bar guage: essment	position, fun- ric photochen rinciples of a red. Classific alytical meth- ses. Acid rai	to Environmer	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor	For the second s
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec Course lan Notes: Course ass	e. Atmospher use effects. P ants monitor rocesses. An nical proces aded literatur redt: The Ess eve, J.D. Bar guage: essment	position, fun- ric photochen rinciples of a red. Classific alytical meth- ses. Acid rai re: ential Guide nes: General	to Environmer	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor	For the second s
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec Course lan Notes: Course ass Total numb	e. Atmospher use effects. P ants monitor rocesses. An nical proces ided literatu redt: The Ess eve, J.D. Bar guage: essment per of assessed	position, fur ric photochen rinciples of a red. Classific alytical meth ses. Acid rai ure: ential Guide nes: General	octions of an nistry. Pollut ir quality con- cation of po- nods in envi- in, metal ion to Environmer Environmer	tmosphere. I ants in atmos ntrol. Energe illutants and ronmental ch ns in soil. E mental Chemistr	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta stry, Wiley as y, Wiley, Los	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor ndon 1994	brocesses in Fect. Models environmen Vaste wate bil analysis strategy and ndon 2001
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec Course lan Notes: Course ass Total numb A 49.53	e. Atmospher use effects. P ants monitor rocesses. An nical proces aded literatur redt: The Ess eve, J.D. Bar guage: essment per of assesse B 20.56	position, fur ric photochen rinciples of a red. Classific alytical meth ses. Acid rai re: ential Guide nes: General ed students: 1 C	ortions of an nistry. Pollut ir quality con- cation of po- nods in envir- in, metal ion to Environmer 07 07 07 2.8	Employee Employee timosphere. I Introl. Energe introl. Energe Ilutants and ronmental chas in soil. E ins in soil. E Introl introl Chemistre E 3.74 3.74	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta stry, Wiley as y, Wiley, Los FX	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor ndon 1994	Processes in Fect. Model Environment Vaste wate bil analysis trategy and ndon 2001
atmosphere of greenhou and polluta cleaning pr biogeocher concepts. Recommen 1. G. Schw 2. R.N. Rec Course lan Notes: Course ass Total numb A 49.53 Provides: d	e. Atmospher use effects. P ants monitor rocesses. An nical proces aded literatur redt: The Ess eve, J.D. Bar guage: essment per of assesses B 20.56 doc. RNDr. A	position, fur ric photochen rinciples of a red. Classific alytical meth ses. Acid rai re: ential Guide nes: General ed students: 1 C 16.82	ortions of an inistry. Pollut ir quality con- cation of po- nods in envir- in, metal ion to Environmer 07 07 07 07 2.8	Employee Employee timosphere. I Introl. Energe introl. Energe Ilutants and ronmental chas in soil. E ins in soil. E Introl introl Chemistre E 3.74 3.74	Physical and phere and gr tic Earth bala ways of el nemistry, app nvironmenta stry, Wiley as y, Wiley, Los FX	chemical p eenhouse eff ince. Water e imination. V olications. So 1 analysis, s nd Sons, Lor ndon 1994	Processes in Fect. Models Invironmen Vaste wate bil analysis trategy and ndon 2001

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ MK/04	Course name: Internation	al Conference	
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of ECTS cr			
	ster/trimester of the cour	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	course:		
Recommended litera	ature:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 201		
	abs	n	
	100.0	0.0	
Provides:		•	
Date of last modifica	ntion: 03.05.2015		
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ ZKC/04	Course name: Internation	al Currented Journal	
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period:		
Number of ECTS cr	edits: 20		
Recommended seme	ster/trimester of the cour	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the o	course:		
Recommended litera	ature:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 253		
	abs	n	
	99.6	0.4	
Provides:			
Date of last modifica	ntion: 03.05.2015		
Approved: prof. RN	Dr. Andrej Oriňak, PhD.		

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ ZNC/04	Course name: Internationa	al Non-Currented Jounal
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	r se-load (hours): y period: esent	
Number of ECTS cr		
	ster/trimester of the cours	e:
Course level: III.		
Prerequisities:		
Conditions for cours	e completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended litera	iture:	
Course language:		
Notes:		
Course assessment Total number of asse	ssed students: 16	
	abs	n
	100.0	0.0
Provides:		
Date of last modifica	tion: 03.05.2015	
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.	

