Training booklet
for MSc students of the

MATERIALS SCIENCE AND ENGINEERING

METALLURGICAL ENGINEERING

University of Miskolc
Faculty of Materials Science and Engineering

2019

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Brief description of the MSc studies

Dear Students!

First, congratulations on being accepted into the MSc program at the University of Miskolc, Faculty of Materials Science and Engineering. A number of questions may have been raised in you in connection with your studies. We would like to give you some answers in this information booklet.

The aim of the MSc studies is to train engineers who are able to design and operate technologies and participate in research and development tasks with knowledge of the structure and behavior of materials.

In our Faculty there are two degree programs: Materials engineering and Metallurgical engineering. The core courses are almost identical but there are some differences at the first semester. The academic requirements are described in detail in the followings. In the tables there are abbreviations as follows: s – signature, m – mark, e – exam, r – report.

Core courses

Material engineering

1st semester (Fall)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
GEMET268M	Strength of materials	6	2	1	s, e	Dr. Dávid Gönczi
MAKFKT346M	Microstructure investigation II.	6	1	2	s, m	Dr. Gréta Gergely
MAKFKT305M	Composites	6	2	1	s, e	Dr. Gréta Gergely

2nd semester (Spring)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
GEMAN015M	Differential equations	4	0	2	s, m	Dr. Péter Varga
MAKKEM272M	Applied chemistry and transport processes	6	2	1	s, e	Dr. Ferenc Mogyoródy
MAKFKT345M	Materials equilibrium	4	2	0	s, e	Prof. György Kaptay

3rd semester (Fall)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKDH237M	MSc summer internship (4 weeks)	0	0	40	s, r	
MAKFKT347-17-M	Interfacial phenomena	4	3	0	s, e	Prof. György Kaptay
MAKPOL281-17-M MAKKEM281-17-M	Prepare of MSc degree thesis I.	10	0	8	s, m	

4th semester (Spring)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKPOL264-17-M	Intellectual properties law	4	0	3	s, m	Dr. György Czél
GTVIM716M	Quality management systems	4	3	0	s, e	Dr. Viktor Molnár
MAKMET300M	Project management	4	0	4	s, e	Dr. Béla Török
MAKPOL282-17-M MAKKEM282-17-M	Prepare of MSc degree thesis II.	10	0	9	s, m	
	Elective course I.	3	2	0	s, r	
	Elective course II.	3	2	0	s, r	
	Elective course III.	3	2	0	s, r	
	Elective course IV.	3	2	0	s, r	

Specializations

Polymer Engineering

Fall Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKPOL260-17-M	Polymer adhesives	7	3	1	s, e	Dr. Tamás J. Szabó
MAKPOL263-17-M	Polymer product design	7	2	4	s, m	Dr. Tamás J. Szabó

Spring Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKPOL262-17M	Operation of polymer processing machines	7	2	2	s, e	Prof. György Czél
MAKPOL261-17-M	Polymer study II.	7	3	1	s, e	Prof. Kálmán Marossy

Compensational courses for Polymer Engineering Specialization

Fall semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKPOL227B	Material testing	4	2	2	s, e	Prof. György Czél
MAKPOL228B	Polymer study	4	3	1	s, e	Prof. Kálmán Marossy
MAKPOL235-17-B	Polymer composites	2	2	0	s, m	Dr. Tamás J. Szabó

Spring semester						
MAKPOL231EN	Elastomers	2	0	2	s, m	Dr. Tamás J. Szabó

Chemical Technology

Fall Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKKEM274-17-M	Colloid chemistry	7	2	2	s, e	Dr. Milán Szőri
GEVGT227-17-M	Chemical processes II.	7	3	3	s, e	Dr. Gábor L. Szepesi
MAKKEM285EN	Modelling of chemical systems	3	2	1	s, m	Prof. Péter Mizsey
MAKKEM280-17-M	Optimalization of chemical systems	4	2	1	s, e	Prof. Péter Mizsey

Spring Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKKEM275-17-M	Reaction kinetics and catalysis	7	3	1	s, e	Prof. Béla Viskolcz

Compensational courses for Chemical Technology Specialization

Fall semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKKEM272EN	Inorganic chemical technologies	3	2	1	s, m	Dr. Ferenc Mogyoródy

Spring semester						
MAKKEM222-17-B	Physical chemistry	5	2	3	s, e	Prof. Béla Viskolcz
MAKKEM212-17-B	Organic chemical technologies	4	2	1	s, e	Dr. János Lakatos

