

MEĐIMURSKO VELEUČILIŠTE U ČAKOVCU



POLYTECHNIC OF MEĐIMURJE IN ČAKOVEC

SYLLABUS KOLEGIJA

AKADEMSKA GODINA: 2020./2021.

1. OPĆE INFORMACIJE O KOLEGIJU

1.1. Naziv kolegija	Technology I			
1.2. Studijski program/i	TTS			
1.3. Status kolegija (O, I)	O	1.6. Način izvođenja nastave (broj sati)	Predavanja	30
1.4. Šifra kolegija			Vježbe	30
1.5. Kratica kolegija			Seminar	
1.6. Semestar	III		E-učenje	
1.7. Bodovna vrijednost (ECTS)	5	1.7. Mjesto i vrijeme održavanja nastave	Premises of the Polytechnic of Međimurje in Čakovec, according to the schedule published on the website	

2. NASTAVNO OSOBLJE

2.1. Nositelj/i-zvanje	prof. dr. sc. I. Samardžić	kontakt	isamardzic@sfsb.hr
	prof. dr. sc. A. Stojić	kontakt	astoic@sfsb.hr
2.2. Asistent/i-zvanje		kontakt	
		kontakt	
2.3. Izvođač/i-zvanje		kontakt	
		kontakt	

3. OPIS KOLEGIJA

3.1. Ciljevi kolegija	Introducing students to the basic features of shaping procedures according to DIN 8580 (forming by deformation, processing by separation and welding, soldering and gluing).
3.2. Uvjeti za upis i polaganje kolegija	there are no conditions
3.3. Ishodi učenja	After passing the exam, students will be able to: 1. Valorize the basics of materials deformation, cutting and joining technologies. 2. Compare the most common deformation procedures of materials. 3. Determine the most common treatment procedures by particle separation 4. Predict the most common procedures for joining materials. 5. Select tools and accessories for each procedure
3.4. Sadržaj kolegija	Introduction to the course. Introduction to deformation shaping, technical-economic characteristics of deformation shaping procedures, physical basis of the process - Material casting. - Basic concepts of deformation shaping, shaping ability (deformability) as a function of deformation size, deformation temperature and deformation speed, certain deformation shaping procedures forging, deep drawing, drawing, rolling. - Introduction, significance, development and division of separation processing procedures, basic concepts and kinematics of individual processing operations.

	<ul style="list-style-type: none"> - Thermal phenomena, wear and durability of tools. Processing procedures by cutting tools of defined geometry. - Materials and geometry of the cutting part of the tool, particle formation, cutting force, moments, power and work. - Overview of welding procedures and description of main welding procedures. - Overview of soldering, spraying, thermal cutting and gluing procedures. - Overview of soldering, spraying, thermal cutting and gluing procedures. - Unconventional processing. - Material casting - Metal galvanizing processes 																																							
3.5. Vrste izvođenja nastave	x	Predavanja	x	Vježbe		Mješovito e-učenje	x	Samostalni zadaci		Laboratorij																														
		Seminari i radionice		Obrazovanje na daljinu		Terenska nastava		Multimedija i mreža		Mentorski rad																														
		Ostalo:																																						
3.6. Jezik izvođenja	Croatian language																																							
3.7. Praćenje rada studenata (upisati broj ECTS bodova za svaku aktivnost tako da ukupni broj ECTS bodova odgovara bodovnoj vrijednosti kolegija, 1 ECTS = 30 sati)	0,5	Pohađanje nastave		1,00	Seminarski rad			Esej																																
	0,5	Aktivnost na nastavi			Projekt			Referat																																
	1,00	Kolokviji			Praktični rad			Kontinuirana provjera znanja																																
	1,00	Pisani ispit			Eksperimentalni rad																																			
	1,00	Usmeni ispit			Istraživanje																																			
3.8. Ocjenjivanje i vrednovanje rada studenata tijekom nastave i na završnom ispitu	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Specifikacija aktivnosti</th> <th style="width: 33%;">Postotak %</th> <th style="width: 33%;">Bodovi</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;"><i>Vrednovanje tijekom nastave</i></td> </tr> <tr> <td>Prisutnost na nastavi</td> <td style="text-align: center;">5%</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Aktivnost na nastavi</td> <td style="text-align: center;">5%</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Seminarski rad/ projekt/ esej</td> <td style="text-align: center;">30%</td> <td style="text-align: center;">30</td> </tr> <tr> <td>Kolokvij 1</td> <td style="text-align: center;">30%</td> <td style="text-align: center;">30</td> </tr> <tr> <td>Kolokvij 2</td> <td style="text-align: center;">30%</td> <td style="text-align: center;">30</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Vrednovanje rada na ispitu za studente koji nisu kolokvirali</i></td> </tr> <tr> <td><i>Pismeni ispit</i></td> <td style="text-align: center;"><i>60%</i></td> <td style="text-align: center;"><i>60</i></td> </tr> <tr> <td>Ukupno:</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">100</td> </tr> </tbody> </table>										Specifikacija aktivnosti	Postotak %	Bodovi	<i>Vrednovanje tijekom nastave</i>			Prisutnost na nastavi	5%	5	Aktivnost na nastavi	5%	5	Seminarski rad/ projekt/ esej	30%	30	Kolokvij 1	30%	30	Kolokvij 2	30%	30	<i>Vrednovanje rada na ispitu za studente koji nisu kolokvirali</i>			<i>Pismeni ispit</i>	<i>60%</i>	<i>60</i>	Ukupno:	100%	100
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3.9. Kriteriji ocjenjivanja –razrada po ishodima	Način polaganja ishoda																																							
		Pohađanje nastave	Aktivnost u nastavi	Kolokvij 1	Kolokvij 2	Praktični rad	Ukupno																																	
	Ishod 1	5		10			15																																	
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	Ishod 5	5			10		15																																	
	Izvan ishoda	5	5				10																																	
	Ukupno	20	20	30	30		100																																	
	<p style="color: red;">Bodovanje ishoda (da bi položio kolokvij/ispit student mora ostvariti najmanje 50% bodova za svaki ishod učenja)</p> <p style="color: red;">Bodovi Ocjena</p> <p style="color: red;">89 – 100 Izvrstan (5)</p> <p style="color: red;">76 – 88 Vrlo dobar (4)</p> <p style="color: red;">63 – 75 Dobar (3)</p> <p style="color: red;">50 – 62 Dovoljan (2)</p> <p style="color: red;">0 – 49 Nedovoljan (1)</p>																																							

