

Course Outline Model (Syllabus)		
Faculty:	Geosciences	
Name of study program:	Materials and Metallurgy	
Department:	Metallurgy	
Level:	Bachelor	
The code of subject:	4	
Subject:	Processing of non ferrous metals in liquid state	
Subject Status:	Elective	(Compulsory or Elective)
Semester:	Winter	(Winter / Summer)
Total hours:	2+2	(According to approved programe)
ECTS:	4	(According to approved programe)
Schedule / Hall		
Academic year:		
Professor:	Prof. Asoc. Nurten Beligradi-Deva	
Assistants:		
Contacts:	Professor	Assistant
Email:	nurten.deva@umib.net	
Telefon:	+383 44 164 246	

BRIEF CONTENT OF SUBJECT	This course teaches students about the processing of metals in liquid state, foundries, their types and features, The primary point of course is obtaining of the final products from the non ferrous metals in liquid state through the casting process. The raw material for the benefit of non ferrous metals-alloys, and light metals and determination of gases released and their composition. Light metal melting and casting. Casting systems, furnaces for melting and other equipments needed in practical work.	
AIMS	Qualifying the student for independent work and teamwork to theoretical and practical aspects of the process for the benefit of non-ferrous metals in foundries and processing them into finished products. All material is based on sustainable economic and technical-technological processes.	
EXPECTED LEARNING OUTCOMES	By the end of the module, students should be able to: 1. Identify the types of non-ferrous metal foundries, 2. Explain the processes of melting non-ferrous metal materials 3. Apply the theoretical acquired knowledge in practical work related to the production processes of processing non-ferrous metals. 4. Make use of the equipment for liquid processing of non-ferrous metals 5. Demonstrate communication and teamwork skills for problem defining.	
PROGRAM	Weeks	Topic and Readings
	Week - I	Introductions to the course, syllabus reading;

		Non-ferrous metal processing processes in the liquid state; (theoretical and practical bases), basic terms, definition;
	Week - II	Types of non-ferrous metal foundries;
	Week - III	The raw material for the benefit of non-ferrous metals;
	Week - IV	Causes of gases formation from molten metal and determination of their composition;
	Week - V	Melting furnaces;
	Week - VI	Melting and properties of non-ferrous metals , and light metals;
	Week - VII	The first colloquium;
	Week - VIII	Melting of copper and its alloys;
	Week - IX	Melting of zinc and its alloys;
	Week - X	Melting of lead, tin and their alloys;
	Week - XI	Melting of light metals alloys;
	Week - XII	Melting of magnesium and its alloys;
	Week - XIII	Non-ferrous metal casting systems;
	Week - XIV	Students presentations, The second colloquium .
	Week - XV	Smelting equipment (non-ferrous metals) and process economization ;
LITERATURE	Basic literature used in the course: 1. M.Rizaj,N.Deva “Përpunimi i metaleve me ngjyrë në gjendje të lëngtë”, Ligjërata të autorizuara, Mitrovicë, 2016 2. HEINE, C. LOPER, P. ROSENTHAL, <u>PRINCIPLES OF METAL CASTING</u>, ISBN: 9780070993488 ,Edition: 2, Madison, 2001. 3. Heine, Loper and Rosenthal, “Principles of Metal Casting”, McGraw-Hill, NY, 2008 4. D. G. Eskin, Physical Metallurgy of Direct Chill Casting of Aluminium Alloys, CRC Press, 2008	

