Information sheet for the course
Dimensioning of Polymer-made Products

University: *Alexander Dubček University of Trenčín*

Faculty: *Faculty of Industrial Technologies in Púchov*

Course unit code: *MI-I-V-5*	**Course unit title:** *Dimensioning of Polymer-made Products*

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

Number of credits: *2*

Recommended semester: *2nd semester in the 1st year full-time*
2nd semester in the 1st year part-time

Degree of study: *the 2nd degree of study (Engineer's degree)*

Course prerequisites: *none*

Assessment methods:
Creation and presentation of semester task, which consists of numeric solving with one task: sizing polymer product by finite element method.

Learning outcomes of the course unit:
Graduates are able to independently solve the task of dimensioning of plastic, rubber and composites.

Course contents:
1. The distribution of polymer materials.
2. Elasticity and its manifestations.
3. Strength, ductility, flexibility and malleability of products from polymers.
4. - 6. Dimensioning of elastomer products - the underlying assumptions and performance requirements for the rubber products.
7. - 9. Dimensioning of plastic - the underlying assumptions and performance requirements for the plastic products.
10. Dimensioning of thin-walled structures (products).
11. Finite element method in dimensioning of the polymer products.
12. - 13. A overview of software design and dimensioning methods of products from polymeric materials.

Recommended of required reading:
Šuba O.: Dimenzování a navrhování výrobků z polymerů. FT-UTB Zlín, 2006.
Šuba O.: Dimenzování a navrhování výrobků z plastů. FT-UTB Zlín, 2005.
Krmela J.: Systémový přístup k výpočtovému modelování plášťu. Tribun EU Brno, 2008.

Language: *Slovak*

Remarks:

Evaluation history: *0*

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Lecturers: *prof. Ing. Ján Vavro, PhD., doc. Ing. Jan Krmela, PhD.*

Last modification: *31.03.2014*

Supervisor: *prof. Ing. Darina Ondrušová, PhD.*