Metallurgical engineering

1st semester (Fall)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
GEMET268M	Strength of materials	6	2	1	s, e	Dr. Dávid Gönczi
MAKMET311M	Metal technologies	6	2	1	s, e	Prof. Tamás Kékesi Dr. Dániel Molnár, Dr. György Krállics
MAKFKT357M	Solidification	6	2	1	s, e	Dr. Zsolt Veres

2nd semester (Spring)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
GEMAN015M	Differential equations	4	0	2	s, m	Dr. Péter Varga
MAKKEM272M	Applied chemistry and transport processes	6	2	1	s, e	Dr. Ferenc Mogyoródy
MAKFKT345M	Materials equilibrium	4	2	0	s, e	Prof. György Kaptay

3rd semester (Fall)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKDH237M	MSc summer internship (4 weeks)	0	0	40	s, r	
MAKFKT347-17-M	Interfacial phenomena	4	3	0	s, e	Prof. György Kaptay
MAKFKT361-17-M	Prepare of MSc degree thesis I.	10	0	8	s, m	

4th semester (Spring)						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKPOL264-17-M	Intellectual properties law	4	0	3	s, m	Prof. György Czél
GTVIM716M	Quality management systems	4	3	0	s, e	Dr. Viktor Molnár
MAKMET300M	Project management	4	0	4	s, e	Dr. Béla Török
MAKFKT361-17-M	Prepare of MSc degree thesis II.	10	0	9	s, m	
	Elective course I.	3	2	0	s, r	
	Elective course II.	3	2	0	s, r	
	Elective course III.	3	2	0	s, r	
	Elective course IV.	3	2	0	s, r	

Specialization

Heat treatment and Metal Forming

Fall Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKFKT348EN	Physical metallurgy of heat treated metals and alloys	5	3	0	s, e	Prof. András Roósz
MAKFKT350-17-M	Fundamentals of metal forming	5	4	0	s, e	Dr. György Krállics
MAKFKT352-17-M	Complex planning of project work	2	0	3	s, m	Dr. Gréta Gergely
MAKFKT351-17-M	Simulation of deformation technologies	7	2	4	s, m	Dr. György Krállics
Spring Semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKFKT349-17-M	Simulations of heat treatment processes	7	1	3	s, m	Dr. Péter Barkóczy

Compensational courses for Heat Treatment and Metal Forming Specialization

Fall semester						
NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKFKT225B	Physical metallurgy I.	4	3	1	s, e	Prof. Valéria Mertinger

Spring semester						
MAKFKT255B	Heat treatment of ferrous alloys	2	2	0	s, e	Dr. Zsolt Veres
MAKFKT277B	Metallic materials	2	3	0	s, e	Prof. Valéria Mertinger
MAKFKT274-17-B	Heat treatment of non-ferrous alloys	2	2	0	s, e	Dr. Gréta Gergely
MAKFKT280B	Metal forming	4	2	2	s, e	Dr. György Krállics

Optional/elective courses for all specializations

NEPTUN-code	**Subject**	**Credit**	**Lecture**	**Practical Course**	**Require-ment**	**Lecturer**
MAKFKT005N2	English technical terms	3	2	0	s, r	Dr. Gergely Gréta
MAKFKT008N2	Ferrous alloys heat treatment	3	2	0	s, r	Dr. Zsolt Veres
MAKMÖT1MBN2	Introduction to Archeometallurgy	3	2	0	s, r	Dr. Béla Török
MAKFKT300N2	Nanotechnology	3	2	0	s, r	Dr. Péter Baumli
MAKFKT342N2	Science and scientometry	3	2	0	s, r	Dr. Kaptay György
MAKPOL250N2	Special and dangerous materials	3	2	0	s, r	Dr. Tamás J. Szabó
MAKMET255MBN2	Surface treatment	3	2	0	s, r	Prof. Tamás Török
MAKKEM208N2	Waste management	3	2	0	s, r	Dr. Mogyoródy Ferenc
MAKPOL256N2	PVC and related materials	3	2	0	s, r	Dr. Marossy Kálmán
MAKDH1EN-N	Art of doing science	3	2	0	s, r	Dr. Kaptay György

Every student is required to register in the **NEPTUN System** which is a unified information system of study. At the beginning of the first semester there will be a common training about the using of this system. Via this system you can register to the courses and the exams, too. Also you can check your grades here and you can read the official messages or contact with the teachers. If you have any financial obligation you can take it via NEPTUN, too. It is very important to fill your personal e-mail address and phone number in.

Every subject has a Communication file which could be asked from the lecturer. In this file you can read the requirements of the subject, the timetable, sample exam questions etc.

During your studies you have to get signatures in every subject. For the acquisition of the signature you have to be present in every class and make measurements, reports and written exams at least sufficient grade. In case supplement of the signature is necessary it can only be earned by the second week after the educational period. Improving the practical marks can be done only once and free for two weeks, too, after the semester.