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ NEM/04	Course name: Introduction	n of a New Experimental Method
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent	
Number of ECTS cr		
	ster/trimester of the cours	e:
Course level: III.		
Prerequisities:		
Conditions for cours	e completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended litera	iture:	
Course language:		
Notes:		
Course assessment Total number of asse	ssed students: 7	
	abs	n
	100.0	0.0
Provides:		
Date of last modifica	tion:	
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.	

			SE INFORM	MATION LI			
University:			n Košice				
Faculty: Fac							
Course ID: FKK1/03	ÚCHV/ C	ourse name	: Kinetics and	d Catalysis			
	e: Lecture / ded course 2 / 1 Per st	<pre>/ Practice e-load (hours udy period:</pre>	s):				
Number of l	ECTS cred	its: 5					
Recommend	led semeste	er/trimester	of the cours	e:			
Course level	l : II., III.						
Prerequisiti	es:						
Conditions f Test. Examination		completion:					
Learning ou Detailed and catalysis.		explanation o	f different ty	pes of reaction	ons, homogen	eous and het	erogeneous
reactions. Co kinetics. Co adsorption,	on of chem omplicated omplex rea types of ad	nical reaction reactions. The actions mech sorption, add	neory of chen nanism. Exp sorption isot	nical kinetics losions. Pho nerms. Essen	e laws. Reac s. Experimen otochemical nce of cataly alysis. Enzyr	tal methods reactions. tic processe	of chemical Essence of s. Catalysis
Richard I. M. I. CHORKE CONCEPTS	: Physical Iasel: Chem NDORFF, S OF MOD	Chemistry,O nical Kinetics J. W. NIEMA ERN CATAL	& Catalysis	,Wiley-Inter RIET: Funda KINETICS,	Oxford 1986, science, 2001 amentals of K	l.	
Course lang	uage:						
Notes:							
Course asse Total numbe		ed students: 4	0				
A	В	C	D	Е	FX	Ν	Р
70.0	5.0	2.5	0.0	0.0	0.0	0.0	22.5
Provides: pr	of. RNDr. I	Renáta Oriňa	ková, DrSc.,	RNDr. Frant	tišek Kaľavsk	ςý	1
Date of last							
			1 /				

Approved: prof. RNDr. Andrej Oriňak, PhD.

University: P. J. Šafá	rik University in Košice	,	
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DK/04	Course name: Local C	Conference	
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period: esent		
Number of ECTS cr			
	ster/trimester of the co	ourse:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	course:		
Recommended litera	ature:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 96		
	abs	n	
	100.0	0.0	
Provides:			
Date of last modifica	ntion:		
Approved: prof. RN	Dr. Andrej Oriňak, PhD.		

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ DKZU/04	Course name: Local Conf	erence with Foreign Participation
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent	
Number of ECTS cr	edits: 4	
Recommended seme	ster/trimester of the cours	e:
Course level: III.		
Prerequisities:		
Conditions for cours	se completion:	
Learning outcomes:		
Brief outline of the c	course:	
Recommended litera	ature:	
Course language:		
Notes:		
Course assessment Total number of asse	ssed students: 190	
	abs	n
	100.0	0.0
Provides:		
Date of last modifica	ntion: 03.05.2015	
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.	

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ DKC/04	Course name: Local Co	urrented Journal
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period:	
Number of ECTS cr	edits: 15	
Recommended seme	ester/trimester of the co	urse:
Course level: III.		
Prerequisities:		
Conditions for cours	se completion:	
Learning outcomes:		
Brief outline of the o	course:	
Recommended litera	ature:	
Course language:		
Notes:		
Course assessment Total number of asse	ssed students: 10	
	abs	n
	100.0	0.0
Provides:		
Date of last modifica	ation: 03.05.2015	
Approved: prof. RN	Dr. Andrej Oriňak, PhD.	

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DNC/04	Course name: Local Non-	Currented Journal	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	r se-load (hours): y period: esent		
Number of ECTS cr			
	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 17		
	abs	n	
	100.0	0.0	
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.		

