

# Experiments in chassis engineering

Syllabus Number

1L206

Basic Major Subjects

Elective Requisites 2  
credit

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## 1. Course Description

You will learn how to measure the motion of a vehicle. You will learn how to analyze the movement of a car from the measured data and how to evaluate the driving behavior.

In addition, students will acquire the knowledge necessary for safe driving through tasks.

As the experiments are carried out in groups, students will also improve their communication skills.

In this course, you will acquire knowledge and techniques on Diploma Policy 2,3,4,5.

## 2. Course Objectives

- Students will be able to explain the different movements of the cars based on the different experimental results.

- Students will be able to create an experimental plan and an experiment result report.

- Through group work, students are able to solve the tasks necessary for automobile design.

## 3. Grading Policy

Grades will be evaluated by intermediate assignment (70%), final assignment (30%).

## 4. Textbook and Reference

## 5. Requirements(Assignments)

Please do not be absent or be late for practical training.

## 6. Note

## 7. Schedule

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|------|--|
| [1]  | ·Basics of chassis performance : Engineering of running, turning, and stopping<br>·Design of experiments (1): group work   |
| [2]  | Design of experiments (2): group work, Presentation of the experimental design   |
| [3]  | Numerical experiment (1): Learning the operation of automobile motion simulation (numerical experiment) and run simulation |
| [4]  | Numerical experiment (1): Run simulations and summary of simulation results  |
| [5]  | Intermediate task (1): Report creation   |
| [6]  | Numerical experiment (2): Run simulation of different conditions   |
| [7]  | Numerical experiment (2): Analysis and summary of simulation results (group work)  |
| [8]  | Intermediate task (2): Report on numerical experiment (2)  |
| [9]  | Numerical experiment (3): Construction of countermeasure plans (group work)  |
| [10] | Numerical experiment (3): Construction of countermeasure plans, Presentation of the countermeasure plans(group work)       |
| [11] | Numerical experiment (3): Verification of countermeasures plans  |
| [12] | Numerical experiment (3): Verification of countermeasures plans, Establishment of countermeasures plans                    |
| [13] | Numerical experiment (3): Establishment of countermeasures plans, Presentation of countermeasures plan(1)                  |
| [14] | Numerical experiment (3): Presentation of countermeasures plan(1), Report on numerical experiment (3)                      |
| [15] | Final assignment, summary  |