After you got a signature you also have to register for exams. You have to register to the exams at least the day before the exam date until 12 a.m. If the first exam is not successful, you can repeat it maximum 6 times. After 6 unsuccessful tries from the same subject your status will be quit. The first repeated exam is free, after that for every try you have to pay a fee of varying amount. The fees are increasing the following way:

- the second exam repeat 1500 HUF
- the third repeat 4500 HUF
- the fourth repeat 5500 HUF
- the fifth repeat 6500 HUF
- the sixth repeat 7500 HUF

In addition if you want to repeat the exam the third time in the same semester, you have to ask permission by the Dean which costs 3000 HUF extra, and you can request this only once and in one topic per semester. If you would like to have a forth try in the same semester, you have to apply a request for the

rector another 3000 HUF fee, it is only possibly twice in your whole studies only in one subject.

In case you are not satisfied with the received passing exam grade you have one opportunity to improve it during the same semester you received the original grade for free, but this case your original grade erased and the grade you receive on the second whatever it may be (better or worse) will be registered. The grade for practical courses can only be supplemented/corrected until the second week of the exam period.

In connection with the Academic Requirement every student has to do a 4-weeks summer internship at a production plant or research institute in connection with their specialization. This internship is organized with help of the institute of the actual specialization.

As the Hungarian students you have also possibility to do **Science Work (TDK)**. The Conference on Science Work used to be organized in the fall semester.

Only students who succeeded in all educational requirements and collected **at least 120 credits** can apply for the final examination. The **Academic Requirements** can be found at the http://web.uni-miskolc.hu/files/4351/HKR%20258_2015%20eng.pdf homepage.

Every semester has an educational timetable which contains the registration, educational and exam periods, the holidays and the dates of graduation ceremonies.

Regulations

The most important regulations in English language can be found at http://stipendium.uni-miskolc.hu/for-faculty-coordinators website.

Offices of the lecturers

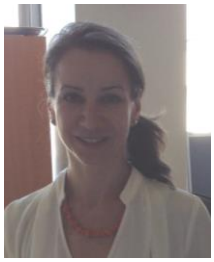
Name	Office
Dr. Barkóczy Péter	B/1. 103.
Dr. Baumli Péter	B/1. 7.
Prof. Czél György	B/1. 202.
Dr. Gergely Gréta	B/1. 108.a
Dr. Gönczi Dávid	A/4. 428.
Dr. Lakatos János	A/2. B side 7.
Prof. Marossy Kálmán	B/1. 215.a
Prof. Mizsey Péter	A/2. A side 10.
Dr. Molnár Viktor	A/3. 309.
Prof. Kaptay György	B/1. 102.
Prof. Kékesi Tamás	B/1. 401.
Dr. Krállics György	B/1. 107.
Prof. Mertinger Valéria	B/1. 3.
Dr. Mogyoródy Ferenc	A/2. A side 11.
Prof. Roósz András	B/1. 6.
Dr. Szabó Tamás József	B/1. 215.b
Dr. Szepesi L. Gábor	A/5. 205.
Dr. Szőri Milán	A/2. A side 3.
Dr. Török Béla	B/1. 303.
Prof. Török Tamás	B/1. 302.
Dr. Varga Péter	A/4. 327.
Dr. Veres Zsolt	B/1. 7.
Prof. Viskolcz Béla	A/2. A side 1.

The introduction of the Miskolc University with its history can be found at http://web.uni-miskolc.hu/files/2120/ME_ENG.pdf website.

The map of the Miskolc University

1	Main entrance
2	Library
3	Chemical Research Institute
4	TÜKI, SZÜV
5	Sport facilites
6	Tennnis club
7	Canteen
8	Institute of Information Science and Technologies
A/1, A/2, A/3, A/4, A/5, A/6, B/1, B/2, B/3, B/4	Educational buildings and offices of the faculties
A/4 1st floor	Offices of the rector, chancellor
E/1-E/6	Dormitories
E/7	Central Building of the economical staff
P	Parking places
B	Bus stops
	Bus line (12, 20, 22)
	Bus line (2)

Who can help you…?



Krisztina Sándor (general administrative issues), Building A/4, Room 107

Nikolett Tóth (visa, Immigration office affairs, Neptun, student ID), Building A/4, Room 111

Éva Stumpf (Neptun system, registration), Building B/1, 4th floor, Room 404

Ágnes Solczi (Faculty's coordinator of the international education), Building B/1, 2nd floor, Room 215

Mentors
Supervisors

Compiled by Ágnes Solczi

Approved by the Dean of the Faculty of Materials Science and Engineering
University of Miskolc

January 31, 2019