

## Tárgytematika / Course Description

### Materials Science

AJNM\_ATT011

Tárgyfelelős neve /

Teacher's name: dr. Zsoldos Ibolya

Félév / Semester: 2021/22/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/2/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

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### OKTATÁS CÉLJA / AIM OF THE COURSE

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### TANTÁRGY TARTALMA / DESCRIPTION

The subject includes the knowledge of the metallic and non-metallic materials based on the newest research and industrial development results.

Main sections: steels, aluminum, magnesium titanium and nickel alloys and their applications in vehicle structures. Engineering ceramics, silicates, oxide and non-oxide ceramics, functional ceramics. Composites: materials of matrices and strengthening components, manufacturing technologies. Specific materials of internal combustion engines.

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### SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

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### KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

#### Kötelező irodalom:

- Zsoldos Ibolya: Materials Science, lecture notes, 2017, SZE

#### Ajánlott irodalom:

- Ashby, M.F, Jones, D.R.H.: Engineering Materials 1: An introduction

to Microstructures, Processing and Design, 3rd ed., Elsevier Butterwoth-heinemann, Oxford, 2006., ISBN 0 7506 63804

- Ashby, M.F, Jones, D.R.H.: Engineering Materials 2: An introduction to properties, Applications and Design, 3rd ed., Elsevier Butterwoth-heinemann, Oxford, 2006., ISBN-13: 978 0 7506 6381 6