Faculty of Science Course ID: ÚCHV/ IMS1/03 Course name: Mass Spectrometric Identification Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present
IMS1/03 Imstructure Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14
Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14
•
Number of ECTS credits: 4
Recommended semester/trimester of the course:
Course level: II., III.
Prerequisities:
Conditions for course completion:
Learning outcomes:
General principles of mass spectrometry. Analytical mass spectrometry. Detectors in mass spectrometry and resolution. Quadrupoles, ion traps, TOF analyzers. Analytes ionization, molecular spectra obtained from different ion sources. Identification with MS. Determination of molar mass. Fragmentation, spectra, and structural information. Identification by spectra comparison. Total ion current. Monitoring of selected ion/fragment. The use of hyphenated and coupled chromatographic methods. Tandem MS-MS, GC-MSD, HPLC-MS, microcolumn application. MALDI ToF MS, ToF SIMS and methods of surface analysis. Evaluation of mass spectrum.
Course language:
Notes:
Course assessment Total number of assessed students: 1
A B C D E FX N P
100.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Provides: prof. RNDr. Andrej Oriňak, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Andrej Oriňak, PhD.

University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ POVK/04	Course name: Membershi	p in a Conference organizing Committee			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period:				
Number of ECTS cr	edits: 2				
Recommended seme	ster/trimester of the cours	e:			
Course level: III.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	iture:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 33				
	abs	n			
100.0 0.0					
Provides:					
Date of last modifica	tion:				
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.				

	University: I	ъТ	Šafárik	University	in Košice
I	Oniversity. 1		Salarik	Oniversity	III IXOSICC

Faculty: Faculty of Science

Course ID: ÚCHV/	Course name: Methods of Chemical Research
MCV1/03	

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours):

Per week: 2 / 1 Per study period: 28 / 14

Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:

The students are expected to actively participate in seminars by demonstrating solutions to selected problems (a presentation of a real problem) in front of their course-fellows. Examination

Learning outcomes:

To make students known with the physicochemical parameters' means of measurement, evaluation, and interpretation for the study of the process, i.e. the rate of reaction, mechanism, intermediates and final products in both homogeneous and heterogeneous systems.

Brief outline of the course:

Overview of basic principles of the determination of physicochemical quantities (dissociation constant, activity coefficient, solubility product, stability constant of complex, diffusion coefficient). Calorimetry and its utilisation. Experimental methods in kinetics. The Butler-Volmer equation. Survey of selected key topics in colloid chemistry. Adsorption-BET equation. Determination of molecular mass of macromolecules. A discussion of topics selected from active research fields.

Recommended literature:

W.J. Moore: Physical Chemistry, Longman Group Limited, London 1972

H. H. Willard et al.: Instrumental Methods of Analysis, Wadsworth, Belmont 1988

J. Koryta, J. Dvořák, L. Kavan: Principles of Electrochemistry, John Wiley & Sons, New York 1993

P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002

D. Kladeková: Supportive Textbooks in Course: Methods of Chemical Research, The ESF project no. SOP HR 2005/NP1-051 11230100466, Košice 2008

Course language:

Notes:

Course assessment Total number of assessed students: 35								
A B C D E FX N P								
48.57	48.57 28.57 2.86 5.71 0.0 0.0 0.0 14.29							
Provides: d	oc. RNDr. A	ndrea Strako	vá Fedorkov	vá, PhD.				
Date of last modification: 20.09.2017								
Approved:	prof. RNDr.	Andrej Oriň	ak, PhD.					

			SE INFORM				
University: H	P. J. Šafáril	k University in	n Košice				
Faculty: Fac	ulty of Sci	ence					
Course ID: U FMP1/03	ÚCHV/	Course name:	Modelling	of Physicoch	nemical Proce	esses	
Course type Recommen	e: Lecture ded cours 2 / 2 Per st	e-load (hours udy period: 2	s):				
Number of F	ECTS cred	lits: 6					
Recommend	ed semest	er/trimester	of the cours	e:			
Course level	: II., III.						
Prerequisitie	es:						
Conditions f Seminar wor Examination	k.	completion:					
physicochem Brief outline Modelling a	of the cound processor	urse: ses control. (lynamics. Dy	General princ	ciples of mo	odelling. Exa	amples of m	nathematical
edition), Mc Richard G. R	uyben: Pro Graw-Hill Sice, Duon	are: ocess Modelir College, 1990 g D. Do, D. D & Sons Inc, 1). Io Duong: A			C	×
Course lang	uage:						
Notes:							
Course asses Total numbe		ed students: 2	8				
А	В	C	D	Е	FX	N	Р
67.86	0.0	3.57	0.0	0.0	0.0	0.0	28.57
Provides: pro	of. RNDr.	Renáta Oriňal	ková, DrSc.			· · · · · · · · · · · · · · · · · · ·	
vate of last 1	nodificati	on: 20.09.201	7				