3.10. Specifičnosti vezane uz polaganje kolegija											
3.11. Obveze studenata	<p>Redovni studenti dužni su prisustvovati na najmanje 70% od ukupnog broja sati predavanja i vježbi kako bi ostvarili pravo izlaska na ispit.</p> <p>Izvanredni studenti dužni su prisustvovati na najmanje 30% od ukupnog broja sati predavanja i vježbi da bi ostvarili pravo izlaska na ispit.</p> <p>Ukoliko student nije ispunio sve obveze predviđene kolegijem, dužan je ponovno pohađati predavanja i ispuniti uvjete za pristupanje ispitu.</p> <p>Dolaznost se može nadoknaditi online konzultacijama, organiziranim webinarima te dodanim zadacima zadanim od strane nastavnika. Jedan nastavni sat traje 45 minuta, a više sati čine nastavnu cjelinu. Izostanak s jedne nastavne cjeline broji se kao jedan izostanak. Kašnjenja i ispričnice se bilježe zasebno. U tom slučaju da je student izostao s više od 50% nastave, a ima opravdan razlog/ispriku treba predati zahtjev Vijeću odjela koje potom odlučuje o opravdanosti studentskih izostanaka uz obvezno mišljenje nositelja kolegija.</p>										
3.12. Pisani radovi											
3.13. Obvezna literatura	<table border="1"> <tr> <td>1.</td> <td>M. Math: Uvod u tehnologiju oblikovanja deformiranjem, interna skripta ,www.fsb.hr</td> </tr> <tr> <td>2.</td> <td>Š. Šavar: Obrada odvajanjem čestica, Sveučilišna naklada liber, Zagreb 1991.</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	1.	M. Math: Uvod u tehnologiju oblikovanja deformiranjem, interna skripta ,www.fsb.hr	2.	Š. Šavar: Obrada odvajanjem čestica, Sveučilišna naklada liber, Zagreb 1991.						
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4. DODATNE INFORMACIJE O KOLEGIJU											
4.1. Provjera kvalitete	Kvaliteta programa, nastavnog procesa, vještine poučavanja i razine usvojenosti gradiva ustanovit će se provedbom pisane evaluacije temeljeno na upitnicima, te na druge standardizirane načine a sukladno aktima Međimurskog veleučilišta u Čakovcu.										
4.2. Kontaktiranje s nastavnikom	Studenti mogu kontaktirati s nastavnikom tijekom termina konzultacija i za vrijeme nastave, dok se za kratka pitanja i objašnjenja mogu obratiti bilo koji dan tijekom radnog vremena dolaskom osobno ili fiksnim telefonom. Moguće je postaviti pitanja i e-mailom na koji će biti odgovoreno najkasnije za 48 sati. Poželjno je da studenti za sve nejasnoće dođu što češće na konzultacije.										
4.3. Informiranje o kolegiju	Obveza je svakog studenta redovito se informirati o odvijanju nastave. Sve obavijesti o održavanju ili eventualnoj odgodi nastave bit će izvještene na oglasnoj ploči i na web stranici Veleučilišta minimalno 24 sati ranije.										
4.4. Doprinos kolegija studijskom programu	<p>Interpret information, ideas, problems and solutions to professional and general audiences.</p> <p>Use new technologies and techniques as part of the lifelong learning process</p> <p>Critically evaluate arguments, assumptions and data in order to form an opinion and contribute to the solution of the problem</p> <p>Solve engineering problems of sustainable development using mathematics, physics, chemistry and biology</p> <p>Analyze the collected data in the field of sustainable development</p> <p>Interdisciplinary solve engineering problems of sustainable development</p> <p>Plan a circular economy in accordance with the legal framework in the Republic of Croatia</p>										
5. RAZRADA TEMATSKIH CJELINA (broj razrađenih sati istovjetan je broju predavanja i vježbi kolegija)											

