Information sheet for the course
Technology of Production and Processing of Polymeric Materials

University: *Alexander Dubček University of Trenčín*	
Faculty: *Faculty of Industrial Technologies in Púchov*	
Course unit code: *PP-P-26*	**Course unit title:** *Technology of Production and Processing of Polymeric Materials*
Type of course unit: *compulsory*	
Planned types, learning activities and teaching methods: *Lecture: 2 hours weekly/26 hours per semester of study; face to face* *Seminar: 0* *Laboratory tutorial: 0*	
Number of credits: *3*	
Recommended semester: *4th semester in the 2nd year full-time* *4th semester in the 2nd year part-time*	
Degree of study: *the 1st degree of study (Bachelor's degree)*	
Course prerequisites: *Polymeric materials*	
Assessment methods: *Student will elaborate and interpret a seminar work on the determined topic the extent of at least 12 pages; complete the final test (credit) 22 points out of 40. To obtain the evaluation A must be obtained 37 points at least, to obtain evaluation B 33 points at least, to obtain evaluation C 29 points at least, to obtain evaluation D at least 26 points and to obtain evaluation E 22 points at least.*	
Learning outcomes of the course unit: *The student has acquired the basic knowledge and skills of the structure and properties of polymers and polymeric materials. Knows the principles of technological processes and methods of polymer processing to finished products.*	
Course contents: *Effect of molar mass, polydispersity and crystallinity on the properties of polymers. Effect of structure on temperature resistance, electrical insulating properties, flammability, weather resistance. The characteristics of the polymers in terms of chemical, supramolecular and morphological structure, isothermal and non-isothermal crystallization. Physical states of polymers. Behavior of polymers under mechanical stress - elastic, viscoelastic and viscous state. Rheological properties and important methods of polymer processing molding, extrusion, rolling (calendering), extrusion, injection molding, blow molding, molding, manufacturing principles lightweight materials. The structure of the major polymers: polyolefins, polyhalogenolefins, alkylacrylates, polyamides, polydienes, major resins, natural rubber and synthetic rubber, polyurethane, composites based on thermoplastic, composites based on thermosetting.*	
Recommended of required reading: *V. Maroušek: Chemie a technologie monoméru. VŠCHT, Praha 2000* *A. Marcinčin, I. Hudec, J. Majling. Technológia materiálov, STU FCHPT, Bratislava, 2002, ISBN 978-80-227-1798-4* *T. Liptáková, P. Alexy, V. Khunová: Polymérne konštrukčné materiály, STU, Bratislava, 2012,*	

ISBN 978-80-554-0505-6.
P.N. Prased, J.E. Mark: Science and technology of polymers and advanced materials: emerging technologies and business opportunities, Planum Press, University of Michigan, 2007, ISBN 978-03-064-5820-0.

Language: *Slovak*

Remarks:

Evaluation history:

A	B	C	D	E	FX

Lecturers: *prof. RNDr. Ignác Capek, DrSc., doc. Ing. Petra Skalková, PhD.*

Last modification: *31.03.2015*

Supervisor: *doc. Ing. Ján Vavro, PhD.*