University:	P. J. Šafár	ik University i	n Košice				
Faculty: Fa	culty of Sc	eience					
Course ID: TFCH/03	ÚCHV/	Course name	New Trend	s in Analytic	cal Chemistry	1	
Course typ Recomme	pe: Lecture nded cour 3 / 1 Per s	se-load (hours study period:	s):				
Number of	ECTS cre	dits: 5					
Recommen	ded semes	ter/trimester	of the cours	e:			
Course leve	el: III.						
Prerequisit	ies:						
Conditions Seminar wo Examinatio	ork.	e completion:					
Learning o News in ph		nistry develop	ments.				
signal enha and applica sensors, el Microscopi microscopy electrochem	ncement, s tions of ele ectrochemi c Methods y, scanning nical impe- ent circuits	Il chemistry mo separation of the ectrochemical i ical sensors a . Overwiev of probe microsco dance spectros . Basic electro rersion.	he nanoobjec mpendance s and biosenso various micr opy. Principle scopy.3D int	cted films, n spectroscopy ors.Moderné oscopy metl es, theory an erpretation	anocatalysis; y, progress and mikroskopi nods - light m id examples o of the imped	; theoretical l d new trends cké metódy. nicroscopy, el of practical ap lance spectra	background in chemical Advanced lectron plication of . Modeling
Recommen Peter C. Sci Scientific jo	hmidt: Met	thods in Physic	cal Chemistry	y, Wiley-VC	H Verlag Gn	nbH and Co.,	2012.
Course lang	guage:						
Notes:							
		sed students: 7	,				
А	В	С	D	Е	FX	N	Р
100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Course asso Total numb A 100.0 Provides: d	er of asses B 0.0 oc. RNDr. Renáta Or	C	D 0.0 vá Fedorkov	0.0 vá, PhD., pro	0.0 of. RNDr. An	0.0 drej Oriňak, 1	0.0 PhD.,

Date of last modification: 20.09.2017

Approved: prof. RNDr. Andrej Oriňak, PhD.

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ NZ/04	Course name: Not-Review	ved International or Local Proceedings		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:			
Number of ECTS cr	edits: 2			
Recommended seme	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 170			
	abs	n		
100.0 0.0				
Provides:				
Date of last modifica	ition: 03.05.2015			
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.			

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚCHV/ ODZP/2014/15	Course name: Obhajoba	dizertačnej práce				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): y period: esent					
Number of ECTS cr						
	ster/trimester of the cour	se:				
Course level: III.						
Prerequisities:						
Conditions for cours	e completion:					
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended litera	iture:					
Course language:						
Notes:						
Course assessment Total number of asse	ssed students: 33					
	N P					
0.0 100.0						
Provides:						
Date of last modifica	tion: 03.05.2015					
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.					

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚCHV/ PVS/04	Course name: Patents,]	nventions, Software				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent					
Number of ECTS cr						
	ster/trimester of the cou	irse:				
Course level: III.						
Prerequisities:						
Conditions for cours	e completion:					
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended litera	iture:					
Course language:						
Notes:						
Course assessment Total number of asse	ssed students: 0					
	abs n					
0.0 0.0						
Provides:						
Date of last modifica	ition:					
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.					

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚCHV/ PFCH1/2014/14	Course name: Pokročilá fy	zikálna chémia 1				
Course type, scope a Course type: Lectur Recommended cour Per week: 2 / 2 Per Course method: pre	e / Practice rse-load (hours): study period: 28 / 28					
Number of ECTS cr	edits: 10					
Recommended seme	ster/trimester of the course	e:				
Course level: III.						
Prerequisities:						
Conditions for cours Final examination.	e completion:					
Learning outcomes: Experiences in hetero	genous catalysis.					
study. Transport pher	es from heterogenous cataly nomena during heterogenou characterisation. Main impa	sis, methods of catalysts study, catalytic reactions s catalysis. Calculation of kinetic constants and act is in area of catalysts for methane conversion				
Recommended litera 1.Atkins : Physical C 2.P.C.Schmidt: Metho		Viley-VCH GmbH, 2012.				
Course language: Slovak, English						
Notes:						
Course assessment Total number of asses	Course assessment Total number of assessed students: 11					
N P						
0.0 100.0						
Provides: prof. RND	Provides: prof. RNDr. Andrej Oriňak, PhD., prof. RNDr. Renáta Oriňaková, DrSc.					
Date of last modifica	tion: 03.05.2015					
Approved: prof. RNI	Dr. Andrej Oriňak, PhD.					