TEACHING METHODOLOGY	Each class will consist of a combination of short lectures , interactive discussions in the classroom,																																																											
	We will try to invite speakers from different areas of the business to give a lecture on the relevant topics of the day on operations strategy, followed by questions and answers.																																																											
	Delivery tools/ IT tools																																																											
	Teaching will take place in the classroom and laboratories through lectures, practical assignments, individual and group interpretations, periodic self-assessments, etc.																																																											
	The ratio between the theoretical and practical part of the study																																																											
	Theoretically, general scientific knowledge based on contemporary literature will be provided. The practical part will mainly be realized through concrete examples from the literature and practical knowledge of private and public production enterprise. The relationship between the theoretical and the practical part is given in the tabular part of the study program.																																																											
	Theory-practical ratio : 50% theory and 50% practice / case study / seminar paper.																																																											
	<table><tr><th colspan="4">Contribution to student workload (which should correspond to student learning outcomes 1 ECTS credit = 25 hours)</th></tr><tr><th>Activity</th><th>Hours</th><th>Day/Week</th><th>Total</th></tr><tr><td>Lectures</td><td>2</td><td>15</td><td>30</td></tr><tr><td>Exercise sessions - theoretical</td><td>1</td><td>15</td><td>15</td></tr><tr><td>Field exercises</td><td>3</td><td>5</td><td>15</td></tr><tr><td>Practical work</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Consultation with the professor / assistant</td><td>1</td><td>4</td><td>6</td></tr><tr><td>Colloquiums / seminars</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Independent tasks (work)</td><td>1</td><td>5</td><td>5</td></tr><tr><td>Student self study time (in library or at home)</td><td>1</td><td>10</td><td>10</td></tr><tr><td>Final exam preparation</td><td>1</td><td>5</td><td>5</td></tr><tr><td>Time spent in assessment (tests, quizzes, final exams)</td><td>1</td><td>5</td><td>5</td></tr><tr><td>Projects, presentations, etc.</td><td>1</td><td>3</td><td>3</td></tr><tr><td colspan="3">Total</td><td>100</td></tr></table>				Contribution to student workload (which should correspond to student learning outcomes 1 ECTS credit = 25 hours)				Activity	Hours	Day/Week	Total	Lectures	2	15	30	Exercise sessions - theoretical	1	15	15	Field exercises	3	5	15	Practical work	2	2	4	Consultation with the professor / assistant	1	4	6	Colloquiums / seminars	2	2	2	Independent tasks (work)	1	5	5	Student self study time (in library or at home)	1	10	10	Final exam preparation	1	5	5	Time spent in assessment (tests, quizzes, final exams)	1	5	5	Projects, presentations, etc.	1	3	3	Total			100
Contribution to student workload (which should correspond to student learning outcomes 1 ECTS credit = 25 hours)																																																												
Activity	Hours	Day/Week	Total																																																									
Lectures	2	15	30																																																									
Exercise sessions - theoretical	1	15	15																																																									
Field exercises	3	5	15																																																									
Practical work	2	2	4																																																									
Consultation with the professor / assistant	1	4	6																																																									
Colloquiums / seminars	2	2	2																																																									
Independent tasks (work)	1	5	5																																																									
Student self study time (in library or at home)	1	10	10																																																									
Final exam preparation	1	5	5																																																									
Time spent in assessment (tests, quizzes, final exams)	1	5	5																																																									
Projects, presentations, etc.	1	3	3																																																									
Total			100																																																									
EVALUATION	<table><tr><th colspan="2">Evaluation methods [according to the Statute and Regulation of UMIB Studies]</th></tr><tr><td>Tests</td><td>2*20% = 40 %</td></tr><tr><td>Practical test during exercises</td><td>15%</td></tr><tr><td>Seminary work (in word)</td><td>10%</td></tr><tr><td>Interpretation and presentation of seminary work</td><td>10%</td></tr><tr><td>Tasks and essays during the semester</td><td>5%</td></tr><tr><td>Final exam</td><td>20%</td></tr></table>				Evaluation methods [according to the Statute and Regulation of UMIB Studies]		Tests	2*20% = 40 %	Practical test during exercises	15%	Seminary work (in word)	10%	Interpretation and presentation of seminary work	10%	Tasks and essays during the semester	5%	Final exam	20%																																										
	Evaluation methods [according to the Statute and Regulation of UMIB Studies]																																																											
	Tests	2*20% = 40 %																																																										
	Practical test during exercises	15%																																																										
	Seminary work (in word)	10%																																																										
	Interpretation and presentation of seminary work	10%																																																										
	Tasks and essays during the semester	5%																																																										
	Final exam	20%																																																										

ACADEMIC POLICIES	Further guidance: ● Working with computer Written papers must be written in computerised form, and is obligatory to respect the criteria required during the written work. ● Ethics in learning All students tasks should be the student's work, and therefore is not allowed copying from each other work and if they have the same or similar works will have negative ratings on the student's final grade. ● Deadlines The deadlines will be set in agreement with the students, and therefore student absence to class when the task is explained does not justify the student for not submitting the paper. The student has the right to request consultation with the professor whenever needed and necessary for the performance of his / her work. ● Rules of conduct and academic policies: - o student's active participation in lectures - o participation in discussions, comments and free expression of academic opinion, opinion and attitude (with arguments) - o mandatory independent work and the use of additional sources of information (various scientific websites, scientific journals, conference proceedings etc.) - o adherence to lecture schedules without prejudice to academic freedom (silent cell phones)
--------------------------	--

)