#### COURSE SYLLABUS SEMESTER

Name of Course	MECHANICS II. (DYNAMICS)
Course Code	MSB257AN-EA-00, MSB257AN-GY-01
Allotment of Hours per Week	1 lecture, 2 practice
Number of Credits	4
Program	Civil Engineering BSc
Evaluation	EXAM
Semester	Spring 2021/2022
Prerequisites	
Department	Department of Civil Engineering
Instructor	Dr Adél Len

# INTRODUCTION, GENERAL COURSE DESCRIPTION

Introduction into the fundamentals of the dynamics - kinematics and kinetics of a particle and of the rigid body, collisions.

## LEARNING OBJECTIVES

**Methodology:** The aim of the course is to introduce the students into the following themes: kinematics and kinetics of a particle, constrained motion, kinematics and kinetics of rigid bodies, work and power theorems, energy and conservation of energy, centric collisions.

## Schedule:

Week 2 – 16. February	Introduction to Dynamics, Kinematics of the particle.
Week 4 – 2. March	Kinematics of the rigid body 1
Week 6 – 16. March	Kinematics of the rigid body 2
Week 7 – 30. March	MIDTERM EXAM 1, Kinetics of the particle 1
Week 8 – 13. April	Kinetics of the particle 2, Kinetics of the rigid body 1
Week 10 – 27. April	Kinetics of the rigid body 2, Collisons
Week 12–11. May	MIDTERM EXAM 2, RETAKE MIDTERM EXAM I.

### Practice

The practical classes have the objectice to solve paractical tasks, exercises related to the theoretical lectures.

## ATTENDANCE AND GRADING

#### Attendance:

Attendance is required all classes. In case of illness or COVID related isolation the student must previously inform the teacher and and make up for the class.

Masking requirements: the University of Pécs requires masking indoors for both vaccinated and unvaccinated individuals per the following:

- Masks should properly cover both the nose and mouth.
- More protective surgical, KN95 or N95 masks are highly recommended; bandanas and gators are not permitted.
- Faculty may unmask while teaching if 4 m of distance is maintained. All students must always wear masks.
- Individuals may only remove masks indoors when: in an enclosed room alone.

## Grading:

Accumulated knowledge is tested in two midterm exams (topic: 1. Kinematics, 2. Kinetics and Collisions). Both exams have to reach the minimum acceptable level (50% of the maximum points). Failed or skipped midterm exams can be repeated once. The condition of the second midterm exam is the successful completion of the first midterm exam. Registration to the final exam is only possible if both Midterm Exams are successfully completed.

### Offered exam grade:

Evaluation in percent	Numeric grade
85%-100%	5
74%-84%	4
63%-73%	3
50%-62%	2
0-49%	1

# READINGS AND REFERENCE MATERIALS

- J.L. Meriam, L.G. Kraige: Engineering Mechanics, Dynamics. John Wiley and Sons. 2003
- Beer, F.P., Johnston, E. R.: Vector Mechanics for Engineers. Dynamics, McGraw-Hill, 2004
- Tongue, B.H., Sheppard, S.D.: Dynamics. Analysis and Design of Systems in Motion, John Wiley ans Sons, 2005
- William T. Thomson: Theory of Vibration with application, Chapman & Hall