



SUBJECT DATA SHEET AND REQUIREMENTS

last modified: 8th May 2014

INJECTION MOLDING

FRÖCCSÖNTÉS

1	Code	Semester Nr. or fall/spring	Contact hours/week (lect.+semin.+lab.)	Requirements p / e / s	Credit	Language
	BMEGEPTAGE2	fall	1+0+1	p	3	English

2. Subject's responsible:

Name:	Position:	Affiliation (Department):
Dr. József Gábor Kovács	Associate professor	Dept. of Polymer Engineering

3. Lecturer:

Name:	Position:	Affiliation (Department):
Dr. József Gábor Kovács	Associate professor	Dept. of Polymer Engineering

4. Thematic background of the subject:

Polymer materials science, structure/property relationships of polymers. Rheological and pvT properties of polymers. Basic polymer processing technologies.

5. Compulsory / recommended prerequisites:

Compulsory: Polymer Materials Science and Engineering, BMEGEPTAG0P

6. Main aims and objectives, learning outcomes of the subject:

Theoretical and practical understanding of the injection molding technology. Knowledge of production engineering and design aspects of modern plastic products. Understanding of the most advanced design and simulation procedures.

7. Method of education:

Lecture 1 h/w, laboratory 1 h/w

8. Detailed thematic description of the subject (by topic, min. 800 character):

Detailed description of the injection molding technology. Analysis of the process cycle diagram. Construction and operation of injection molding machines. Design for injection molding. Materials for injection molding, and fiber reinforced materials. Methods for the

identification and elimination of molding defects. Injection mold design and injection molding simulation.

9. Requirements and grading

a) in term-period

2 mid-semester checks (week 7 and 13) have to be absolved with minimum 40% performance for each, and the homework has to be completed. The final grade comes from the mid-semester check results (70%) and the homework (30%).

b) Disciplinary Measures Against the Application of Unauthorized Means at Mid-Terms, Term-End Exams and Homework

Supplement to 1/2013. (I. 30.) Dean's Order (Codicil): The following students are subject to disciplinary measures.

- (a) Those students who apply unauthorized means (book, lecture notes, etc.), different from those listed in the course requirements and/or adopted by the lecturer in charge of the course assessment, in the written mid-term exams taken, and/or invite/accept any assistance of fellow students, with the exception of borrowing authorized means, will be disqualified from taking further mid-term exams in the very semester as a consequence of their action. Further to this, all of their results gained in the very semester will be void, can get no term-end signatures, and will have no access to Late Submission option. Final term-end results in courses with practical mark will automatically become Fail (1), the ones with exam requirements will be labelled Refused Admission to Exams.
- (b) Those students whose homework verifiably proves to be of foreign extraction, or alternatively, evident results or work of a third party, are referred to as their own, will be disqualified from taking further assessment sessions in the very semester as a consequence of their action. Further to this, all of their results gained in the very semester will be void, can get no term-end signatures, and will have no access to Late Submission options. Final term-end results in courses with practical mark will automatically become Fail (1), ones with exam requirements will be labelled Refused Admission to Exams.
- (c) Those students who apply unauthorized means (books, lecture notes, etc.), different from those listed in the course requirements and/or adopted by the lecturer in charge of the course assessment, in the written term-end exams taken, and/or invite/accept any assistance of fellow students, with the exception of borrowing authorized means, will immediately be disqualified from taking the term-end exam any further as a consequence of their action, and will be inhibited with an automatic Fail (1) in the exam. No further options to sit for the same exam can be accessed in the very same exam period.
- (d) Those students who alter, or make an attempt to alter the already corrected, evaluated, and distributed test or exercise/problem,
 - i.) as a consequence of their action, will be disqualified from further assessments in the respective semester. Further to this, all of their results gained in the very semester will be void, can get no term-end signatures, and will have no access to Late Submission options. Final term-end results in courses with practical mark will automatically become Fail (1), the ones with exam requirements will be labelled Refused Admission to Exams;
 - ii.) and will immediately be inhibited with an automatic Fail (1) in the exam. No further options to sit for the same exam can be accessed in the very same exam period.

10. Retake and repeat

The mid-semester checks (one of them) can be repeated in the week 14.

11. Consulting opportunities:

Consultation hours: By email appointments

12. Reference literature (compulsory, recommended):

- T. A. Osswald, L.-S. Turng, P. J. Gramann: Injection molding handbook, Hanser Publishers, Munich, 2001
- Robert A. Malloy: Plastic part design for injection molding, Hanser Publishers, Munich, 1994
- J. Shoemaker: Moldflow Design guide, Hanser Publishers, Munich, 2006
- G. Menges, W. Michaeli, P. Mohren: How to make injection molds, Hanser Publishers, Munich, 1998
- Downloadable materials: www.pt.bme.hu

13. Home study required to pass the subject:

Contact hours	28	h/semester
Home study for the courses	14	h/semester
Home study for the mid-semester checks	20	h/check
Preparation of mid-semester homework	14	h/homework
Home study of the allotted written notes	14	h/semester
Home study for the exam	0	h/semester
Totally:	90	h/semester

14. The data sheet and the requirements are prepared by:

Name:	Title:	Affiliation (Department):
Dr. József Gábor Kovács	Associate professor	Dept. of Polymer Engineering