PREDAVANJA				
Sati	Tema i opis predavanja	Metoda rada	Ishodi učenja predavanja	Ishod učenja kolegija
		<ul style="list-style-type: none"> • izravno poučavanje (izlaganje, instrukcija, pp prezentacija) • Učenje otkrivanjem (samostalno, vođeno, rasprava, debata) • Grupno/suradničko učenje • studija slučaja • terenska nastava... 		
1.	Introduction to the course. Introduction to deformation forming, technical-economic characteristics of deformation forming processes, physical bases of forming process with special reference to changes in deformed material in terms of structure and texture during deformation in both cold and warm state	exposure presentation	Consider and explain the basics of shaping by deformation in the cold and hot state	I 1,5
2.	Introduction to deformation forming, technical-economic characteristics of deformation forming processes, physical bases of forming process with special reference to changes in deformed material in terms of structure and texture during deformation in both cold and warm state. Material casting	exposure presentation	To see and explain the basics of forming by deformation in the cold and hot state and the basics of the casting process	I 2,5
3.	Basic concepts of deformation shaping, shaping ability (deformability) as a function of deformation size, deformation temperature and deformation rate.	exposure presentation	Observe and explain the basic features of design processing	I 2,5
4.	Basic concepts of deformation shaping, individual deformation shaping procedures forging, deep drawing, drawing, rollin	exposure presentation	To see and explain the basics of technological procedures of forging, deep drawing, drawing and rolling	I 2,5
5.	Introduction, significance, development and division of processing by separation, basic concepts and kinematics of individual processin	exposure presentation	Understand the basis of the kinematics of individual processing procedures	I 3,5
6.	Thermal phenomena, wear and durability of tools. Processing procedures by cutting tools of defined geometry. Processing procedures by cutting tools of undefined geometry	exposure presentation	Understand the concepts related to tool wear and durability	I 3,5
7.	Materials and geometry of the cutting part of the tool, particle formation, cutting forces, moments, power and wor	exposure presentation	Explain the term cutting tool.	I 3,5
8.	An overview of welding procedures and a description of the main welding procedures	exposure presentation	Explain the basics of welding and describe the basic welding procedures.	I 4,5
9.	Overview of soldering, spraying, thermal cutting and gluing procedures	exposure presentation	Understand the basics of soldering, spraying, gluing and thermal cutting.	I 4,5
10.	Overview of soldering, spraying, thermal cutting and gluing procedures	exposure presentation	Explain the basic soldering procedures spraying, gluing and thermal cutting.	I 4,5
11.	Unconventional processing.	exposure presentation	Consider basic unconventional processing.	I 4,5

12.	Material casting Material casting	exposure presentation	Understand the basics of casting materials.	I 5
13.	Metal galvanizing processes.	exposure presentation	Understand and explain the basics of metal galvanization.	I 4,5
14.	Repetition of knowledge. Review of seminar papers	exposure presentation	Perception of technology procedures.	I 1,2,3,4,5
15.	Repetition of knowledge. Review of seminar papers	exposure presentation	Perception of technology procedures.	I 1,2,3,4,5
VJEŽBE/ SEMINARI				
Sati	Tema i opis predavanja	Metoda rada • izravno poučavanje (izlaganje, instrukcija, pp prezentacija) • Učenje otkrivanjem (samostalno, vođeno, rasprava, debata) • Grupno/suradničko učenje • studija slučaja • terenska nastava...	Ishodi učenja predavanja	Ishod učenja kolegija
1.	Introduction to deformation forming, technical and economic characteristics of deformation forming procedures.	exposure presentation	Consider and explain the basics of shaping by deformation in the cold and hot state	I 1,5
2.	Physical bases of the molding process with special reference to changes in the deformed material in terms of structure and texture during deformation in both cold and warm conditions. Material casting	exposure presentation	To see and explain the basics of forming by deformation in the cold and hot state and the basics of the casting process	I 2,5
3.	Shaping ability (deformability) as a function of strain size, strain temperature and strain rate.	exposure presentation	Observe and explain the basic features of design processing	I 2,5
4.	By deformation forging, deep drawing, drawing, rolling.	exposure presentation	To see and explain the basics of technological procedures of forging, deep drawing, drawing and rolling	I 2,5
5.	Basic concepts and kinematics of individual processing procedures.	exposure presentation	Understand the basis of the kinematics of individual processing procedures	I 3,5
6.	Thermal phenomena, wear and durability of tools.	exposure presentation	Understand the concepts related to tool wear and durability	I 3,5
7.	Materials and geometry of the cutting part of the tool, particle formation, cutting forces, moments, power and work.	exposure presentation	Explain the term cutting tool.	I 3,5
8.	An overview of welding procedures and a description of the main welding procedures.	exposure presentation	Explain the basics of welding and describe the basic welding procedures.	I 4,5
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10.	Overview of soldering, spraying, thermal cutting and gluing procedures.	exposure presentation	Explain the basic soldering procedures spraying, gluing and thermal cutting.	I 4,5

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