



COURSE SPECIFICATION

Course code	M#1-S1-ME-310
Course title in Polish	Podstawy odlewnictwa
Course title in English	Fundamentals of Casting
Valid from (academic year)	2019/2020

GENERAL INFORMATION

Programme of study	MECHANICAL ENGINEERING
Level of qualification	first-cycle
Type of education	academic
Mode of study	full-time
Specialism	all
Department responsible	Department of Metal Science and Manufacturing Processes
Course leader	Dr hab. inż. Renata Mola
Approved by	

COURSE OVERVIEW

Course type	programme-specific
Course status	elective
Language of instruction	English
Semester of delivery	semester 3
Pre-requisites	Metal science, Fundamentals of Casting - Lecture
Examination required (YES/NO)	NO
ECTS value	1

Mode of instruction	lecture	class	laboratory	project	seminar
No. of hours per semester			15		

LEARNING OUTCOMES

Category of outcome	Out-come code	Course learning outcomes	Corresponding programme outcome code
Knowledge	W01	On completion of this course, students will have a basic knowledge of metal casting processes.	MiBM1_W10 MiBM1_W11
	W02	Student will be able to define casting alloys, and will know the methods of mould and core making.	MiBM1_W10
Skills	U01	He can use the acquired knowledge to solve engineering tasks related to the production of metal products by the casting method.	MiBM1_U09 MiBM1_U10
	U02	The student is able to interpret the obtained experimental results from the laboratory classes, draw conclusions and present them in the form of a report.	MiBM1_U04
Competence	K01	Students will be aware of the role of a technical university graduate; they will understand the need to provide information related to their field of study.	MiBM1_K01
	K02	Is aware of the social role of a technical university graduate and understands the need to provide public opinion in an understandable way with information on achievements related to the field of mechanical engineering	MiBM1_K06
	K03	The student is aware of the responsibility for their own work and adheres to the rules of teamwork. Is aware of the responsibility for the tasks performed.	MiBM1_K04

COURSE CONTENT

Type of instruction*	Topics covered
Laboratory	1. Moulding tools and patterns.
	2. Methods of testing materials for the matrix of moulding sand: determination of binder content, sieve analysis.
	3. Examination of technological properties of molding sands: examination of permeability, examination of flowability.
	4. Testing the strength properties of moulding sands.
	5. Technology of sand casting moulds.
	6. Moulding from the core box, making the core.

*) Please delete rows in the table above that are not applicable.

ASSESSMENT METHODS

Outcome code	Methods of assessment <i>(Mark with an X where applicable)</i>					
	Oral examination	Written examination	Test	Project	Report	Other
W01			x			
W02			x			
U01			x		x	
U02					x	
K01						x
K02						x
K03						x

ASSESSMENT TYPE AND CRITERIA

Mode of instruction*	Assessment type	Assessment criteria
laboratory	non-examination assessment	<i>Attendance. The pass mark is a minimum of 50% for all the in-class tests. Approval of reports on individual laboratory activities</i>

OVERALL STUDENT WORKLOAD

ECTS weighting							
	Activity type	Student workload					Unit
		L	C	Lab	P	S	
1.	Scheduled contact hours			15			h
2.	Other contact hours (office hours, examination)			2			h
3.	Total number of contact hours	17					h
4.	Number of ECTS credits for contact hours	0,7					ECTS
5.	Number of independent study hours	8					h
6.	Number of ECTS credits for independent study hours	0,3					ECTS
7.	Number of practical hours	25					h
8.	Number of ECTS credits for practical hours	1					ECTS
9.	Total study time	25					h
10.	ECTS credits for the course <i>1 ECTS credit = 25-30 hours of study time</i>	1					ECTS

READING LIST

1. Perzyk M. i inni: Odlewnictwo. WNT, Warszawa 2004
2. Binczyk F.: Konstrukcyjne stopy odlewnicze. WPS, Gliwice 2003
3. Fałęcki Z.: Podstawy formowania z modeli odlewniczych. Wydawnictwa AGH, Kraków, 1994
4. P. L. Jain, Principles of Foundry Technology, Tata McGraw-Hill Education, 2003 – 401,
https://books.google.pl/books?id=k1sID5MmhUMC&printsec=frontcover&hl=pl&source=gbs_atb#v=onepage&q&f=false