SUBJECT DATASHEET

Physics 112

BMETE13AX18

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Physics 112

ID (subject code)	BMETE13AX18

Type of subject
contact lesson

Course types and lessons

Type	*Lessons*
Lecture	6
Practice	0
Laboratory	0

Type of assessment
exam

Number of credits
7

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Simon Ferenc	professor	simon@eik.bme.hu

Educational organisational unit for the subject
External department

Subject website
https://edu.gtk.bme.hu

Language of the subject
magyar - HU

Curricular role of the subject, recommended number of terms
Programme: **Engineering Management Bachelor's Programme from 2015/16/Term 1**
Subject Role: **Compulsory**
Recommended semester: **2**

Programme: **Engineering Management Bachelor's Programme from 2017/18/Term 1**
Subject Role: **Compulsory**
Recommended semester: **2**

Programme: **Engineering Management Bachelor's Programme 2010**
Subject Role: **Compulsory**
Recommended semester: **2**

Direct prerequisites

Strong	Matematikai A1a – Mathematics A1a (BMETE90AX00)
Weak	None
Parallel	None
Exclusion	None

Validity of the Subject Description
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2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

To learn the basic theory of classical physics and special theory of relati-vity and the basic experiments of quantum mechanics. To admit the aspect of physics.

Academic results

Knowledge

1. The student can learn and understand the basic models of classical physics, the basics of special theory of relativity and the effects of basic experiments of quantum physics.

Skills

1. The student has got an aspect of physics by the end of the semester.

Attitude

1. The student with the knowledge of classical physics and the most important laws of physics (conser-vation laws) can understand engineering projects based on physical effects.

Independence and responsibility

1. The student can participate in teamwork of different innovative projects using his or her knowledge and aspect of physics.

Teaching methodology

Materials supporting learning

- Az előadások vázát képező PPT file-ok elérhetősége a Fizikai Intézet honlapjáról. A könyvtárban kölcsönözhető szakkönyvek. Az előadásokon bemutatott kísérletek videói letölthetők a fizipédia oldaláról.

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Előadások látogatása, aktív részvétel.

Performance assessment methods

A félév végén a vizsgaidőszakban a hallgatók vizsgán adhatnak számot a tudásukról. A hallgatók a félév során 2 zh-t írhatnak.
Azok eredménye beszámítható a vizsgaeredménybe (50 %). Amennyiben az összpontszám eléri a 55%-t, a hallgató megajánlott jegyet is kaphat.

Percentage of performance assessments, conducted during the study period, within the rating

- **1. zh és 2. zh eredmény**: 50%

Percentage of exam elements within the rating

- **Írásbeli vizsga**: 50% ill. 100%
- **Szóbeli vizsga**: opcionális

Conditions for obtaining a signature, validity of the signature

Az előadások látogatása 70 % felett.

Issuing grades

Excellent	> 90
Very good	85–90
Good	70–84
Satisfactory	55–69,5
Pass	40–54
Fail	< 40

Retake and late completion

1. és 2. pót-zh, ismétlő vizsga, valamint a következő (őszi) félévben vizsgakurzus

Coursework required for the completion of the subject

84

56

20

50

210

Approval and validity of subject requirements

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III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

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1 Kinematika
2 Dinamika
3 Hullámtan
4 Termodinamika
5 Elektrosztatika
6 Elektrodinamika
7 Optika
8 Relativisztikus kinematika
9 Relativisztikus dinamika
10 Kvantummechanikai alapkísérletek. Schrödinger-egyenlet, hullámfüggvény.

Additional lecturers

Dr. Papp Zsolt

Approval and validity of subject requirements

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