Course Information Sheet

University: *University of Presov*	
Faculty: *Faculty of Humanities and Natural Sciences*	
Code: 2EKO/ZELCHE/22	**Title of Course: Green chemistry**
Form of Study: *lectures 2 hours per week, seminar 1 hour per week* **Number of contact hours:** **per week:** *2+1* **per level/semester:** *20 hours lectures, 10 hours seminars, 90 hours self-study* **Method of study:** *full-time study*	
Number of credits: *5*	
Semester: *2.*	
Degree/Level: *1.*	
Prerequisities: -	
Grading Policy (Assessment/Evaluation): *Final exam 70 %.* *Continuous semestral examination during seminars 30 %.* *Success criteria (percentage):* *a) A - 100.00 - 90.00%* *b) B - 89.99 - 80.00%* *c) C - 79.99 - 70.00%* *d) D - 69.99 - 60.00%* *e) E - 59.99 - 50.00%* *f) FX - 49.99 and less%.*	
Aims and Objectives: After the completion of this course, students will: *- understands the principles of sustainable development and green chemistry;* *- know about new trends in "green" technologies for industry;* *- can do the basic chemometric calculations to compare the environmental impact of chemical reactions.*	
Syllabus/Indicative Content: *1. Principles of sustainable development and green chemistry. Green chemistry and industry. Waste minimization.* *2. Green chemistry and sustainable development. Green chemistry and sustainability parameters.* *3. Chemometric calculations to determine the environmental impact of chemical reactions.* *4. Life cycle assessment to identify more sustainable products and processes.* *5. Industrial processes using solid acid catalysts.* *6. Green solvents. Supercritical extraction.* *7. Ionic liquids.* *9. Biocatalysis. Green catalysts for industry.* *10. Hydrogen peroxide for minimization of waste.* *11. Green chemistry in practice.* *12. Intensification processes in green chemistry.* *13. Green synthesis of nanomaterials.* *Self-study:* *1. Calculations in green chemistry.*	
Suggested readings: *1. J.H. Clark and D. MacQuarrie. Handbook of Green Chemistry and Tecgnology. 2002, ISBN: 0632057157. 560p.*	

2. M. Lancaster. Green Chemistry. 2010, ISBN: 0854046208, 310 P.
3. P.T. Anastas, Chao-Jun Li. Handbook of Green Chemistry. Vol. 1-5: 2010, ISBN:3527315748. 410 p.

Language of Instruction: *slovak*

Other course information:

Grading history

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%

Lecturer/Instructor:
Doc. Ruslan Mariychuk, PhD. - lectures
RNDr. Romana Smolková, PhD. – seminars

Last update: 9. May 2022

Approved by: *uvádza sa meno a priezvisko zamestnanca vysokej školy (štandardne garant študijného programu), ktorý zmenu schválil*