

Tárgytematika / Course Description

Electric driven and hybrid road vehicles

NGD_MDAA69_1

Tárgyfelelős neve /

Teacher's name: dr. Fodor Dénes

Félév / Semester: 2019/20/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 0/0/0

Tárgy féléves óraszám /

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

OKTATÁS CÉLJA / AIM OF THE COURSE

Learning objectives:

Introduction of the possibilities and relevance of electric driving at road transportation.

Introduction of the state of the art at road vehicles' electric driving.

shadowing of up to date events at the research and development of electric drives.

TANTÁRGY TARTALMA / DESCRIPTION

Topics:

Future and perspective in the e mobility. Is necessary to drive by electricity? Development of the mobility by e driving.

Electric driving systems: construction, working, elements, types. Electric machines using for road vehicles. Optimization possibilities of motors and its realization.

ICT at electric drives. Motor control. Vehicle control with e driving. Using the vehicle with e drive. Communication systems and their application in the e driving system. Embedded systems' HW and SW elements. Model based design at the development of the control systems in e vehicles.

Energy storage systems, batteries, structures. The development of lithium technology, possibilities and problems at application and development.

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Homeworks:

Select an object in the field of e mobility connecting with the thesis of the candidate. Hold a presentation about the topic for the course. Discussing of the presentation by the participants of the course.

Grade: evaluation of the presentation.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Compulsory literature: –

Recommended literature:

- Synchronous and induction motors
- Embedded systems at automotive technology
- Model based design using Matlab Simulink
- Up to date battery technology
- CAN communication