University: P. J. Šafáril	c University in Košice	
Faculty: Faculty of Sci	ence	
Course ID: ÚCHV/ C PFCH2/2014/14	C ourse name: Pokročilá fy	zikálna chémia 2
Course type, scope and Course type: Lecture Recommended course Per week: 2 / 2 Per st Course method: prese	/ Practice e-load (hours): udy period: 28 / 28	
Number of ECTS cred		
Recommended semest	er/trimester of the cours	e:
Course level: III.		
Prerequisities:		
Conditions for course Final exam.	completion:	
Learning outcomes: Exam.		
	roblem of fast reactions, pons. It forms a basis for Ph	photochemistry and laser spectroscopy as well as D students to solve problems in experimentl work
Recommended literatu	ıre:	
Course language:		
Notes:		
Course assessment Total number of assess	ed students: 11	
-	N	Р
().0	100.0
Provides: prof. RNDr. A. Renáta Oriňaková, DrS	5 , ,	RNDr. Zuzana Vargová, Ph.D., prof. RNDr.
Date of last modificati	on: 03.05.2015	
Approved: prof. RNDr	. Andrej Oriňak, PhD.	

University: P.	J. Šafárik	University in	n Košice				
Faculty: Facul	lty of Scie	nce					
Course ID: Ú(PPCHR1/03	CHV/ C	ourse name:	Pokročilý k	urz chromat	ografie		
Course type, s Course type: Recommend Per week: 3 1 Course meth	Practice ed course Per study od: presen	-load (hours period: 42 nt					
Number of EC							
Recommende		r/trimester	of the cours	e:			
Course level:	III.						
Prerequisities	:						
Conditions for	r course c	ompletion:					
Learning outc	comes:						
Brief outline o	of the cou	rse:					
Recommende	d literatu	re:					
Course langua	age:						
Notes:							
Course assess Total number		d students: 1					
A	В	С	D	Е	FX	N	Р
0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Provides: prof	. RNDr. A	ndrej Oriňal	k, PhD.				
Date of last m	odificatio	n: 03.05.201	5				
Approved: pro	of. RNDr.	Andrej Oriň	ak, PhD.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ VYS/04				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period: esent			
Number of ECTS cr				
	ster/trimester of the cour	se:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	course:			
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 176			
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of Science					
Course ID: ÚCHV/ Course name: Review of a Bachelor Thesis					
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of ECTS cr					
	ster/trimester of the co	urse:			
Course level: III.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	ature:				
Course language:					
Notes:	Notes:				
Course assessment Total number of asse	ssed students: 61				
abs n					
100.0 0.0					
Provides:					
Date of last modifica	ition:				
Approved: prof. RNI	Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ RZ/04				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	r se-load (hours): l y period: esent			
Number of ECTS cr	edits: 5			
Recommended seme	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	Conditions for course completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 273			
abs n				
100.0 0.0				
Provides:				
Date of last modifica	tion: 03.05.2015			
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ SCI/04				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period: esent			
Number of ECTS cr				
	ster/trimester of the c	ourse:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the o	course:			
Recommended litera	Recommended literature:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 131			
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafá	rik University in Koši	ice			
Faculty: Faculty of Science					
Course ID: ÚCHV/ ZSP/04	5 5				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period: esent				
Number of ECTS cr					
Recommended seme	ster/trimester of the	course:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	course:				
Recommended litera	Recommended literature:				
Course language:					
Notes:					
Course assessment Total number of asse	ssed students: 75				
abs n					
100.0 0.0					
Provides:					
Date of last modification:					
Approved: prof. RNDr. Andrej Oriňak, PhD.					

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ VBP/04	The second s			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present				
Number of ECTS cr				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	Recommended literature:			
Course language:				
Notes:				
Course assessment Total number of assessed students: 288				
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ VPSV/04				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of ECTS cr				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:	Learning outcomes:			
Brief outline of the c	ourse:			
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of assessed students: 64				
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved: prof. RNDr. Andrej Oriňak, PhD.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ PDS/14				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of ECTS cr				
	ster/trimester of the cou	rse:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	course:			
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 32			
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved: prof. RNDr. Andrej Oriňak, PhD.				