Informačný list predmetu

Vysoká škola: Žilinská univerzita	
Fakulta: Strojnícka fakulta	
Kód predmetu: 2Y005	**Názov predmetu:** Quality of Material Checking (QMCH_E)
Druh, rozsah a metóda vzdelávacích činností: 2 - 0 - 1 (prednášky-cvičenia-lab.cv.) hodín za týždeň, kombinovaná metóda výučby.	
Počet kreditov: 5.0	
Odporúčaný semester/trimester štúdia: 1 semester	
Stupeň štúdia: 4	
Podmieňujúce predmety: Materials science	
Podmienky na absolvovanie predmetu: ***Priebežné hodnotenie:*** recognition of course work – 15 % written and oral examinations – 85 % ***Záverečné hodnotenie:*** Final classification of the subject: Evaluation A: 93 - 100 points Evaluation B: 85 - 92 points Evaluation C: 77 - 84 points Evaluation D: 69 - 76 points Evaluation E: 61 - 68 points Evaluation FX: less than 61 points *Minimálny počet bodov pre prihlásenie na skúšku nie je zadaný*	
Výsledky vzdelávania: This course offers to student's concise and competent information about various methods, test techniques and equipments for destructive testing (such as basic testing methods – hardness, tensile strength test, impact toughness and so), practical metallography (preparing and evaluating of specimens for microscopy evaluation) and non-destructive material testing, which they would be able to use at their craftsmanship. Actual defectoscopy has also another aims then only finding the material defects of products. Up to date defectoscopy wants to prevent the defects and to form conditions for reasons elimination of their formation. Defectoscopy belongs to mechanized mode of production fast inspection without restrictions of continuous operation mode operation.	
Stručná osnova predmetu: • Basic destructive tests – hardness (Vickers, Brinell, Rockwell) testing, tensile strength testing, impact toughness testing, according to STN and EN standards. • Practical metallography – preparation specimens for metallographic evaluation (optical and scanning microscopy), various ways of fracture and its characterization, metallographic evaluation methods. • Distribution of non-destructive methods according to position of detected defect - basic knowledge. Marking of methods according to ISO. New European standards /EN-9 000, EN-45 000/. Surface tests. Capillary methods, magnetic methods, Foucault currents methods, for tubes and bars. Ultrasonic methods, theoretical notions. • Equipment types and demand on ultrasonic methods. Calibration of ultrasonic equipments. • Defectoscopic revision of weld material according to STN 05 1303. Acoustic emission - advanced methods in material for transport. Defectoscopy in nuclear power engineering.	

Odporúčaná literatúra:
1. ASM Handbook, Volume 17, Nondestructive Evaluation and Quality control, 1997,
ISBN 0 - 87170-007-7
2. ASM Handbook, Volume 11, Failure Analysis and Prevention, 2002,
ISBN 0 - 87170-704-7

Jazyk, ktorého znalosť je potrebná na absolvovanie predmetu: English

Poznámky:

Hodnotenie predmetov:
Celkový počet hodnotených študentov:

A	B	C	D	E	FX

Vyučujúci:
Ing. Juraj Belan, PhD.

Dátum poslednej zmeny: 2022-12-07

Schválil: prof. Ing. Eva Tillová, PhD.